

## SIMPLE TIC MECHANISM\*

C. P. OBERNDORF, M.D.

Clinical Instructor in Neurology, Cornell University Medical College  
NEW YORK

While the earlier considerations of tic and allied disorders by descriptive neurologists are pictorial rather than interpretative and reportorial rather than explanatory, the French school of neurology (Brisaud, Meige and Feindle) made a valuable contribution toward the better understanding of the mechanism of the disease when it defined tics as "physiologic acts, originally purposeful but which have become acts apparently purposeless and meaningless." It also emphasized the fact that the mental imperfection of the tiquer is characterized by a mental infantilism, for, like most other psychoneurotics, they have the minds of children in regard to their emotional reactions.

Thus, although the French investigators more sharply defined and limited our conceptions of tic, recognized them as psychoneurotic manifestations and detailed their manifold types, they failed to explain why the purpose, subsequently lost, originally took the particular form of expression exhibited in the individual tic, why it varied in each case, and more especially, why the purpose originally expressed by the tic had been lost to the patient's consciousness.

When the Vienna school began the study of neurotic disorders in a psychoanalytic way, the mystery of the tic mechanism naturally attracted much attention, and the general view of the freudian school has thus been summed up by Ernest Jones:<sup>1</sup>

Early in life an exaggerated divorce occurs between the instincts of love and hate, and the conflict between the two dominates the most important reactions of the person. The fundamental state of doubt—an incapacity for decision—results. The patient oscillates between not being able to act (when he wants to) and being obliged to act (as he does not want to). The tic symptom symbolizes the conflict of opposing forces.

L. Pierce Clark<sup>2</sup> has further amplified the understanding of tic mechanism with the analysis of three stubborn cases, in which the malady was interpreted to be an autopleasurable act of sex significance (sex being used in the extremely broad sense with which it is invested by the freudian school). Clark in his reports is inclined to emphasize the auto-erotic gratification unconsciously afforded the tiquer by this act rather than to trace the primary conflict through which the tic developed. The aspect of the tic as a defense reaction is regarded by him as of secondary importance.

If, as Oppenheim<sup>3</sup> states, tics occur most often between the seventh and fifteenth years, and if, as the French school asserts, the tiquer has the emotional attitude of the child, and if, as psychoanalysts maintain, the tic of the adult ultimately rests on an unadjusted mental conflict originating early in childhood, it would seem that tics developing in childhood would be more satisfactory to study with a view to determining their original purpose, inasmuch as the purposes of childhood are simpler, more direct and more transparent than those of later years, when primary intentions have

become almost unrecognizably altered by the innumerable cross impulses of age.

The simple cases of habit spasm which I am reporting show the tic to be essentially a defense reaction elaborated by the censor against a primarily autopleasurable act. It constitutes, when regarded as an entity, a compromise, just as most other neurotic symptoms are compromises, to retain and at the same time abandon an act which originally yielded satisfaction but which has become intolerable because it cannot be brought to harmonize with the individual's idea of adult or adolescent propriety.

## REPORTS OF CASES

CASE 1.—Abe C., aged 10, American born of Russian Jewish parentage, came to my clinic at the Mount Sinai Dispensary suffering from an unusual tic. At irregular intervals he would flex his left forearm on his slightly abducted and elevated upper arm in a jerky movement and then extend it. During the motion the four fingers of his left hand remained tightly clenched, but the thumb of this hand was held rigidly abducted. It was also noted that the thumb was reddened and slightly swollen.

The mother related the following illuminating history: When the child was 1 year old and still suckling at the breast, he contracted diphtheria for which he was sent to the Willard Parker Hospital for Contagious Diseases, where he became infected with the entire category of children's diseases, necessitating a total hospital residence of something over a year.

Following the baby's removal from home, breast feeding was supplanted by the bottle and spoon, but the child evidently found an acceptable substitute for the nipple of which he had been deprived, for when he returned home it was observed that he sucked his thumb incessantly. As the number of children in the family was large and as the baby seemed content and docile when allowed to indulge in his thumb sucking solace, the mother, satisfied in view of her numberless daily household burdens to let well enough alone, made no determined effort to correct the habit.

The censorship of thumb-sucking as being infantile came from another and usually unconsidered source, the child's own playmates. The abnormality was so obvious to them that before long they seized on it as a taunt, and whenever he appeared among them, they greeted him with the cutting nickname, "Abie, the sucker."

While not usually so considered, reprimands from our peers are often more effective than those from our superiors, and in Abie's case, at least, there was an attempt to rectify the habit which had drawn so much odious comment on him. Thus, when the desire arose to regale himself with his favorite pastime, the censorship immediately originated a counter thought to oppose such an action.

The result of this was that the patient started the movement of approximating his extended thumb with a view to inserting it into his mouth, but immediately before it reached its goal, he began to withdraw it, with the peculiar tic resulting. In his tic he thus attains the psychic equivalent of putting his finger into his mouth and at the same time abstains from doing so.

The habit spasm has led to a secondary spinal scoliosis, for the patient had acquired the posture of a mild torticollis through keeping his head tilted slightly downward and to the left, where his mouth would be in position to receive the finger were it not prevented by the counter thought from reaching its destination. The child is neurotic and fretful, but the mother states—and this was verified at the clinic—that both the irritability and the tic cease when he is permitted to isolate himself and insert his thumb in his mouth.

The purposes of children, in contradistinction to those of later years, are transient, unstable, readily diverted and easily displaced. If a 2-year old reaches for cake, the guardian resorts to some such expedient as dangling another object before its eye, and the purpose of obtaining cake is temporarily displaced by a desire to grasp the new object.

\* Presented before the New York Neurological Society, April 4, 1916.

1. Jones, Ernest, in White and Jelliffe: Treatment of Mental and Nervous Disease, i, 409.

2. Clark, L. Pierce: Mental Torticollis as a Psycho-Neurosis, Med. Rec., New York, Feb. 28, 1914.

3. Oppenheim: Nervenkrankheiten, Ed. 5, ii, 1448.

So, too, the tics of childhood, representing purposes as they do (that is, compromise defense reactions of the simplest types) are transitory. Like many other ailments, unless the physician acts quickly enough, children's tics may have a disconcerting way of vanishing without the aid of recognized therapeutic measures.

This patient's tic, although studied, was certainly not cured by me. Little Abie's father has relieved the habit spasm by substituting another source of pleasure which is to a large measure replacing his own auto-erotic pleasure. His method, simple enough, consisted in the weekly administration of 10 cents if the child refrains. While superficially the therapeutic effect is striking, naturally the underlying neurotic constitution of the child has not been improved, and it would not surprise me in the least to learn that Abie invests his 10 cents in long sucking stick candy.

CASE 2.—A woman, aged 34, under analysis for a depressive hallucinosis, was remarked to dig her left forefinger repeatedly into the hollow of her cheek. She explained that she often unconsciously did this when under stress and always before going to sleep at night. During the course of the analysis its significance became clear.

As a little girl she constantly sucked her left index finger and continued to up to the age of 8, when her father undertook to break her of the habit by employing the usual punishments, corporeal and psychic. When about 12 years old, she was stricken with a severe febrile disease, which was accompanied by distressing unrest and insomnia. When the family physician complained of the inefficacy of his drugs in controlling her excitement, her father suggested that he knew what would quiet her more quickly than any medicine—namely, permission to suck her finger. The physician did not disdain to accept the hint, which worked miraculously well.

After her convalescence, naturally the habit persisted, and again the father undertook its correction, this time by moral reasoning. During the day she successfully combated the practice, but when alone at night an intense desire possessed her to revert to the infantile means of pacification. Her compromise resulted in putting her finger to the outside of her cheek instead of inside her mouth, and pressing the finger against the cheek instead of the cheek against the finger. Thus she protected herself against violating her father's admonitions and at the same time retained the equivalent of her autopleasurable sensation, in slightly altered form. She unconsciously reverts to this ticlike habit at the present time only to induce sleep or when under some particular strain.<sup>4</sup>

CASE 3.—American, aged 29, under analysis for a claustrophobia, exhibited a tic which consisted in turning the head with a sudden jerk to the right. The patient explained that whenever he found himself in a mental dilemma, the tic arose as a symbolic act to "shake it off."

The autopleasurable origin of the residual movement could be traced to the common practice of children in the country of rolling down hill, the friction and motion of which is undoubtedly a source of gratification. In the case of the patient, even at the age of 8, it was accompanied by a mild sexual erotism when he finally reached the prone position at the end of the rolling, especially when girls mingled with the boys.

The pleasure afforded by hill rolling was supplanted at a somewhat later period (from 8 to 10 years) by the practice of standing in the road and whirling oneself rapidly about until the primary exhilarating giddiness gave way to exhaustion and one fell to the ground. During this form of amusement, one of his companions, the school dunce, discovered that if the neck were craned upward and the head tossed violently in the opposite direction to the whirling before beginning the act, the effect would be more violent and more rapidly induced. Tossing the head thereafter became a regular preliminary to the whirling.

Naturally with advancing years the auto-erotic hill rolling and its successor, body whirling, were discontinued by the

children, but the patient, whose psychosexual development remained stationary from the age of puberty, lapsed into another form of auto-erotism, masturbation, with which he struggled incessantly until his neurosis (a compromise affair) developed. His masturbation and sexual maladjustment constituted his urgent difficulty for fifteen years and perhaps, as the patient says, the turning of the head may be a symbolic movement of shaking off his trouble. Possibly there may be some such significance, but it is unquestionable that in attempting to free himself of one auto-erotic habit (masturbation) he unconsciously resumed the remnant of another and earlier one.

In view of Dr. Clark's investigations of habit movements in imbeciles, it is interesting to note that the school dunce, who originated the head turning movement, has since assumed his logical position of the village half-wit, and has retained the habit to such a pathologic extent that he is identified with it.

#### COMMENT

The mechanisms in these cases are so simple that they may seem superficial. Infantile acts, however, purposes and counter-purposes, are all such. The tics all disappeared, not because of their analysis, but because more vexing problems harassing the patients were solved and the necessity for such supplementary compromise defense reactions no longer existed. The cases are reported, then, to illustrate the theory that these tics originally represented purposes, that the purpose had been suppressed, and how the apparently senseless movement, when resumed, constituted a defense compromise which afforded relief to the patient.

249 West Seventy-Fourth Street.

## THE FATIGUE OF ACCOMMODATION

AS REGISTERED BY THE ERGOGRAPH\*

LUCIEN HOWE, M.D.

BUFFALO

At the session of the American Medical Association in 1912, I had the honor of presenting a paper which dealt especially with the measurement of fatigue of convergence and of divergence as registered by the ergograph. In another paper in 1913, at the meeting of the American Ophthalmological Society, a classification was given of the varieties of fatigue of convergence.

In this third paper I show that by a similar method the ciliary muscle can also be made to write its story of fatigue. The principle involved has now been worked out sufficiently to venture a description of the method, but the subject has proved to be so vast and apparently so important clinically, that the fatigue of accommodation which accompanies forms of ametropia or of heterophoria must be reserved for future consideration.

It will add to clearness to give first a simple illustration of what is meant by the fatigue of accommodation, after that to describe the apparatus for measuring this fatigue, and finally to show some tracings made by the ciliary muscle, explaining what they mean.

First, to illustrate the principle: If a person who is still young enough to exert some accommodation closes one eye and looks with the other at a printed page, he can approach the page at once to a point where the

4. The analysis of other features of Case 2 was reported in the *Journal of Abnormal Psychology*, February, 1912, and of Case 3, in the *New York Medical Record*, July 5, 1915.

\* Read before the Section on Ophthalmology at the Sixty-Seventh Annual Session of the American Medical Association, Detroit, June, 1916.