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A CASE OF URTICARIA FACTITIA OBSERVED IN THE COE COLLEGE PSYCHOLOGICAL LABORATORY.

BY W. S. NEWELL.

Record of an unusual affection which appeared in experimental work in tactual space.

In submitting the following record upon a case of Urticaria, the writer has intentionally observed two restrictions, (1) to leave the technical discussion of the disease in question to medical treatises, (2) to avoid unwarrantable generalization from a single case under observation.

While conforming with these limitations, it has seemed that a record of the case, giving such concrete details of the appearance, the progress and the peculiarities of the disease as it was studied in our laboratory, might leave deductions and generalizations to await the discovery of new cases.

We shall pursue the following general plan in presenting the subject:

- (1) Circumstances attending the first appearance of the phenomenon in the laboratory.
- (2) Description of details leading to given diagnosis.
- (3) Urticaria Factitia.
- (4) Characterization of Miss M.
- (5) Introspections furnished by Miss M.
- (6) Conclusion.

(1) As a part of the course in General Psychology, our students perform a series of elementary experiments, and the laboratory records show that several hundred students have, within the past few years, performed substantially the same experiments. A few weeks ago, while supervising the work of an experiment on the tactual localization of a point, some results were obtained which stand unique among our laboratory reports. For the experiment in question, the students are arranged in teams of two each, one student acting as experimenter and the other as subject. The subject's ability to locate a point by touch, is determined by the accuracy with which he can put his pencil upon a spot on his

forearm which the experimenter has lightly touched while the subject's eyes are closed. Fifteen trials are suggested and the points of stimulus and location are transferred to a diagram in the student's notebook for comparison and study.

Such being the general plan of the specific experiment, one of the experimenters was greatly surprised and somewhat disconcerted to note that at every point of his team-mate's arm which the pencil touched, there soon appeared a pronounced welt or wheal.

The experiment had been in progress several minutes before my attention was called to these results. Ten or more wheals, standing up like discs and resembling insect stings figured the area which had been selected for purposes of the experiment. With care not to make the case any more conspicuous than necessary, a few simple facts were determined at this time: (1) The pressure of stimulus and location had been uniformly and normally light, (2) the subject, whom we may designate as Miss M., was aware of this sensitiveness to touch but had never regarded it as unusual. (Later, however, Miss M. asserted that as a young girl she was the recipient of much sympathy because of the unusual ridges or marks which were left on her body after moderate parental chastisement.) (3) The subject was not aware of any physiological conditions which had been or which might be regarded as a sufficient explanation of these wheals. (4) There was not itching or special irritation in the affected spots. Beyond these introductory questions, no further efforts were made in the general laboratory exercise to determine more definitely the origin and development of the wheals.

(2) The progress of this case was followed in several succeeding experiments, under conditions favorable to the discovery of further details through tests and by the information furnished by the subject itself. At no time was Miss M. prejudiced by an undue estimate of the abnormality or gravity of the case. Her attitude was that of an interested observer in the experiments which were made.

At the first meeting in the laboratory, several days after the discovery of the disorder, careful observations were made (1) to corroborate the earlier results by making the markings recur upon light tactual stimulus, (2) to note accurately the length of time which elapsed between the stimulus and the appearance of the wheals, (3) to determine the duration of the wheals and ridges, (4) to note more specifically any peculiarities in size, form, elevation of the wheals due to the character of the instrument used in giving the stimulus or to changes in the pressure of the stimulus.

Our findings on these points, briefly summarized from a number of stimulations on the forearm (both right and left arms, and the front or back of the arm being employed in the experiments) were as follows:

Stimulation by a dull pencil point or a round, blunt-pointed peg brought out separate wheals for each point touched, and these wheals appeared within three minutes after the stimulus. They reached their maximum vividness between five and ten minutes after the stimulation. These wheals measured from 3mm. to 5mm. in diameter varying in size with the fineness of the point used in stimulation. For example, a fine point gently pressing the skin brought out a beadlike disc, while pressure from the flat end of a lead pencil produced a blotch with the same general characteristics as the wheals.

A number of later experiments confirmed our findings as to the interval between stimulation and the appearance of the figures on the arm. The wheals remained visible from half an hour to an hour and a half, gradually sinking back into the normal smoothness and color of the surrounding skin. Frequently a red blotch or line would be the last visible trace of the wheals. The size of the individual wheals varied with the character of the instrument used, and the form was still further modified when the corner of a card was drawn across the skin. In such a test the reaction took the form of a welt or ridge resembling fine beading and having a conspicuous elevation perceptible to the touch, as the fingers were drawn across it. The wheals and the ridges thus produced at the will of the experimenter involved merely the contact to insure their appearance day after day, and with equal clearness whether the experiment were tried early in the morning or late in the afternoon. Miss M.'s ability to duplicate the results in subsequent tests showed that the reactions were not due to any temporary physiological condition. This fact was further confirmed by Miss M.'s own testimony of having long been familiar with this quality of sensitiveness to tactual impressions.

Different parts of the body were not equally sensitive to the same degree of stimulation. There was very little difference between the distinctness of the wheals on the front and on the back of the arm. Any slight advantage might easily have been attributed to inequality of stimulus or to the difficulty of bringing the two surfaces into comparison at the same time. However, when a test was made on the tip of the index finger, with its decided advantage of tactual sensitiveness, no wheal or welt appeared. Repeated experiments on those parts where the epidermis is tough or calloused failed to bring the results described above. Miss M.'s own report of tests performed under the same general conditions but on different parts of the body shows that the condition of

sensitiveness is general, having been detected in widely separated areas of the body.

In a series of experiments, attempts were made by the writer to discover whether factors of suggestion could be made to produce or to modify the results as described above. These suggestions took a variety of forms. Verbal suggestions were made by telling the subject to focus the attention up a proposed figure. Again a certain figure was agreed upon and then, without permitting the subject to see the tracery, a different design was given tactually. Another attempt to make the factor of suggestion as potent as possible consisted in having the subject fixate a design drawn upon paper while the experimenter executed the design close to the surface of the arm but without actual contact. None of these efforts to produce the phenomenon under examination through the subject's own attention proved in the least successful. Whatever more fundamental reasons there may have been for this failure, the writer believes that it was due in part to the subject's inability to control the attention. The means were not at hand to pursue this phase of the experiment further by the aid of hypnotic suggestions but it would seem to be quite in accord with some of the recent results of hypnotism to believe that, were the verbal suggestion made during hypnosis, the graphism would result. This so far as any positive data which the writer has, is conjectural and is not offered as a deduction from his experiments.

(3) Upon reporting the findings as outlined above to a local physician of standing, a professional diagnosis pronounced the disorder to be a form of Urticaria or Nettle Rash. This opinion has been corroborated by the writer, who finds in the descriptions of some eighteen recognized varieties of Urticaria, that the form characterized by the sudden appearance of wheals or marks (autographisms) on the surface of the body, possessed enough points in common with Miss M.'s case as to warrant her disorder being diagnosed as Urticaria Factitia. An equally diversified list of causes assigned to the different forms of Urticaria includes poisoning due to certain foods, such as mushrooms, strawberries; deleterious effects produced by drugs; the crawling of a caterpillar over the skin; certain disorders of menstruation; by nervous irritability, emotion, hysteria, etc.

Some of these causes and, hence, certain forms of Urticaria seem to be eliminated by the results of our tests with Miss M. For example, no temporary disturbance of the gastro-intestinal tract due to eating of certain foods would be likely to give reactions over such an extended period. On the same account, a temporary disorder of menstruation

should be omitted from the possible causes. The apparently chronic nature of the case together with the obvious identity of our results with the autographisms in other recorded cases, lead to the diagnosis as Urticaria Factitia, and bring into strong relief those causes referred to as "nervous irritability, emotion and hysteria."

(4) Miss M. is twenty-one years of age, active in college interests outside the class-room, including social, literary and athletic engagements. She appears to be in normal good health and spirits, and in her general bearing is energetic and animated. No physical characteristics indicate any functional disorder. But not the least positive factor in determining the cause and, hence, the classification of the affection under consideration, is an acquaintance with the conspicuous traits of Miss M.'s temperament. Concrete data, furnished by Miss M.'s instructors and based upon observation dating back over several months' acquaintance, indicate the leading features of Miss M.'s nervous organization. Without exception and independently her instructors have noted her nervous instability. One professor speaks of her erratic conduct in the preparation and recitation of lessons. Another comments upon her inability to concentrate upon matters in hand. Another has observed the frequency of distractions and irrelevancies when working with other students thoroughly absorbed in laboratory occupations. One speaks of her as being a disturbing member of his classes, etc. The writer was informed by a colleague that in the midst of a laboratory exercise in his department Miss M. suddenly burst out laughing, then in embarrassment stated that she could not assign any reason for her unusual behavior.

Indecision and resolute conviction seem to alternate in matters of slight consequence. A lack of motor control is as evident as her inability to control attention. Restlessness and supersensitiveness to surrounding impressions point toward a lack of nervous organization. Her introspective efforts are labored because of the shifting of attention.

All these data plainly show that Miss M. is of the neurotic type familiar to the medical profession. In some cases of meningitis the skin is so sensitive that a red mark will result from drawing the thumb nail across its surface. A hypersensitive condition of the skin whether it shows as a graphism or results merely in an unusual sensori-motor reaction, leads the physician to look for a type of nervous instability such as we have observed in Miss M.

(5) An epitome of Miss M.'s analysis of the conditions under which the disease manifests itself is as follows:

"I do not remember when I first noticed the marks on my skin but I believe that the condition is not of recent origin. These marks were first noticed on my forearm and above my elbow (cause tight sleeve) I cannot analyze my mental attitude on first observing the results but I supposed it was a common result of pressure. The welts show elsewhere on the body and the condition is general. The marks remain distinctly visible about half an hour. While I am nervous occasionally after a tiresome week or some special excitement, I do not know of any nervous disorder which might be regarded as conditions. I am carrying seventeen hours and all my time outside of school is full—Student Volunteer, Camp Fire, Choral Union, etc., etc.—I have no special worries. This matter (the welts) does not impress me as significant. I consider it no more extraordinary than the common cases of flushing or reddening of skin in other young people."

(6) As already implied, the findings in Miss M.'s case will be of chief interest (1) to the observer of psychological conditions, because of the unusual and abnormal type of reaction which points to a deeper nervous disorder; and, (2) to the physician who sees in the foregoing details the typical neurosis with its accompanying functional disturbance. The conditions of nervous instability which the psychologist detects in the regular laboratory exercises are serious enough to justify referring the student to a physician. He may recommend that the student's life of mental discipline and outside duties be given up temporarily for a mode of life designed to correct the conditions. The psychologist is bound to take this broader view of one of the chance by-products of his laboratory practice. We may even question the importance of the experimental means used in this case to produce the peculiar phenomena but if the phenomena point to deeper causes than the instruments used in stimulating touch spots, and these deeper causes mean much to the individual's welfare, then the psychologist's purpose has been accomplished. Whether the actual pressure was essential (as it appeared in all of our tests) or the fact, that any experimenter *was doing something*, was sufficient to focus the attention of the neurotic subject, are secondary in importance to the fact that the graphism confirmed the suspicion of nervous disorder. As noted above the writer worked on the theory that any stimulus sufficiently suggestive would produce the same results as actual pressure. It seems probable that the touch stimulus is the mode by which Miss M.'s attention can best be focussed, but that there is no

special significance to be attached to the surface phenomena more than as indicative of more fundamental disturbance.

In conclusion, mention may be made of a minor point, so far as this study is concerned, but one which is of some significance to the student of certain features of abnormal psychology. Autographism may be productive of a sort of prestige. It is quite easy to understand how in another age, or in a different environment the effect of these markings, first, upon a superstitious public and, then, upon the neurotic subject herself might be sufficient to lead to all degrees of religious extravagance and fanaticism. Mystic marks or religious symbols could start from as matter-of-fact conditions as those of our experiments and, in a crowd of suggestible worshippers, become a menace to religious and social sanity.