

THE DYSCHIRIC SYNDROME

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THE symptom known as Allochiria has, except in Janet's writings, received but little attention since it was first described by Obersteiner (13) nearly thirty years ago. The views held on the subject by most neurologists can fairly be summarized in the following statement, which is taken from the most complete modern text-book — namely, Nothnagel's *Specielle Pathologie und Therapie*: "Allochiria is a defect in localization, whereby a patient refers a cutaneous stimulus to the corresponding contralateral point; it occurs in a large number of diseases, notably tabes and hysteria, and is of no value in diagnosis." Having no precise significance the symptom would thus seem to be of no practical value to the clinician; it has further been denied interest even on the theoretical side, largely because a simple mechanical explanation, which is as I think certainly false, has been widely accepted, so that it would appear as if there remained no further problem to be elucidated.

Some two years ago I pointed out (8) that the incorrectness of these accepted views arises from the fact that under the term Allochiria fundamentally different conditions have been confounded. Before giving a description of true allochiria, then, it will be necessary to say a word about the other conditions to which the term should not be applied. What has incorrectly been called electromotor or reflex allochiria is a condition in which electric or other stimuli evoke movements on the contralateral side of the body. There is nothing in common between this condition and true allochiria, any more than there is between this and the consensual reaction of the pupil to light. Another condition which has more frequently been mistaken for allochiria is the defect in localization known as alloæsthesia, which has been shown by Spearman (15) to be due to a defect in afferent excitations, particularly those of the "articular" type.

This symptom occurs especially in tabes dorsalis and similar affections. I have given (8) seven distinguishing features by means of which the diagnosis between it and true allochiria can readily be made. The essential point about alloæsthesia is that in it stimuli are erroneously referred *in every direction*, and it is said that they may even be referred to the contralateral limb. I have never been able to satisfy myself that the last-named feature is not an erroneous observation, due to the frequent hallucinatory sensations that so commonly occur when a tabetic limb is being examined, but, whether this is so or not, it is at all events certain that in alloæsthesia most of the stimuli are referred to various points on the same limb so that there is a general defect in localizing capacity. In allochiria, on the contrary, there is no such general defect, but every stimulus without exception is referred to the exactly corresponding point on the contralateral side of the body.

I have collected (9)* seventy-nine cases that have been published under the name allochiria. Of these, thirty-two are instances of true allochiria; twenty-nine were cases of hysteria alone, and three were cases of hysteria co-existing with some organic affection. I have adduced (8, 9) other confirmatory evidence to show that allochiria is essentially a hysteric manifestation, and therefore of very precise diagnostic import. A number of possible errors that its presence may give rise to (8, 9) need not here be mentioned, for they are of purely medical interest.

True allochiria is one stage in the evolution of what may be termed the dyschiric syndrome. The three stages of this syndrome, and some of their features, were first described by Janet (6), but he followed all previous writers in failing to recognize the fundamental distinction between it and the conditions mentioned above, and was thus led to entertain similarly erroneous views as to its clinical import, essential nature, and pathogenesis. *Dyschiria may be defined as a state in which there is constantly either ignorance or error in the patient's mind as to the side of given stimuli, quite independent of any defect in sensorial acuity or in the power*

*Since this review, in which seventy-six cases were referred to, three others have been published, one by Schultze (14) and two by myself (12).

of localization. This closely corresponds with the original definition of allochiria given by Obersteiner, though, like all subsequent writers, he did not recognize the essential distinction between it and alloæsthesia, and in fact gave instances of both conditions in his description.

As was just stated, there are three stages of Dyschiria: (1) Achiria, in which the patient has no knowledge at all as to the side of the stimulus; (2) Allochiria, in which he refers the stimulus to the exactly corresponding point on the opposite side of the body, and (3) Synchronia, in which he refers it to both sides; there are three subvarieties of the latter. The dyschiric manifestations may be general in distribution, or they may relate to certain segments of the body only, for instance to one limb. There are characteristic, introspective, motor, and sensory manifestations of each stage. A short description may now be given of each stage separately, but those who are interested in the question would probably find it easier to realize the significance of the various points by reading a description of an actual case, particularly the first of the two I have published (12).

A. ACHIRIA

This designation is proposed instead of the term "simple allochiria" used by Janet.

(1) *Introspective*.—The patient has lost the memory for the feeling of the part of the body concerned, and declares that though he knows he has such a part he cannot feel it. The patient's attitude is thus the same as in the so-called feeling of "depersonalization" that accompanies the severer forms of hysteric anæsthesia, though achiria differs from this condition in that the sensory acuity is not necessarily impaired.

When the achiric manifestation relates to the whole of one side of the body then the amnesia may extend so as to involve the feelings of "sidedness" and "handedness" corresponding to that half of the body. Thus, in my first case, the whole right side of the body was achiric, and the patient was totally unable to conceive the meaning of the terms "right-sided" and "right-handed." He had no feeling or memory whatever that corresponded with the

expressions, which so far as he was concerned might have been Greek.

(2) *Motor*.—If the patient is asked to carry out any movement with the limb in question he is unable to do so unless the limb is indicated in some other way than by the use of the words right or left; even then strenuous attempts are often followed by actions of very disproportionate strength. In spite of this fact, various habitual and automatic movements can be performed by the same limb, and in general it may be said, as of so many hysteric defects, that functioning becomes more imperfect the more conscious and voluntary is the effort.

(3) *Sensory*.—A stimulus applied to the affected part arouses no feeling of "sidedness" whatever. It is not accurate to say that the patient is in *doubt* as to which side the stimulus has been applied; he is quite sure that he has no idea on the subject, and refuses to make any guess. All he can say is that such and such a stimulus has been applied to such and such a part of the body, but as to which side he has no notion.

Apart from this single fact there may be no defect of sensorial acuity, even with the most rigorous testing. The stimulus is perfectly appreciated, its exact nature recognized, and its position correctly localized.

B. ALLOCHIRIA

The second stage corresponds with what Janet called "complete allochiria." It is better to retain the term allochiria solely for this condition, in which stimuli are constantly referred to the corresponding point on the opposite side of the body. This restriction of the term, besides giving us an increase in precision, has the further advantage of agreeing with the sense in which it has been used by every other writer except Obersteiner. As stated above, Obersteiner's definition applies to the group here called dyschiria, while all subsequent writers have selected one feature in his definition and called it allochiria. That feature is the characteristic of the condition here also called allochiria, so that my suggestion is in conformity with the accepted use of the term, though it departs from the way in which Obersteiner defined it.

The following is a short account of the manifestations of this stage, though as they are so complex it is difficult to make it intelligible without describing the stage in greater detail, as I have elsewhere done (12).

(1) *Introspective*.—This differs according as the case is a unilateral or bilateral one. In the former instance the patient can appreciate the feeling of "sidedness" of an affected part only when he is moving the corresponding part of the opposite side under the impression that he is moving the part in question; if he really moves the affected part, or if this is stimulated, he invariably gets the feeling of "sidedness" of the opposite part. An example may make this clearer. If the right side only is affected then the patient can never feel that he has, for instance, an arm on the right side. Under certain circumstances he can, it is true, feel his right arm, *but on the left side*. He therefore feels two arms on the left side, superimposed in space, and my patient used to distinguish these as the "dead" or "clever" left arm (really the right) and the "alive" left arm (the true left) respectively. It was a matter of great difficulty getting him to distinguish the two, for at first he completely fused them and maintained that, as in the achiric stage, he had but one arm, on the left. If the two arms were passively moved he could distinguish them in the way just mentioned, though it is important to note that in the two cases the feeling of left-sidedness of the arm in question was of exactly equal vividness and certitude.

In a bilateral case the patient can appreciate a given feeling of "sidedness" only when the opposite limb is moved or stimulated. Thus the feeling of a right arm can be obtained only when the left one is being moved. So far as I can determine, the mental attitude of the patient in a bilateral case is normal until a part is moved or stimulated, whereas in a unilateral case introspection reveals to the patient the curious feeling of having two sets of limbs, etc., on one side, i.e. of having his body completely folded on itself with a hinge in the sagittal axis.

(2) *Motor*.—If the patient is asked to carry out a given movement he promptly and invariably does so with the corresponding limb of the opposite side, and is under the full

impression that he has correctly performed the required act. This is perfectly simple in a bilateral case, but in a unilateral one it leads to the complication that the limb on the normal side is used at different times both in its own capacity and in the capacity of the opposite one. Thus in my right-sided case the patient could not use a screwdriver if told to do so with the left hand (for he was originally right-handed) but could do so perfectly well with the same left hand if told to do it with the right; that is to say, the physiological functioning characteristic of a dextral hand became for the moment transferred to a hand that was usually sinistral. Blocq (1) and others have — unfortunately as I think — spoken of these motor manifestations of allochiria as *allokinesia*.

(3) *Sensory*.— Stimuli applied to an affected part are *invariably* referred to the corresponding point on the opposite side of the body. This is done with an air of absolute conviction, so that, for instance, a patient showing allochiria on the right side only feels no more certain that a given stimulus is on the left side when it is applied on this side than when it really is applied on the right. The point to which it is referred on the opposite side exactly corresponds with the symmetrical point touched, a fact which in itself disposes of the view that allochiria is in any way merely a disturbance of localization.

C. SYNCHIRIA

The manifestations of the third stage, which Janet has appropriately termed *synchiria*, are as follows:

(1) *Introspective*.— The patient is unable, either spontaneously or when cutaneous stimulation is applied, to appreciate the affected feeling of “sidedness” alone apart from the simultaneously appreciated feeling of the corresponding opposite side, though he can appreciate it when he moves both limbs together under the impression that he is moving only the affected one. This may be illustrated by the same example as that chosen above. If the patient’s right (affected) arm was passively moved he felt that both right and left arms were being moved, and could not distinguish the experience from that felt when both arms were really moved. If, however, he was asked to move the right arm he moved, as will

presently be mentioned, both, but felt that he was moving only the right, as he had been told. To direct introspection, apart from any movement test, the patient felt that his right side was displaced and shifting between the two sides. It was sometimes nearer the right, sometimes nearer the left, and sometimes in the middle line. When it quite reached the right all dyschiric manifestations disappeared, when it quite reached the left, synchiria was replaced by allochiria.

(2) *Motor*.—When the patient is asked to carry out a movement on the affected side he does so on both sides, though in so doing he gets the feeling of “sidedness” only of the affected part.

(3) *Sensory*.—A stimulus applied to the affected part evokes two simultaneous sensations, which are referred to the corresponding points on both sides of the body. The homolateral one shows no abnormal features, the contralateral one shows the phrictopathic attributes that will presently be described. Either or neither of these two sensations may seem more distinct than the other, so that three sub stages of the condition can be distinguished. In the unilateral case before referred to these substages accurately corresponded with the variations in introspective feeling; thus if for instance the patient said that he felt the right half of his body to be shifted nearer to the left side than the right, one could be sure that cutaneous stimulation of it would evoke two sensations of which the one referred to the left would be the more distinct.

The *Theory of Dyschiria* has usually been approached from consideration of the allochiric variety of the syndrome, a fact which goes to help explain the sterility of the conclusions reached, for allochiria is certainly the most complex of the three varieties. The previous hypotheses offered in regard to allochiria may be grouped into two. The currently accepted one, which has been expounded by a number of leading authorities, was independently devised in 1880 by Fischer (3) and in 1883 by Hammond (4), and is usually styled “Hammond’s theory.” According to this hypothesis an obstruction in the efferent path causes a passage of impulses to the contralateral side, and the cerebral hemisphere they reach refers them to the side opposite to that of their

origin. The hysteric cases have been explained on this view by Weiss (16) by postulating a functional block in the posterior columns of the spinal cord, and by Bosc (2) by postulating a similar block in one cerebral hemisphere, so that the impulses reaching it have to cross through the corpus callosum to the opposite hemisphere; comment on this is surely superfluous at the present day. The whole Fischer-Hammond hypothesis is the flimsiest speculation, and nothing could better illustrate the antiquated materialistic philosophy still rampant in the medical profession than the fact that this hypothesis is not only gravely expounded but universally accepted in neurological circles. I have discussed it at length elsewhere (9), and have shown that Hammond developed it by dint of ignoring all the observable facts concerning allochiria, and by indulging in the most vapid fantasies derived from the study of emergencies on American railroads, which he took to be a valid analogy of the human nervous system. One fact alone is sufficient to demolish the hypothesis, namely, that according to it allochiria should invariably accompany the Brown-Séguard hemisection syndrome,—where there is a unilateral block in the spinal cord,—whereas the truth is that allochiria has never been observed in this syndrome.

The second hypothesis, which has been built up by Head (5), Spearman (15), and Janet (7), is a valuable train of thought; it is not, however, necessary to consider it here, for I have shown (12) that really the problem these authors were discussing was that of the origin of alloæsthesia. Their incorrect use of the term allochiria in this connection was due to the fact that they did not distinguish between these entirely different conditions.

The most fruitful starting-point from which to study the pathology of dyschiria is the consideration of its most elementary manifestation, namely *achiria*. The most striking feature in *achiria* is the sharp contrast between the complete failure of the sensation to give rise to any feeling of "sidedness" and its capacity to yield information about all other attributes of the stimulus, the exact site, nature, etc., of this. I have seen typical *achiria* present at a time when tests carried out with the most sedulous care failed to reveal

any defect whatever in sensorial acuity. This fact in itself clearly demonstrates that the symptom is not dependent on any sensory deficiency, as Janet maintains. The amazing specificity about the one particular loss irresistibly reminds one of the other specialized losses that are so characteristic of hysteria. We may define the essential nature of achiria, then, as an amnesic failure to associate a given feeling of "sidedness" with certain mental processes that normally are associated with it; a failure of such a kind that the presence of these processes in consciousness fails to arouse the feeling in question. The defect is a typical instance of psychological disaggregation; it might preferably be styled a defect in psychical assimilation. Like all other similar defects it is caused by the action of a "repressed" (*verdrängte*) feeling-complex, as Freud has long shown.

Further light is thrown on the subject of achiria by considering the relation of it to the other losses observable at the same time, namely the amnesia for the bodily members. In order to do this a few preliminary remarks are necessary about the mental processes that concern any given part of the body. These are sharply divided into two groups: *First*, there are the æsthetic sensibilities that depend on the excitations flowing in from the bodily member *at any given moment*; they are subdivided into (a) the sets of common sensibilities (touch, pain, heat, etc.) that have to do with the immediate relation of the member to the external world, and (b) the cœnæsthetic sensations, largely unconscious, that have their physical origin in the functioning of the internal organs. *Secondly*, there is the group of memory feelings that originate in all the diverse mental processes that *in the past* have had to do with the member in question; to mention only a few of these, there are the memories relating to its functions, both motor and sensory, those relating to its appearance, "sidedness," position, and all that the member stands for to the individual; in short, all the memory feelings that can be aroused by the sight, mention, touch, or thought of the member in question. This group, to which I have applied the term "autosomatognostic" (10), has often in the past been confounded with the totally different group of cœnæsthetic sensibilities.

The first of these two groups can be affected by either organic or functional disease, the second only by functional; no organic lesion can affect the past memories that form the autosomatognostic group, any more than loss of both eyes can abolish the memories of objects formerly seen. We thus see that in functional disease two totally different forms of anæsthesia may occur, according to whether the dissociation implicates both groups or only the first. In the common form only the æsthetic sensibilities are dissociated, in the rarer one both these and the autosomatognostic memories are. In this graver form it frequently happens that the second group of mental processes are recovered before the first, so that the common form of hysteric anæsthesia is brought about. This may be called the common type of cleavage between the two groups of mental processes in question. On the other hand, it occasionally happens that the recovery of the æsthetic sensibilities is in advance of that of the autosomatognostic memories, and we may speak of this as the paradoxical type of cleavage.

I have developed the view (12) that achiria is a necessary result of this paradoxical type of cleavage. We saw above that achiria is essentially an amnesia for the feeling of "sidedness," or what may be called the "chirognostic sense." There is much evidence to show that chirognostic feeling is an integral part of the group of autosomatognostic memories, and is intimately associated with other members of this group. When this group is implicated in disaggregation it is so as a whole, chirognostic feeling being included. If now the æsthetic sensibilities are retained then a stimulus, which therefore can be appreciated, is felt, but on a part that does not seem to the patient to belong to him and the side of which he does not know; in other words, we have all the manifestations of achiria.

In this connection may also be considered a matter that till now has not been mentioned, namely the fact that sensation in dyschiria constantly shows certain peculiar attributes. These attributes, which I have grouped under the designation phrictopathic (8), may shortly be described as follows: *First*, the sensation is abnormally persistent. Instead of ceasing to be felt as soon as the stimulus is withdrawn it

persists in unabated intensity for from six to sixty seconds. *Secondly*, the conscious reaction time is delayed, so that an interval of between two and six seconds elapses after stimulation before the patient experiences any sensation. *Thirdly*, it is not perceived when a more normal sensation is present. It is prevented by a simultaneous stimulus applied to any normal part of the body, and is instantly abolished by the subsequent application of any such stimulus. *Fourthly*, it has a strong tendency to evoke an immediate and irresistible motor response. *Fifthly*, the quality of the sensation is always unpleasant, is often very disagreeable, and is sometimes so intense that it can be described only as a horrible shudder. *Sixthly*, the feeling of personal ownership of the part stimulated is gravely compromised, and may be quite absent.

In a discussion of phrictopathic sensation (10) I have attempted to show, and to explain in detail, that it arises as the result of the "paradoxical cleavage" above described, so that the three syndromes of achiria (or other secondary form of dyschiria), phrictopathic sensation, and paradoxical disaggregation of autosomatognostic memories are intimately associated one with the other, and form a unitary morbid state.

The dyschiric and phrictopathic manifestations, being dependent on the paradoxical cleavage, are naturally more pronounced the sharper is that cleavage. They are therefore not well marked when the loss of the autosomatognostic memories is not complete, and when the retention of the æsthetic sensibilities is imperfect. It was the imperfect retention of these sensibilities (i.e. hypoæsthesia) in Janet's case that led him erroneously to conclude that dyschiria arose from a *defect* in sensibility, whereas in fact it would be more accurate to attribute dyschiria to the abnormal *retention* of æsthetic sensibilities — for they are usually lost when the autosomatognostic memories are lost — rather than to any defect in them. In a case such as the one described by Janet the phrictopathic attributes are also less pronounced, and he mentions only slight indications of them. In one of my cases, on the other hand, the loss of autosomatognostic memories was absolute, while the retention of æsthetic sensibility was complete, so that the paradoxical cleavage

was at a maximum. How marked were the resulting phric-topathic attributes may be seen from the following extract of the description of the case: "A light touch on the right arm evoked after a pause of several seconds a diffuse shuddering which was accompanied by a sudden bound on the part of the patient. He declared that he felt the touch of a finger on an elbow, but had no idea where the elbow was, and no sense of recognition that it was *his* elbow. The sensation, which was not felt at all if the patient was simultaneously touched on the left side, persisted for over a minute and then rapidly died away. It could at once be abolished by the application of a left-sided stimulus. It was most striking to witness the way in which the patient, sweating with horror, was instantly relieved of his misery by the lightest touch applied to any part of the left side of his body." There is little doubt that the reason why these phenomena have been so largely overlooked in the past is because of the rarity with which the paradoxical cleavage is so complete as it was in the case just referred to. In most cases the disaggregation runs a more parallel course with the two groups, for autosomatognostic amnesia is usually accompanied by cutaneous anæsthesia, or at all events by hypoæsthesia.

As was hinted above, achiria is to be regarded as the basal type of dyschiria, and the other forms merely as secondary developments of it. In studying, then, the pathology of *allochiria* it is necessary to bear in mind the considerations just advanced concerning achiria. From this point of view we see that the essential feature in the nature of *allochiria* is the presence of an abnormal association between a given feeling of "sidedness" and the memories of a contralateral part, of such a kind that any recalling of the latter simultaneously arouses the former in consciousness. Thus, with a unilateral right-sided *allochiria* the thought or use of the right arm evokes the feeling of left-sidedness. The next step is to find out what has brought about this abnormal association. We are familiar enough with the occurrence in hysteria of replacement of one symptom by another, and it is now known that this change always subserves the function of enabling the patient to gain with the second symptom some advantage in a way that was not possible with the first. The

difficulty of applying this teleological hypothesis to allochiria is in seeing in what possible way such an apparently meaningless occurrence could have any function, in seeing what gain could accrue, however indirectly. This difficulty can, to my mind, be solved by a comparative study of the states of achiria and allochiria. If we again refer to the unilateral case mentioned above we note that the change from the former to the latter state essentially meant to the patient two things — one dependent on a gain in dextrality,* the other on a gain in autosomatognostic feeling. He became again aware of a whole group of motor functions — dextral acts — the meaning of which he had previously forgotten, and he again felt — imperfectly, it is true — the right half of his body, although this was on the left side spatially coinciding with the left half. This partial recovery of autosomatognostic feeling was always accompanied by a striking change for the better in the patient's sense of wellbeing. Not only was the bulk of his bodily feeling multiplied by two, but other qualities seemed similarly to expand; thus his courage and feeling of power, strength, and capacity also grew in the same moment. The great importance that autosomatognostic memory feelings have for the sense of general wellbeing, and the misery that results from the depersonalizations due to amnesia for these memories, are facts very generally recognized, and no further emphasis need here be laid on them.

We have in these observations the clue to the function subserved by the erroneous association of chirognostic feeling that characterizes allochiria. There are reasons for believing that the presence or absence of chirognostic feeling makes all the difference to the capacity to recall autosomatognostic memories, i.e. it has a most important influence on the patient's capacity to feel a given part of the body as an integral part of his personality. It would further appear that the appreciation of an inappropriate chirognostic feeling is effective in this respect in the same way as an appropriate one. An erroneous association of an inappropriate chirognostic feeling is thus a makeshift, the only one possible under the

*I.e., the special capacities characteristic of the normal right hand. I have published a paper (11) dealing with the nomenclature of this subject.

circumstances, whereby an achiric patient can recover the memories of a given part, together with the knowledge of its functions. Allochiria presents, then, a means of escape from the disadvantages of Achiria. To the patient under consideration, the endowment of the memory-feeling of the right half of the body with left-sidedness was so far as it went merely an embarrassing awkwardness, but it had the solid advantage of enabling him to feel something of his right half and its functions; it was in this respect the next best thing to endowing that feeling with right-sidedness, a consummation which was prevented at this stage by the completeness of the loss of "right-sidedness." To sum up this teleological hypothesis: When the force of the "repressed" complex causing the disaggregation is too great to permit the recovery of a given chirognostic feeling, then the autosomatognostic memories concerned can be recovered only at the expense of replacing their constituent chirognostic feeling by its complement. Allochiria thus subserves the function of enabling certain autosomatognostic memories to be once more apprehended in consciousness, with a resulting marked benefit to the personal wellbeing of the patient.

Of the pathology of *Synchiria* little need be said. It consists in an abnormal association between the memory processes relating to a given part and the feelings of right-and left-sidedness, of such a kind that any recalling of the former simultaneously arouses both the latter in consciousness. In allochiria it might be said that the patient can tolerate in consciousness the memories of a given part of the body only on condition that it is felt on the opposite side. In *synchiria* we see the transition between this process and the normal. Stimulation of a right arm, for instance, arouses memories of an arm that can be accepted as right-sided only if it is at the same time left-sided. There are several interesting matters in connection with the sensory features of *synchiria*, and indeed of *allochiria*, which like many other allied questions are here omitted for purposes of simplicity.

A few remarks may now be added dealing with the *Dyschiric Syndrome as a whole*, and we may begin by considering the relation of the three stages one to another. Achiria represents the most advanced degree of disaggrega-

tion, synchronia the least. I have advanced evidence (12) to show that both these stages are essentially transitional in character. They are both very distressing to the patient. Passage from either of them into the stage of allochiria takes place with dramatic suddenness. When, in the synchronic stage of the case above referred to, the right side felt as though it were drifting in an indefinite medium, being neither on the right side nor on the left, the patient's general condition of disagreeable insecurity was about the same in all the substages; as, now, it passed over to reach its safe anchorage on the left, instantaneous superposition would occur in a way that almost suggested the snap of a lock, and the patient, having found security in allochiria, would sink back with the profound sigh of relief given by one who again exchanges doubt for certitude. In passing from allochiria to the normal it was so difficult to maintain synchronia for the time necessary to progress to the normal that often the patient would slip back again, as with a click, into the stable resting stage of allochiria. Exactly similar features are to be observed in the case of achiria. Whether they are necessary stages in the production of allochiria is not known, but it is certain that they may be transversed in a very brief period, even in a few seconds. If either of them is observed in a given case it is highly probable that at some other time allochiria will be observed, but the contrary by no means certainly follows.

Allochiria is thus the only stable variety of dyschiria, so that if a permanent defect in assimilation of chirognostic feeling exists it will find expression in allochiria. This explains why it is the variety that has most frequently been observed. Of the thirty cases of dyschiria I have collected from the literature, allochiria was present in all, achiria in only one, and synchronia in only two. It also explains the long duration that may be seen in cases of allochiria; in Janet's case the syndrome was present at different times over at least twelve years, and one of my patients had spent the greater part of seven years in an allochiric condition.

One of the most obscure questions in regard to dyschiria is that concerning the difference between the unilateral and bilateral cases. The more one penetrates into the exact

state of affairs the more striking becomes the difference between the mechanisms of the two classes, and the sharper the distinction between them. It is only possible to make the following general remarks on the subject. In a unilateral case of allochiria there is a conscious illusion of displacement, by which one half of the body seems to be folded on a vertical axis until it coincides with the other half, whereas in a bilateral case the patient is quite unaware that anything is wrong, and there is certainly no sense of displacement of any part of the body. This may be illustrated by the observation that if one touches the right arm of a patient with right-sided allochiria, there being a window on his right and a table on his left, he erroneously states that the touch was on the "table" side of him; in a bilateral case the patient makes no such mistake, though like the other he says that he had been touched on the left side. By means of some specially devised tests I have obtained a consistent body of evidence (12) showing that in a bilateral case the auto-somatognostic defect was more pronounced on one side, and it is to my mind very probable that all cases are originally unilateral. I have tentatively advanced the suggestion that the bilateral condition subserves the function of avoiding the contradictory experiences endured by the patient with unilateral allochiria, and that the occurrence of a given form may depend on the type of mind or the type of hysteria present.

The subject opens up many psychological questions of both theoretic and practical interest that cannot here be touched on, but perhaps enough has been said to show that the dyschiric syndrome has been unduly neglected in the past, and that the problems concerning it would amply reward further investigation.

REFERENCES

1. Blocq, Riche's Dict. de Phys., 1895, t. I. Art, Allocinésie.
2. Bosc, De l'allochirie sensorielle. Rev. de Méd., 1892, t. xii, p. 841.
3. Fischer, Zur Symptomatologie der Tabes dorsualis. Deutsche Arch. f. klin. Med., 1880. Bd. xxvi, Ht. I, S. 120.
4. Hammond, Allochiria, its Nature and Seat. New York Med. Jour., 1883, Vol. XXXVII, p. 35. Nature and Seat of Allochiria. Gailard's Med. Jour., 1883, p. 129.

5. Henry Head, On Disturbances of Sensation, with special reference to the Pain of Visceral Disease. *Brain*, 1893, Vol. XVI, p. 124.
6. Pierre Janet, Une altération de la faculté de localiser les sensations, *Rev. philosoph.*, 1890, t. I, p. 659. *Stigmates mentaux des hystériques*, 1893, p. 67.
7. *Ibid*, *Névroses et Idées fixes*, 1898, t. I, chap. VI. Un cas d'allochirie.
8. Ernest Jones, The Clinical Significance of Allochiria. *Trans. of the First Internat. Congress of Psychiatry and Neurology*, Amsterdam, Sept. 5, 1907, p. 408. *Lancet*, Sept. 21, 1907, p. 830.
9. *Ibid*. The Precise Diagnostic Value of Allochiria, *Brain*, 1907, Vol. XXX, p. 490.
10. *Ibid*, The Significance of Phrictopathic Sensation, *Jour. of Nerv. and Ment. Dis.*, July, 1908, Vol. XXXV, p. 427. An abstract of this article appears in the present number of the *Jour. of Abnormal Psychol.*
11. *Ibid*, An Attempt to Define the Terms used in Connection with Right-handedness, *Psychol. Bulletin*, April, 1909, Vol. VI, p. 130.
12. *Ibid*, The Pathology of Dyschiria, *Rev. of Neurol. and Psychiatr.*, August, 1909, p. 499, and Sept., p. 559.
13. Obersteiner, Ueber einige Sensibilitätsstörungen bei Neurosen, *Wien. Med. Presse*, Dec. 19, 1880. Jahrg. XXI, S. 1635. On Allochiria, a peculiar sensory disorder. *Brain*, July, 1881, Vol. IV, p. 153.
14. E. Schultze, Über hysterische Hemiplegie, *Deutsche Med. Woch.*, 1908, Nr. 13, S. 544.
15. Spearman, Analysis of Localization, *Brit. Jour. of Psychol.*, 1905, Vol. I, p. 304. Die Normaltäuschungen in der Lagewahrnehmung. *Wundt's Psychol. Studien*, 1906, Bd. I, S. 388.
16. Weiss, Über anderseitige Emfindungswahrnehmungen und anderseitige Bewegungserscheinungen., *Wien. Med. Presse*, Nov. 22, 1891. Jahrg. XXXII, S. 1779.