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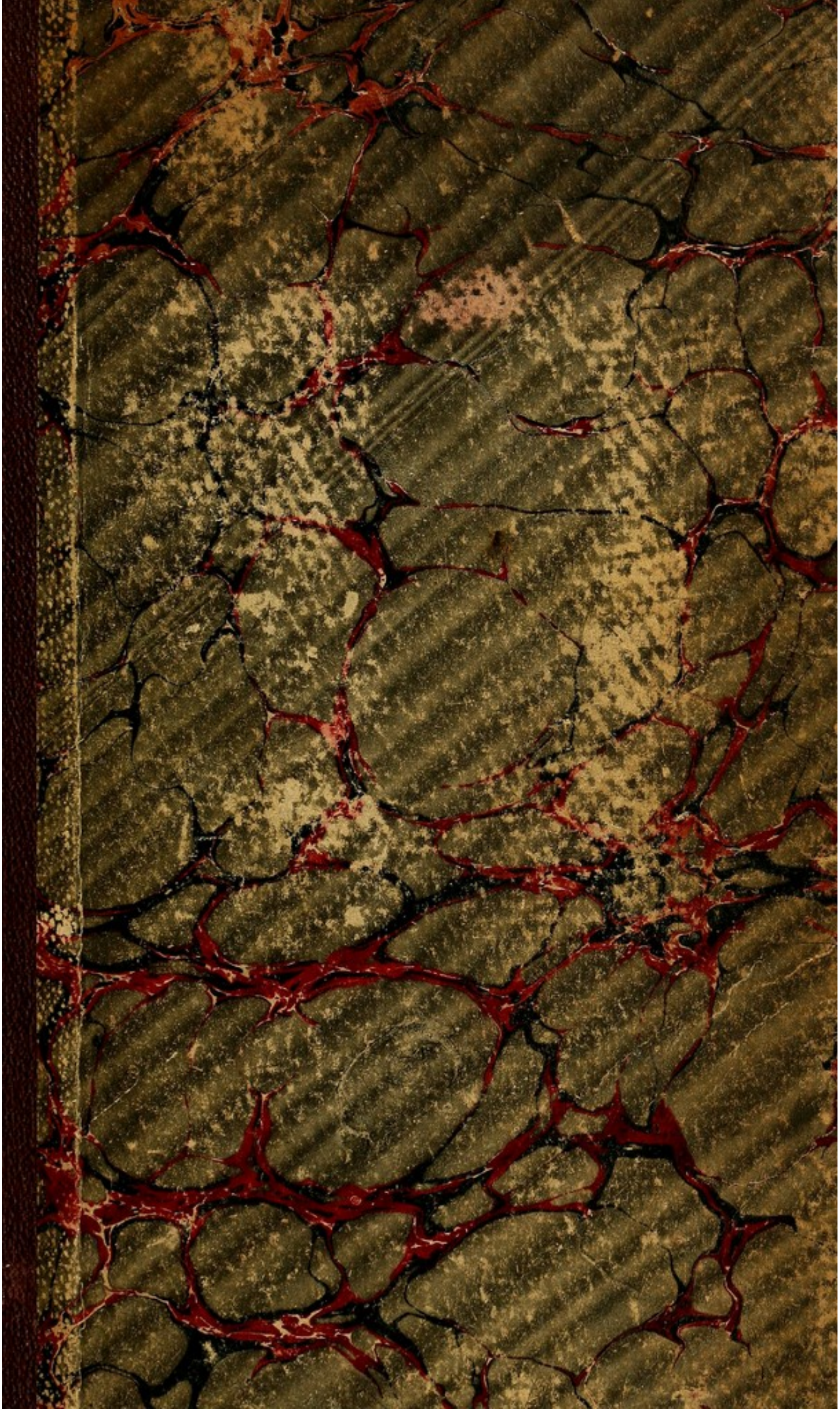

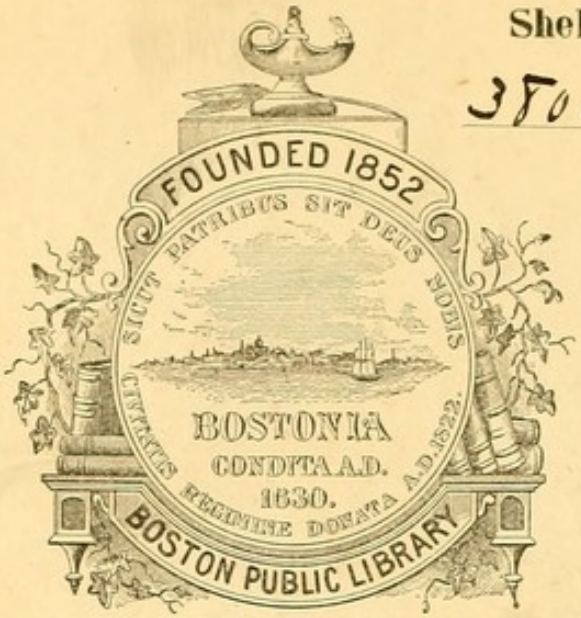

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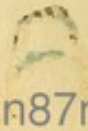

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THE DISEASES OF PERSONALITY.

BY

TH. RIBOT.

Translated from the French by J. FITZGERALD, M. A.

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CHAPTER I.

INTRODUCTION.—PERSONALITY.—INDIVIDUALITY.—CONSCIOUSNESS.

In the language of psychology the general meaning of the term "person" is, an individual being that has a clear consciousness of itself and that acts consequently: it is the highest form of individuality. Metaphysical psychology, to explain this character (which it reserves for man exclusively) merely assumes a Me [*ego*], absolutely one, simple, and identical. Unfortunately, the explanation is illusive, the solution only apparent. Unless we assign a supernatural origin to this Me, we must needs explain how it comes to be, and from what lower form it springs. Experimental psychology can neither state the problem in the same way nor treat it by the same method. It learns from natural history how difficult it is in many cases to determine the characters of individuality, far less complex though they be than those of personality; simple, easy solutions it mistrusts, and far from supposing the problem to be resolvable at the first attack, it finds the solution at the final term of its researches, as the result of laborious investigations. It is therefore quite natural that the representatives of the old school, being a little off their bearings, should accuse those of the new school of "stealing their Me," though nobody has attempted anything of the kind. But the language of either side is so different from that of the other, and their methods are so opposite that they no longer understand one another.

At the risk of increasing the confusion, I would try to find out what is to be learned from teratological, or morbid, or merely rare cases, touching the formation and disorganization of personality, but without pretending to treat the subject in its entirety: that undertaking were, it seems to me, premature.

Personality being the highest form of psychic individuality, a preliminary question arises: What is an individual? Few problems have in our days been more discussed by naturalists than this, and few remain more obscure as regards the lower grades of animal life. It is not yet time to treat it in detail: in the conclusion of this work, after we shall have studied the constituent elements of personality, we will consider personality itself as a whole. Then we shall take occasion to compare personality with the lower forms through which nature has essayed to produce it, and to show that the psychic individual is only the expression of the organism: like it of low grade, undifferentiated, incoherent, or complex and integrated. For the present, it suffices to remind the reader who has already some acquaintance with these studies, that as we descend in the animal series, we see the psychic individual formed by more or less perfect fusion of less complex individuals—a colony-consciousness being produced by the co-operation of local consciousness. These discoveries in natural history are of the utmost importance for psychology. Owing to them the problem of personality takes a new form: it must be approached from below; and one is led to ask whether the human personality itself is not a "coalition whole" whose extreme complexity makes its origin difficult to discover, or even inscrutable, did not the existence of elemental forms throw some light upon the process of this fusion.

Human personality—and of this alone can we treat to any purpose, especially in a pathological essay—is a concrete whole, a complex. To know what it is, we must,

analyze it, and here analysis is of necessity artificial, for it separates groups of phenomena that are not merely juxtaposed but co-ordinated, and standing toward one another not in the relation of mere simultaneity but of mutual dependence. Still analysis is indispensable. Adopting therefore a division of the subject which I hope will be its own justification, I will consider successively the *Organic*, the *Affective*, and the *Intellective* conditions of personality, laying stress upon anomalies and irregularities. Upon a final survey of the subject we shall group together again these dissevered elements.

But before we begin the exposition and interpretation of the facts, it will be well to have an understanding as to the nature of consciousness. I do not propose to write a monograph on consciousness, for that would cover pretty nearly the whole field of psychology: it will be enough to state the problem with precision.

Details apart, we find only two hypotheses: one very ancient, according to which consciousness is the fundamental property of the "soul," or the "mind," constituting its essence; the other very recent, which regards consciousness as a simple phenomenon superadded to the cerebral activity, as an occurrence having its own conditions of existence, and which comes or goes as circumstances decide.

The former hypothesis has been in vogue so long that it is easy to judge of its merits and its defects. I am not called upon to pass sentence upon it; I will simply show its utter powerlessness to explain the mind's unconscious life. In the first place, for a long time it took no cognizance of this unconscious life. Leibnitz's clear and profound observations on that point lie forgotten or at least in abeyance; and till well on in the present century the most distinguished psychologists (with a few exceptions) restricted themselves to consciousness. At last, when the question must be heard, and when it was clear to every one that to regard psychic life as embracing simply the data of consciousness is a conception so poor and jejune as to be of no use in practice, then the metaphysical psychologists were in a quandary. They adopted the hypothesis of "unconscious states," an ambiguous and semi-contradictory term soon widely accepted: the term itself betrays the confusion of ideas amid which it arose. What is meant by "unconscious states?" The wise note their existence, without trying to account for them; the less wise talk of latent thought, of unconscious consciousness—expressions so vague, so illogical, that many authors have admitted as much. In truth, if the soul be defined to be thinking substance, whereof states of consciousness are modifications, it is plainly a contradiction in terms to ascribe to it unconscious states. No fetch of language, no trick of dialectic can help the matter: and forasmuch as the high importance of these unconscious states as factors of psychic life is undeniable, there is no escape from the situation.

The second hypothesis clears the ground of all this logomachy. It does away with the factitious problems that swarm in the first (*e.g.* whether consciousness be a general or a particular faculty, etc.), and we may fearlessly claim for it the benefit of the *lex parcimoniæ*. It is the simpler, the clearer, the more consistent of the two. Compared with the other, it may be characterized as expressing the unconscious in physiological terms (states of the nervous system) and not in psychological terms (latent thought, sensations not sensed, etc.). But this is only a particular case of the hypothesis: we have now to consider it as a whole.

I would remark first that consciousness, like all general terms, must be resolved into concrete data. Just as there is not a will in general, but only volitions, so there is not a consciousness in general, but only states of consciousness: and these alone are real. As for defining the state of consciousness, the fact of being conscious, that were a vain and idle attempt: it is a datum of observation, an ultimate fact. Physiology shows that its production is always associated with the activity of the nervous system and in particular of the brain. But the converse proposition is not true: though psychic activity always implies nerve activity, nerve activity does not always imply psychic activity. Nerve activity has far greater extension than psychic activity: hence consciousness is something superadded. In other words, we must regard a state of consciousness as a complex fact (*événement*, event, occurrence) which presupposes a particular state of the nervous system; nor is this nervous process an accessory but on the contrary an integral part of the fact—nay, its groundwork, its fundamental condition; once produced, the fact exists *in* itself; when

consciousness is added, the fact exists *for* itself; consciousness completes it, gives it the finishing touch, but does not constitute it.

Upon this hypothesis we readily understand how every manifestation of psychic life—sensations, desires, feelings, volitions, recollections, reasonings, inventions, etc., may be alternately conscious and unconscious. There is nothing mysterious in this alternation, because in every case the essential conditions, *i.e.*, the physiological conditions, remain the same, and consciousness is only complementary—the finish.

The question would remain, why this finish sometimes is added, sometimes is lacking; for were there not in the physiological phenomenon itself something more in the former case than in the latter, the adverse hypothesis would be indirectly strengthened. If it could be shown that whenever certain physiological conditions are present there is consciousness, that when they disappear, consciousness too disappears, and that when they vary, consciousness varies: then we should have no longer an hypothesis but a scientific truth. That is a distant prospect indeed. Still we may confidently predict that consciousness at least will never give us these revelations touching itself. As Maudsley justly says, consciousness cannot be at once effect and cause—cannot be at once itself and its molecular antecedents: it lives for an instant only and cannot by a direct intuition turn back to its immediate physiological antecedents; and besides, to descend again to these material antecedents were to lay hold not of itself but of its cause.

It would be for the present chimerical to undertake to define even roughly the necessary and sufficient conditions of the apparition of consciousness. We know that the cerebral circulation, as regards the quantity and the quality of the blood, has a good deal to do with the case. Of this we have striking proof in experiments made on the heads of animals immediately after decapitation. So too we know that the duration of the nervous processes in the centers is an important point. Psychometric research daily shows that a state of consciousness takes longer time in proportion to its greater complexity, and that on the other hand automatic acts, whether primordial or acquired, the rapidity of which is extreme, do not enter the consciousness. It may also be affirmed that the apparition of consciousness is connected with the period of the disassimilation of nerve tissue, as Herzen has shown in detail.* But all these results are but partial gains, while a scientific account of the genesis of a phenomenon requires a determination of *all* its essential conditions.

This the future will yield perhaps. In the mean time we shall best strengthen our hypothesis by showing that it alone explains one highly important character—and not merely a condition—of consciousness, namely its *intermittence*. To avoid all misunderstanding at the outset, be it noted that the question is not as to the discontinuity of states of consciousness with one another. Each has its limits which, while they allow it to be associated with others, preserve its own individuality. Not of this do we speak, but of the well known fact that consciousness has interruptions: in ordinary language, a man is not always thinking.

True it is, that this assertion has been contradicted by the majority of metaphysicians. But they have never furnished proof in support of their thesis; and, as all the facts apparently are against it, the burden of proof seems to lie upon its advocates. Their whole argument is in effect that since the soul is essentially a thing that thinks, consciousness must needs always exist in some degree, even though no trace of it subsists in the memory. But this is simply begging the question, for the hypothesis we maintain challenges their major premise. Their alleged proof is, after all, only an inference drawn from a contested hypothesis.

Let us put aside all *a priori* solutions and look at the question as it is in itself. Let us consider, not cases of syncope, artificial anæsthesia, epileptic vertigo, coma, etc., but the familiar and frequently occurring psychic state of sleep. It has been asserted that sleep is never dreamless; but that is a purely theoretic assertion, based on the thesis that the soul is ever thinking. The only fact that can be cited in support of this proposition is that sometimes a sleeper, when called or questioned, responds in suitable fashion, but on waking has no recollection of the occurrence. But this fact does not justify a general conclusion, and the theory of the metaphysicians is met by the physiologists with another. Physiology teaches us that the life of every organ comprises two periods, one of compara-

*La Condizione fisica della Conscienza. Roma, 1879.

tive repose, or of assimilation, the other of activity, or of disassimilation ; that the brain presents no exception to this law, and that experience shows the duration of sleep, in the several epochs and circumstances of life, to be in direct ratio to the need of assimilation. The cause of sleep is the necessity of repairing losses, of making the nutritive circulation succeed to the functional circulation. In wakefulness, the brain burns up more material than is given to it by the blood, so that oxidation soon grows less, and with it the excitability of the nerve tissue. Preyer's experiments show that sleep comes when, in consequence of prolonged activity, the substance of the brain, like that of a fatigued muscle, finds itself overloaded with a certain quantity of acid *detritus*. The very presence of these products arrests, at a given moment, the cerebral activity, which does not reappear till repose has allowed complete elimination of these waste matters. * It must be admitted that complete, absolute sleep, without any dream, is the exception ; but that such sleep occurs, and that not rarely, is sufficient to establish the intermittent character of consciousness.

The physiological thesis possesses a probative value very different from, and much stronger than, that of the metaphysical thesis. And it must be remembered—an important point—that all those who have investigated the question whether there exists perfect cerebral sleep, are men of cultivated and active minds—psychologists, physicians, literary men—in whom the brain is ever wakeful, vibrating like a sensitive musical instrument in response to the slightest excitation : in them consciousness is a habit, so to speak. Those who put to themselves the question whether sleep is always accompanied by dreams, are, in fact, the ones least fitted to give a reply in the negative. Among hand workers, this is not the case. A farm-laborer living remote from all intellectual agitation, ever restricted to the same occupations, to the same routine, usually does not dream. I know several peasants who look on a dream as a rare occurrence in their hours of sleep.

"The most convincing proof that the mind can be completely inactive during sleep—that it can have its existence momentarily interrupted or suspended—would indisputably be afforded if the instant of falling asleep should connect immediately with the instant of awaking, and if the intervening time should be as though it had not been. The philosophers who do not believe in perfect sleep have themselves pointed out this test, at the same time declaring that it has never been verified. But I have been witness of the fact under the following circumstances : One morning, at 2 o'clock, I was called to attend a person in the neigborhood attacked by cholera. As I was about to go out, my wife gave me some direction about the candle I held in my hand, and then fell asleep. I came back after about half an hour The noise of the key turning in the lock as I opened the door, awakened my wife suddenly. So deep had been her sleep, so close was the conjunction of the moment when she fell asleep, with the moment when she was awakened, that she supposed she had not slept at all, and that she took the sound of the key upon my return, for the same sound at my going. Seeing me re-enter, she believed I was simply turning back on my steps, and asked me the reason ; great was her astonishment on learning that I had been absent half an hour." †

I know not how facts of this kind can be met, except by falling back upon the inevitable hypothesis of states of consciousness that have left no trace in the memory : but that hypothesis, I repeat, is gratuitous and improbable. Those who are subject to fits of swooning with loss of consciousness, know by experience that, while the fit is on, they may suffer a fall or contusion of a member, or overturn a chair, and, yet, on coming to themselves, have no idea of what has happened. Is it likely that these rather serious accidents, had they been accompanied by consciousness, would have left no memory lasting at least a few seconds. I do not in any wise deny that in certain circumstances, whether normal or morbid, —for instance, in hypnotism—states of consciousness that leave no trace apparent at the awakening, may later be recalled ; I will restrict as much as any one may wish, the cases of complete interruption of consciousness ; but one single case suffices to raise up insuperable difficulties against the hypothesis of the soul being substance which thinks. On the opposite hypothesis, all is easily explained. If consciousness is an occurrence depend-

* By absorbing a certain quantity of lactate of soda, taken as a type of disassimilation products in the brain, Preyer produced yawning, somnolence, and even sleep.

† Despine, *Psychologie Naturelle*, I., p. 522. Writers on insanity mention cases where, a pathological state suppressing consciousness abruptly, the patient, after a longer or shorter interval, resumes his conversation at the word where he had been stricken. See other facts of like nature in Winslow, *On Obscure Diseases*, etc., p. 322 *et seq.*

ent on determinate conditions, it need not surprise us if sometimes it is wanting.

Were this the place to discuss the question of consciousness thoroughly, we might show that on our hypothesis the relation of the conscious to the unconscious is no longer unsettled or contradictory. The term *unconscious* may always be expressed by this periphrasis: A physiological state which, though sometimes, and even most frequently it is accompanied by consciousness, or may have been so accompanied originally, is at present not accompanied by consciousness. This characterization, though negative as regards psychology, is positive as regards physiology. It declares that in every psychic happening the fundamental, active element, is the nervous process, and that the other is but concomitant. Consequently it is easy to see that all of the manifestations of psychic life may be unconscious and conscious by turns: for the former case there is required (and this suffices) a determinate nervous process, that is to say, the calling into action of a determinate number of nerve elements forming a determinate association, to the exclusion of all other nerve elements and of all other possible associations. For the second case it is required (and this suffices) that supplementary conditions of whatever kind be added, without changing aught in the nature of the phenomenon, save to render it conscious. And here we see how unconscious cerebration does so much work quietly, and how, oftentimes after protracted incubation, it manifests itself by unexpected results. Each state of consciousness represents only a very small part of our psychic life, for unconscious states ever underlie it and as it were thrust it forward. Every volition, for instance, has roots deep down in our being; the motives that accompany and apparently explain it are never more than a part of the true cause. So it is with many of our sympathies; and so evident is this fact, that minds most deficient in observation often wonder that they cannot account for their likes and dislikes.

It were tedious as well as needless to pursue this demonstration farther. Should the reader wish to do so he may consult, in Hartmann's *Philosophy of the Unconscious*, the section entitled "Phenomenology." There he will find classified all the manifestations of the mind's unconscious life, and he will see that there is not one fact that is not explained by the hypothesis here maintained. Let him then apply to the same facts the other hypothesis.

One point more remains to be considered. The theory which regards consciousness as a phenomenon, and which springs (as could be shown were the digression allowable here) from that fundamental principle in physiology that "reflex action is the type of nerve action and the basis of all psychic activity," to many sound intellects appears paradoxical and irreverent. They think it robs psychology of all stability and dignity. They are loath to admit that all the highest manifestations of nature are instable, fleeting, superadded, and, as regards their conditions of existence, subordinate. But that is only a prejudice. Consciousness, whatever be its origin, and its nature, loses naught of its value; it is to be esteemed for what it is in itself; and for the one who takes the evolution point of view, it is not the origin that is of importance but the height attained. Experience too teaches us that as we ascend in the series, natural compounds are more and more complex and instable. Were stability to measure dignity the highest place would belong to minerals. This objection then, a purely sentimental one, is inadmissible. As for the difficulty of explaining on this hypothesis the unity and continuity of the conscious subject, it is not yet time to speak of it. It will be considered in due course.

But the hypothesis of consciousness as phenomenon has a weak side: its sincerest partisans have maintained it under a form that has won for them the title of advocates of absolute automatism. They are wont to compare consciousness to a ray of light from the furnace of a steam-engine that lights up the machine but has no effect whatever on its work; according to them consciousness has no more action than the shadow that accompanies the wayfarer's steps. If these similes have no purpose save to express the doctrine in a telling way, there is nothing to say; but taken in their strict sense they are exaggerated and inexact. Consciousness in itself and by itself is a new factor; and in this there is nothing mystical nor supernatural, as we shall see.

In the first place, from the hypothesis itself, a state of consciousness supposing a greater number of physiological conditions (or at least different ones) than

does the same state when it remains unconscious, it follows that two individuals, one of them in the former state, the other in the latter, are not, other things being equal, strictly comparable.

Stronger proofs still remain—not logical deductions but facts. When a physiological state is become a state of consciousness, it thereby acquires a special character. Before, it had relation to space, and could be conceived of as the calling into action of a certain number of nerve elements occupying a determinate superficies: but now it takes a position in *time*—comes after this, follows that, whereas for unconscious states there is neither before nor after. It now is capable of being recalled, *i. e.*, recognized as having occupied a definite position among other states of consciousness. Hence it is become a new factor in the individual's psychic life, a result that may serve as a starting point for some new work whether conscious or unconscious; and so far is it from being the product of a supernatural operation that at bottom it is simply a case of that organic registration which underlies all memory.

To reach greater clearness let us take a few examples. Volition is always a state of consciousness: it says that a thing should be done or prevented. It is the final and definite result of a multitude of states, conscious, semi-conscious, and unconscious; but once affirmed, the volition becomes in the individual's life a new factor. The resolution taken marks a sequence, and it is capable of being recommenced, or modified, or inhibited. Automatic acts unaccompanied by consciousness do not admit of anything like this. Novelists and poets, accurate observers of human nature, have often noted the situation where a passion—love or hate—after lying for a long time latent and unconscious, at last comes to the light, assumes definite form, becomes conscious. Its character is then changed; it acquires increased intensity, or it is overpowered by other antagonistic passions. Here again consciousness is a new factor that has modified the psychological situation. Take another example. One may by instinct, that is by unconscious cerebration, solve a problem, yet quite possibly at another time he may be stalled by a similar problem. If on the other hand the solution is reached through conscious reasoning, difficulty with the second problem is far less probable, for each step forward is a new position won, and thereafter we no longer walk as blind. But this in no wise belittles the part played in invention and discovery by the unconscious work of the brain.

These examples, taken at random, suffice to show that the similes mentioned above are true with respect to every state of consciousness *in itself*. It is indeed in itself only a light that makes visible unconscious work: but viewed in its relation to the future development of the individual it is a factor of the highest importance.

And what is true of the individual is true also of the species and of the succession of species. Considered merely with reference to the survival of the fittest, and quite apart from all psychological considerations, the apparition of consciousness upon the earth was an event of prime consequence. Thereby was made possible for the animal world experience, *i.e.*, a higher order of adaptation. Wherein consciousness had its origin we need not inquire. Some highly ingenious hypotheses have been put forward upon the subject—hypotheses that enter the domain of metaphysic—but these experimental psychology need not discuss, for it assumes consciousness as a datum. It is probable that consciousness, like every other manifestation of life, first made its appearance in a rudimentary form, and seemingly with poor endowment. But when it had become capable of establishing in the animal a memory in the psychic sense, so enabling it to bank upon its past for the benefit of the future, there was a new chance of survival. To unconscious, blind, accidental adaptation, dependent on the environment, there was added a conscious, coherent adaptation dependent on the animal itself, and more steady and more rapid than the other: it curtailed the labor of selection.

The part of consciousness, then, in the development of psychic life is plain. I have dwelt upon this point because the supporters of the hypothesis here maintained have usually studied consciousness only as it actually exists, not noting sufficiently the result of its apparition. They rightly say that it illumines, but they have not shown that it brings something additional. Consciousness, I repeat, is in itself only phenomenon, an accompaniment. If there exist animals in which consciousness appears and disappears every moment, leaving no trace, these are mental automata in the strictest sense: but if the state of consciousness leaves a residuum, an enregistration in the organism, then it acts not only as an indicator but as a con-

densator; and the metaphor of the automaton is no longer valid. This admitted, many of the objections to the theory of consciousness as a phenomenon fall to the ground.

CHAPTER II.

ORGANIC DISTURBANCE.

I SHALL treat at length of the organic conditions of personality, for on these all depends and these explain all the rest. Metaphysical psychology has hardly taken any notice of them, therein showing logical consistency, for in its view the Me comes from above not from beneath. We on the other hand must seek the elements of personality in the most elemental phenomena of life: these confer upon it its distinctive character. The "organic sense," the "sense of the body"—a sense with us vague and obscure generally, though at times very well defined—is for each animal the basis of its psychical individuality.* This is that "principle of individuation" so much sought after by the scholastic philosophers, for on it directly or indirectly all depends. It may be regarded as highly probable that as we descend toward the lower animals, the organic sense becomes more and more dominant till it becomes the whole psychic individuality. But in man and in the higher animals the bustling world of desires, passions, perceptions, images, ideas, overlies this voiceless deep: save at intervals we forget it because we ignore it. It is as with facts of the social order. The millions of human beings that make up a great nation are for itself and the rest of the world reduced to a few thousand men who, so to speak, are its clear consciousness, and who represent its social activity in every phase—political, industrial, commercial, intellectual. Still it is the millions of common people, ignored, leading a narrow, local life, living and dying unnoticed, that constitute the nation's mass: without them it is nothing. They are the inexhaustible reserve out of which, by natural selection, a few emerge, rising to the surface; but these, however endowed with talent, power, or wealth, have only an ephemeral existence. The degenerescence naturally inherent in whatever rises above the general level will lower them or their descendants, while the mute toil of the millions who live ignored will continue to produce others and to imprint a character upon them.

Metaphysical psychology notes only the summits of the prospect, and inner observation has but little to tell of what takes place within the body; hence the study of the general sensibility has been from the first the special work of physiologists.

Henle (1840) thus defines general sensibility, or "cœnæsthesis": It is, he says, "the *tonus* of the nerves of sensation, or the perception of the state of activity in which these nerves constantly exist, even at moments when no impression from without is acting upon them." "It is," says he in another place, "the sum, the indiscriminated chaos of the sensations that are continually coming into the sensorium from all parts of the body."† E. H. Weber, with greater precision, defines cœnæsthesis to be an inner sensibility, an inner touch, which informs the sensorium of the mechanical and chemico-organic state of the skin, the mucous and serous membranes, the viscera, the muscles, the joints.

Louis Peisse, a physician and a philosopher, was the first man in France to combat the teaching of Jouffroy who held that we know not our own bodies save objectively, as an extended, solid mass like all other bodies; lying outside of the Me, and alien to the percipient subject as any strictly external object might be—as a table or a chair. Peisse showed, though rather timidly, that our knowledge of our own bodies is above all subjective. His description of this organic consciousness seems to me so exact that I quote it entire.

"Is it true" he says, "that we have absolutely no consciousness of the exercise of the organic functions? If you mean clear, distinct, locally determinable consciousness, like our consciousness of external impressions, plainly it is lacking: but we may have a faint, indistinct, so to speak, a latent, consciousness of it; for instance such a consciousness as we have of the sensations that call forth and accompany the respiratory movements—

* It may be remarked in passing that a great metaphysician, Spinoza, clearly maintains the same thesis, though in different terms. "The object of the idea that constitutes the human soul is the body. . . and nothing but the body."—"The idea which constitutes the formal being of the human soul is not simple but made up of many ideas." *Ethics*, Part II., Props. 13 and 15.

† *Pathologische Untersuchungen*, p. 114. *Allgemeine Anatomie*, p. 728.

sensations which though continually repeated pass unnoticed as it were. May we not indeed regard as a distant, faint, confused echo of the general vital work the peculiar feeling which continuously and unremittingly makes us aware of the presence and actual existence of our own body? This feeling has nearly always, but erroneously, been confounded with the chance local impressions which during wakefulness arouse, stimulate, and keep up the action of the sensibility. These sensations, though incessant, appear but for a moment on the stage of consciousness and pass away, whereas the feeling of which we speak endures and persists beneath this shifting scenery. Condillac properly enough called it 'the fundamental feeling of existence,' and Maine de Biran the feeling of sensitive existence. Through it the body is ever present to the Me as *its own*; through it the spiritual subject feels and knows itself to exist in some sort locally in the limited extension of the organism. It is a never-failing remembrancer, rendering the state of the body ever present to consciousness; thus does it most clearly show the indissoluble tie between psychic and physiological life. In the ordinary state of equilibrium which constitutes perfect health this feeling is continuous, uniform, and always equable; and just because it is thus continuous, uniform and equable it does not enter the Me as a distinct specific, local sensation. In order to be distinctly noted, it must gain a certain intensity; then it expresses itself by a vague impression of general well-being or general discomfort, the former state indicating a simple exaltation of physiological vital action, the latter betraying a pathological perversion of the vital economy, but in this case it soon becomes localized in the shape of particular sensations referred to one or another part of the body. Sometimes it manifests itself in a more indirect way, yet far more clearly, when it chances to fail at any given point in the organism, as for example in a member stricken by paralysis. The stricken member still belongs by nature to the living aggregate, but it is no longer within the sphere of the organic Me, if we may use that phrase. This Me no longer perceives it as its own, and the fact of this separation, though negative, is the object of a special positive sensation familiar to every one that knows what it is to suffer total numbness in any part of the body, as a result of cold or of compression of the nerves. This sensation is nothing else but the expression of a break in the general feeling of the bodily life: it shows that the vital state of the member was really, though obscurely, felt, and that it constituted one of the partial elements of the general feeling of the entire organism's life. A continuous, monotonous noise, as that made by a wagon in which one is riding, is not noticed though constantly heard; for should it cease abruptly its cessation would be noted instantly. The analogy may enable us to understand the nature and characteristics of the fundamental feeling of organic life, which on this hypothesis would be simply the resultant *in confuso* of the impressions produced at every point of the living organism by the action of the several physiological functions, these impressions being carried to the brain either directly by the cerebro-spinal nerves, or indirectly by the nerves of the ganglionic system." *

Since the publication of these views (1844) physiologists and psychologists have been studying the elements of this general sense of the body. They have determined what contribution is made to the result by each vital function; they have shown how complex this confused sense of life is which by incessant repetition is become our own selves, so that to examine into it is to examine into ourselves. But we know it only through the variations that lift it above the normal tone or lower it beneath the same. In special treatises may be found full details of these vital functions and their psychic bearings; such details are not called for here, and it suffices if I give a very general view of them.

First we have the organic sensations connected with respiration, the sense of well-being produced by a pure atmosphere, of suffocation in confined air; then the sensations that come from the alimentary canal; and others, that are still more general, connected with the state of the nutrition. Hunger and thirst, for example, appearances to the contrary notwithstanding, have no precise local seat: they result from a feeling of discomfort diffused throughout the entire organism: the impoverished blood is craving something. And as regards thirst in particular, Claude Bernard's experiments have shown that it comes of a lack of water in the organism, not from dryness of the pharynx. Of all the functions, the general and local circulation is perhaps the one whose psychological influence is greatest, and whose variations between individuals and at successive moments in the same individual are most striking. Then consider the organic sensations resulting from the state of the muscles—the sense of fatigue and exhaustion, or the reverse; finally, those muscular sensations which, being associated with the external sensations of sight and touch, play so large a part in our cognitions. In fact the muscular sensibility, in its purely subjective form,

* Note to his edition of Cabanis's *Rapports du Physique et du Moral*, pp. 108, 109.

by itself alone makes known to us the degree of contraction or relaxation of the muscles, the position of our members, etc. I purposely omit the organic sensations of the genital apparatus: to that subject we will return in treating of the affective bases of personality.

Let the reader for a moment consider the multitude and the diversity of the vital actions just now summarily classed under their most general heads, and he will form some conception of what is meant by the phrase "physical bases of personality." Being ever in action, they make up by their continuousness for their weakness as psychic elements. And then too, when the higher forms of the mental life disappear, these organic sensations come forward in the first rank. A very clear instance of this is found in dreams, whether pleasurable or otherwise, prompted by the organic sensations —erotic dreams, nightmare, etc. We are even able to assign with some degree of precision to each organ its special part in dreams: the sensation of weight seems specially attached to digestive and respiratory affections; dreams of struggling and fighting accompany affections of the heart. Sometimes pathological sensations, unnoticed in wakefulness, make their impression during sleep, and thus become premonitory symptoms. Armand de Villeneuve dreams that he is bitten on the leg by a dog: a few days after, the leg is attacked by a cancerous ulcer. Gessner imagines during sleep that he is bitten on the left side by a serpent: shortly afterward, an anthrax appeared at the same spot, from which he died. Macario dreams that he has a violent pain in the throat, but awakes entirely well; a few hours later he was suffering from a severe amygdalitis. A man sees in his dream an epileptic: a little while later he has an attack of epilepsy. A woman dreams of speaking to a man who cannot make her any reply, being dumb: on awaking she could not speak a word. In all these cases we recognize as facts the obscure beckonings from the depths of the organism to the nerve centers; but the conscious life, with its hubbub and its constant bustle, suppresses instead of developing them.

It is plain that psychology, by giving exclusive credit for so long a time to the data of consciousness, must needs have cast into the shade the organic elements of personality: physicians, on the other hand, were under a professional obligation to give weight to the latter. The doctrine of temperaments, as ancient as medicine itself, a doctrine that is ever criticised, ever worked over again,* is the vague, fluctuating expression of the principal types of the physical personality, as given by experience, with the chief psychic traits that result from it. Hence the few psychologists who have studied the several types of character have looked here for their basis. Thus did Kant more than a century ago. If the determination of the temperaments could be made on a scientific basis, the question of personality would be greatly simplified. In the mean time, the first thing to do is to rid ourselves of the preconceived opinion that personality is something mysterious, heaven-descended, without antecedents in nature. If we simply consider the animals around us, we shall have no difficulty in seeing that the difference between the horse and the mule, the goose and the duck, their "principle of individuation," can come only out of a difference of organization and of adaptation to environment, with the psychic consequences thence resulting, and that, within the same species, the differences between one individual and another must have come about originally in the same way. There is no reason in the nature of things for classing man separately: the simple fact is that in man the very great development of the intellectual and affective faculties produces an illusion and conceals the fact of origination.

Taking physical personality to mean simply a sense of the state of the organism—a mode of existence in which, on the hypothesis, all consciousness, clear or obscure, original or recalled, of any outer fact is absent, we ask, Does such a thing exist in nature? Clearly not in the higher animals; and it can be posited only as a highly artificial abstraction. But it is probable that this form of psychic individuality, which is simply the consciousness the animal has of its own body, exists in the lower species, though not in the lowest.

In the lowest species—instance any

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* Quite recently Henle (*Anthropologische Vorträge* [1887] pp. 103, 130) has endeavored to refer the temperaments to the different degrees of activity, or *tonus*, of the sensorial and motor nerves. When this degree is a low one, we have the phlegmatic temperament. In a higher degree, with rapid exhaustion of the nerves, we have the sanguineous temperament. The choleric temperament also presupposes a high *tonus*, but with persistence of nervous action. The melancholic temperament can only be defined by the quantity of the nervous action: it presupposes a high *tonus* with a tendency to emotions rather than to will activity.

multicellular organism composed of cells that are all alike—the constitution of the organism is so homogeneous that each several element lives for itself, and each has its own action and reaction. But their sum no more represents an individual than six horses drawing a wagon constitute one horse. There is neither coördination nor *consensus*, but only juxtaposition in space. If, as many authors do, we were to give to each cell the analogon of a consciousness (which would be only the psychic expression of its irritability) we should then have consciousness in the state of complete diffusion. Between the elements there would be an incompenetrability which would leave the whole mass in the state of living matter without even external unity.

But higher in the animal scale, for instance in the Hydra, observation finds a certain *consensus* among the actions and reactions and a certain division of labor. Still the individuality is highly precarious: Trembley cut one hydra into fifty individuals. But inversely two hydras may be made into one: it is only necessary to turn the smaller one inside out and then thrust it into the larger, so that the two endoderms may come into contact and grow together. As far as one may venture an opinion on so obscure a subject, the adaptation of movements denotes a certain unity, temporary, instable, at the mercy of circumstances, it may be, but probably not without some faint consciousness of the organism. If still we are observing too low a stage of animal life, we may at pleasure go higher to find the point where the creature has simply a consciousness of its organism—organic consciousness. Even this form of consciousness probably does not exist in its purity, for as soon as the rudiments of special senses appear, the animal rises above the level of general sensibility; and besides, is general sensibility of itself enough to constitute a consciousness? We know that the human fœtus makes efforts to free itself from an inconvenient position, from the impression of cold, from painful irritation; but are these movements unconscious reflex actions?

But I haste to quit these conjectures. The undisputed fact is that organic consciousness (*i.e.* the animal's consciousness of its body and of nought but its body) is vastly preponderant in the greater part of the animal world; that it is in the inverse ratio to the higher psychic development; and that everywhere and always this consciousness of the organism is the basis on which individuality rests. In virtue of it the whole structure stands: without it the structure is nought. The contrary thesis is unintelligible, for is it not through the organism that we receive external impressions, the *materia prima* of all mental life? And what is more, is it not upon it that we find inscribed and fixed by heredity, how we know not, yet, as facts prove, in characters indelible, the instincts, feelings, aptitudes peculiar to each species, to each individual?

If then it be confessed that the organic sensations coming from the tissues, from all the organs, from all the organic movements, in short from all the bodily states, are, in whatever form, in whatever fashion represented in the sensorium, and if the psychic personality is simply their sum, it follows that, like them and with them, the personality must vary, and that these variations range through all possible degrees, from simple indisposition [*malaise*] to total metamorphosis of the individual. The phenomenon of "double personality" which has made such a noise—and I shall treat of it later—is only an extreme instance. Granted sufficient patience and sufficient research, and we should find in mental pathology plenty of observations to prove a progression, or rather a continuous regression from the merest passing change to the most complete transformation of the Me. The Me exists only on the condition that it vary continually: that point is not disputed. As for its identity, that is only a question of number: it persists so long as the sum of the states that remain relatively fixed is greater than the sum of the states added to or taken from this stable group.

At present we have to study only disorders of personality directly connected with the organic sensations, and since in itself general sensibility possesses but an inconsiderable psychic value, it produces only partial disorders, except when the transformation is total or sudden.

We begin with the consideration of a state hardly to be called morbid, a state probably familiar to every one: the feeling of exaltation or of depression which comes upon a person without known cause. The habitual tone of the individual changes: it rises or falls. In the normal state there is a positive "euphoria": there is neither bodily satisfaction nor bodily indisposition. At times, on the other hand, the vital functions are in a higher tone: there is unwonted or-

ganic activity which seeks to expend itself; every enterprise seems easy, every scheme promising. This state of satisfaction, at first purely physical, becomes diffused over the whole nervous organization, summoning up a host of pleasurable feelings to the exclusion of whatever displeases. The subject sees everything in a rosy light. Again the reverse condition obtains: a state of indisposition, depression, inertia and helplessness, and consequent upon this a feeling of gloom, apprehension, downheartedness. The man sees nothing to cheer him. But in neither case has anything occurred, any influence come from without that might account either for the gladness or for the gloom.

Assuredly we may not affirm that the personality has been transformed in the strict sense of the term. It has been transformed relatively. For himself and still more for those who know him, the individual is changed, is no longer the same. Translated into the language of analytical psychology, this means that his personality is made up of elements, some of them relatively stable, the others variable; and that the variable elements having overpassed considerably their habitual limit, the stable elements assume a lower ratio to the whole, without disappearing.

Now suppose—and the supposition is realized every day—that this change, instead of passing away after a little while, and giving place to the normal state, itself persists: in other words, suppose the physical causes that produce it to be permanent instead of being transitory; then there results a new physical and mental habitude, and the individual's center of gravity tends to displacement.

This first change may lead to other changes so that the transformation shall go on increasing. At present I will not dwell upon this: my wish was simply to show how from a very common physical and psychic state it is possible to descend little by little to complete transformation. It is only a question of degrees.

In studying the disorders of personality it is impossible rigorously to determine those which have their *direct* cause in perturbations of the general sensibility, for the latter often, by their secondary action, summon up psychic states of a higher order—hallucinations, and morbid feelings and thoughts. I shall limit myself to cases in which disorders of the general sensibility seem to be predominant.

In the *Annales Médico-psychologiques* (Sept. 1878) we find recorded five observations grouped under one heading: "An aberration of physical personality." Without caviling at the title, which perhaps says more than it ought to say, we see here an unknown organic state, a change of the cœnæsthesis producing, in the absence of all external causes, a feeling of bodily annihilation. "While in the enjoyment of perfect health, with exuberant strength and vitality, a person experiences a sensation of ever increasing weakness, so that he apprehends every moment that he is about to fall into syncope, and to be extinguished." Meanwhile the sensibility is intact; the patient eats with a good appetite; and if any one attempts to act contrary to his will, he reacts with the utmost energy. He keeps repeating that he feels himself dying, his light going out little by little; that he has not more than a few hours of life left. Naturally upon this purely physical stock delirious conceptions become engrafted: one patient declares that he is poisoned, another that a demon has entered his body and "is sucking the life out of him."

Let us fix our attention upon the immediate consequences of the physical state. We find here that state of depression already described and familiar to every one, but in a far more serious and more stable form. The mental disorder increases equally and becomes systematized. The individual becomes more and more unlike his former self. Another stage is reached on the road to the break-up of the Me, but dissolution is still a long way off.

This beginning of transformation, resulting from natural causes, is seen also in patients who say that they are enveloped with a veil or with a cloud; that they are cut off from the outer world, and insensible to everything. Others—and in their case the phenomena may be referred to disordered muscular sensibility—enjoy with rapture the lightness of their bodies, feel themselves suspended in air, fancy that they can fly; or they have a sense of weight throughout the whole body or in some of their members, or in one, and that one they imagine to be of enormous size and weight. "A certain young epileptic at times felt his body so uncommonly heavy that he could hardly support its weight: again it was so light that he fancied he did not touch the ground. Sometimes his body seemed to him to have assumed such proportions

that no doorway was wide enough to afford him passage." *

Patients subject to illusions regarding the size of their bodies may fancy them to be either very much larger, or very much smaller than they are.

The *local* perversions of the general sensibility, though by nature restricted, are nevertheless of great importance psychologically. A patient will assert that he no longer has any teeth, or that he has no mouth, stomach, intestines, brain, etc. This state can be explained only by a suppression or an alteration of the inward sensations that exist in the normal state, and which go to make up the conception of the physical Me. To the same cause, sometimes conjoined with cutaneous anæsthesis, are to be referred cases where the patient believes that some one of his members or even that his whole body is wood, or glass, or stone, or butter, etc.

A little later he will be saying that he now has no body, that he is dead. Esquirol tells of a woman who believed that the Devil had carried her body away: in her the cutaneous surface was totally insensible. The physician Baudelocque, toward the end of his life, was unconscious of the existence of his body. He used to say that he had no head, no arms, etc. Finally, every one is familiar with the fact recorded by Foville: A certain soldier who had been severely wounded in the battle of Austerlitz ever afterward believed himself dead. On being asked what was the news he would answer, "You wish to know how is old Lambert? He is no more, a cannon ball put an end to him. What you see is not Lambert, but a clumsy machine made to resemble him. You must ask them to make another." In speaking of himself he never said "*moi*" (I, me) but "*cela*" (this thing). The skin was insensible, and he oftentimes would fall into a state of utter insensibility and immobility lasting for several days.

Here we come to grave disorders, meeting for the first time a double personality, or more strictly a discontinuity between two periods of psychic life, a failure of them to connect. The case just mentioned may be explained thus: Before his injury, this soldier, like every one, had his organic consciousness, the sense of his own body, of his physical personality. After it, an essential change took place in his nervous organization. As regards the nature of this change unfortunately we can only offer hypotheses; the effects alone are known to us. Whatever the change may have been its result was to produce another organic consciousness, the consciousness of a "clumsy machine." Between this and the former consciousness, memory of which persisted tenaciously, no connection had been established. The feeling of identity was wanting because, as regards organic as well as other states, it can result only from a slow, progressive and continuous assimilation of the new states. In this case the new states did not enter the former Me as an integral part. Hence the odd situation, in which the former personality appears to itself as having been but now no longer existent; and in which the present state appears as something external and foreign. Finally I would remark that in states where the surface of the body is no longer sensitive; where sensations coming from the several organs are nearly null, and the superficial and the deeper sensibility is extinct, the organism no longer calls up those feelings, images and ideas which are its bond of union with the higher psychic life: it is restricted to the automatic actions that constitute the habitude and routine of life. It is properly speaking "a machine."

Should any one maintain that in this instance the only personality is that which remembers, he may do so absolutely, but it must be admitted that this personality is of a very peculiar kind, existing only in the past: hence it might be called more properly a memory than a personality.

What distinguishes this case from those we shall consider later is that here the aberration is entirely physical: it has its rise in the body, and it refers only to the body. This old soldier does not believe himself to be some one else (Napoleon, for instance, though he was at Austerlitz): the case is as free as possible from mental elements.

To perturbations of sensibility is also to be referred the illusion of some patients or convalescents who fancy themselves to be double. Sometimes there is illusion pure and simple without duplication. In that case the morbid state is projected outside of the patient—he alienates a part of his physical personality. Instances of this illusion are seen in cases like that recorded by Bouillaud

* Griesinger, *Traité des Maladies Mentales*, p. 92. Doumic's translation.

where the patient having lost sensibility on one side of the body, imagines that he has lying beside him on the bed another person, or even a dead body. But when the group of morbid organic sensations, instead of being thus alienated, cling to the normal organic personality, but without fusion, then and so long as that state lasts, the patient believes that he has two bodies. "A man convalescing after a fever believed himself to be made up of two individuals, one abed, the other walking about. Though he had no appetite, he ate a good deal, having, as he said, two bodies to feed." *

"Pariset having in his early years been prostrated by epidemic typhus, remained several days in a state of collapse nigh to death. One morning a more distinct sense of himself awoke within him; he fell a thinking, and it was like a resurrection from the dead. But, strange to tell, he had at that moment, or believed that he had, two bodies, which appeared to him to be lying in two separate beds. While his soul was present in one of these bodies, he felt well and enjoyed a delightful repose. In the other body the soul endured the suffering incident to the disease, and the patient would say, How is it that I am so easy in this bed and so ill, so wretched in the other? These thoughts engaged his mind for a long time, and with his extraordinary power of psychological analysis he oftentimes entertained me with the details of the impressions he then received." †

Here we have two instances of double *physical* personality. Though we are still but a little way on in our study, the reader may already see how these cases differ from one another when closely examined. The current phrase "double personality" is only an abstraction: once translated into the language of concrete facts, of authentic observations, it is seen to comprise all sorts of diversity. Each case, so to speak, requires a special interpretation. *A priori*, the special interpretation might be found. If, as we hold and as we will try to show as we proceed, personality is a highly complex composite, plainly its perturbations must needs be multiform. Each separate case shows it to us broken up in a different way. Here disease becomes a subtile instrument of analysis; it makes for us experiments not to be had otherwise. The difficulty is to interpret them aright; but our very mistakes can lead us astray only for a moment, for the facts the future will develop will serve to correct our conclusions or to verify them.

The province of the physical personality as an element of the total personality is so important a one and has been so overlooked, often on purpose, that we can hardly lay too much stress upon it. Here we may with some advantage study certain rare cases little regarded by psychologists, but which bring to the support of our thesis some additional facts not more conclusive than those already cited, but more striking: I mean cases of double monsters.

It must be confessed that the number of such cases is rather small. Nature does not multiply monsters, and of the seventy or eighty species defined by teratologists the major part have no interest for us. Furthermore, of double monsters many fail to reach adult age. The anatomist and the physiologist may study these with profit, not so the psychologist. Finally, accurate observations on this matter date back hardly one hundred years. Observations of an earlier date are so tinged with credulity and so imperfectly recorded as to be of no value.

The Me, as has oft been repeated, is impenetrable: it forms in itself a perfect whole strictly limited—and this is a proof of its essential oneness. This statement is indisputable, nevertheless the impenetrability of the Me is only the subjective expression of the impenetrability of the organism. One personality cannot be another personality, just because one organism cannot be another organism. But if through a concurrence of causes that need not be enumerated, two human beings from the fœtal period be partially united, the heads—the essential organs of human individuality—remaining perfectly distinct, then what happens is this: each organism is no longer completely limited in space and distinct from every other; there is an undivided ownership, common to both, of a part of the economy, and if, as we maintain, the unity and the complexity of the Me are but the subjective expression of the unity and the complexity of the organism, then there must be partial penetration of one personality by the other, and a portion of the common psychic life must be common to the two, belonging not to a *Me*

* Leuret, *Fragments Psychologiques sur la Folie*, p. 95.
† Gratiolet, *Anatomie Comparée du Système Nerveux*, tome 2, p. 548.

but to a *We*. Each individual here is a little less than an individual. This inference is fully confirmed by experience.

"Anatomically considered, a double monster is always more than a unitary individual and less than two, but in some cases it comes nearer to unity, in others to duality. So too, physiologically considered, it always has more than a unitary life, and less than two lives; but its twofold life may approach nearer to unity on the one hand or on the other to duality.

"If we consider only the phenomena of sensibility and of will, a monster made up of two nearly perfect individuals joined only at one point of their bodies will be twain mentally and morally as well as physically. Each individual will have its own sensibility and its own will, and these will have relation to its own body and to that alone. It may even happen that the twins will differ widely in their physical constitution, their stature, their physiognomy, and not less widely in personal character and intelligence. When one is happy the other may be sad; one will be wakeful while the other sleeps; or one will want to walk while the other prefers to rest: and out of this conflict of two wills governing two indissolubly united bodies may come movements without results and that are neither walking nor resting. The two moieties may quarrel with each other, or come to blows. . . . Thus their moral duality, a consequence of their physical duality, will be demonstrated in a hundred ways; nevertheless, as there is a point in the double body situate on the dividing line between the two individuals and common to both, certain other phenomena not so numerous, demonstrate in them a beginning of unity.

"Impressions made upon the region where the two are united, especially at its central point, are perceived simultaneously by both brains, and both, too, may react in response to them. . . . We may add that if at times the peace between the twins is disturbed, there exists between them nearly always a harmony of feelings and desires and a mutual sympathy and attachment that can hardly be appreciated by one who has not read all the testimony.

"Phenomena of the same and of a different kind are seen in cases where, the union becoming closer, the two heads have between them only one body and one pair of legs. Anatomic analysis shows that in such creatures each individual possesses as his own one side of the one body and one of the two legs. Physiological and psychological observation fully confirms this singular result. Impressions made along the whole length of the axis of union are perceived simultaneously by both the heads; those made on either side of the axis and at some distance from it are perceived by one head only; and the same is true of the will as of sensations. The brain to the right will alone receive sensations through the right leg and it alone will act upon that leg, while the brain to the left will alone act on the left leg: so that the act of walking will be the result of movements performed by two limbs belonging to two different individuals, and coördinated by two distinct wills.

"Finally, in parasital monsters, as the organization is here nearly unitary, all the vital acts, all the sensations, all the manifestations of will take place almost exactly as in normal beings. The smaller of the two individuals, having become an accessory and inactive part of the larger, exerts upon him only a weak and limited influence and that only in a very small number of functions."*

To these general outlines I will add a few details taken from the most famous instances of double monstrosity.

There are a good many documents extant relating to Helen and Judith, a dual female monster born at Szony, Hungary, in 1701, deceased at Presburg aged twenty-two years. Helen and Judith stood nearly back to back, being united at the nates and partly in the lumbar region. The sexual organs were double externally, but there was only one womb; there were two intestinal canals opening into one anus. The two aortas and the two inferior venæ cavæ were united at their extremities, thus opening two wide and direct communications between the two hearts: from this resulted a semi-community of life and function.

"The sisters had neither the same temperament nor the same character. Helen was taller, handsomer, more sprightly, more intelligent and more amiable in disposition than her sister. Judith, stricken at the age of six years with hemiplegic paralysis, was always smaller and of less active mind. She was slightly deformed, and her speech somewhat impeded. Still, like her sister, she spoke the Hungarian, German, French, and even a little English and Italian. The sisters were tenderly affectionate to each other, though in childhood they sometimes quarreled and even came to blows. The calls of nature came to both simultaneously, except as regarded urination. They had the measles and later the small-pox simultaneously, and whenever it happened that only one of the sisters was ill of any complaint, the other would be miserable and worried. At last Judith was taken with a brain trouble and an affection of the lungs. Helen, who for a few days had suffered from a slight fever, almost instantly lost all her strength, though her intellect remained clear and her power of speech unimpaired. After a brief agony she

* Isidore Geoffroy Saint-Hilaire, *Histoire des Anomalies*, tome 3, p. 373. The monster known as "Home's epicome" had a parasitic head which presented but a very imperfect semblance of normal life.

succumbed, not to her own ailment but to those of her sister. The twins expired at the same instant."

The Siamese Twins, Chang and Eng, born in 1811 in the kingdom of Siam, were connected from the navel to the xiphoid appendix. I. G. de Saint-Hilaire, after describing their outward *habitus*, adds that,

"The two brothers, even in their other functions [besides respiration and the arterial pulsation] exhibit a concordance that is remarkable, though not absolutely constant as has been affirmed, and as Chang and Eng themselves have been wont to assure those who went no farther than to put to the twins a few vague questions. No doubt there is nothing more curious than the contrast of almost complete physical duality with absolute moral unity—but there is nothing so opposed to sound theory. I have carefully made every observation, and gathered all the information that could help me to determine the truth of what has been so often asserted, and I have found that, in this conflict between the ill-understood principles of teratology and the many physiological doctrines that have been based on the unity of the Siamese brothers, the facts, as was to have been expected, are entirely in favor of the former. These twin brothers, cast in two nearly identical moulds, of necessity subject throughout their lives to the influence of the same physical and moral environment, having a similar organization and receiving the same education, present the spectacle of two creatures whose functions, actions, words, whose very thoughts are nearly always concordant and parallel. . . . . Their joys, their sorrows, are in common: the same desires arise at the same instant in these twin souls, the sentence that is begun by one is often completed by the other. Nevertheless these concordances prove parity, not unity. Twins in the normal state often exhibit analogous concordances, and no doubt they would present agreements quite as remarkable if they had during their whole lives seen the same objects, experienced the same sensations, shared in the same pleasures, undergone the same sufferings." *

And I may add that as the Siamese twins grew older, their differences of character became more and more pronounced: one of the latest observers describes one of the brothers as morose and taciturn, the other as sprightly and cheerful.

Inasmuch as the present work is not intended to be a Psychology of Double Monsters, which find a place in this treatise only as instances of deviation of personal identity, I shall simply mention the recent case of Millie and Christine, in whom the sensibility of the lower members is in common; consequently the two spinal cords must form a regular chiasma at the point of union.

The law, both civil and ecclesiastical, takes cognizance of this phenomenon of double monsters, as involving questions of civil status, marriage, right of succession, baptism, etc.; it has unhesitatingly recognized two persons wherever such monsters present two distinct heads. And justly so, though in practice embarrassing questions may arise. The head being in man the true seat of personality and the place where the synthesis of personality takes place—though this does not appear so certain as we descend the animal scale—it fairly stands for the individual. But when the question is discussed scientifically it is impossible, in the case of double monsters, to consider each individual as complete.

I will not weary the reader with unnecessary comments, since the facts speak for themselves. Whoever examines attentively what has been said, will see that even in cases where the personalities are most distinct, there is such a blending of organs and functions that each of the twins can be himself only by being more or less the other and by having consciousness of that other.

The Me therefore is not an entity that acts where and how it pleases, controlling the organs in its own way, limiting its own province at will. On the contrary it is so truly a resultant that its domain is strictly determined by its anatomical connections with the brain, and that it represents, now a complete body less some undivided part, again a part of a body and, in the case of parasital monsters, so small a part that it cannot subsist, and becomes aborted.

To prove once more and in another way that the organism is the principle of individuation; and that it is such without any restriction, directly through the organic sensations, indirectly through the affective and intellective states of which we shall speak later; let us see what takes place in twins. Psychology has hardly concerned itself about twins any more than about double monsters, but biologists have brought to light some curious facts.

First it is to be remarked that double

* *Hist. des Anomalies*, tome 3, p. 90, et seq.

births occur in the ratio of about one to seventy normal births. Triple and quadruple births are far more infrequent—as one to 5000 and one to 150,000 respectively: but we will consider here only cases of twin births, for the study of triple and quadruple births would only complicate matters. Again, it is to be remarked that there are two kinds of twins, coming each from a separate ovum, and in such cases they may be of the same or of different sex; or from two germinative spots in one ovum, and then they are enveloped in the same membrane and are invariably of one sex. This latter case alone gives us two personalities strictly comparable.

We will not take account of animals, but will consider the human species only, and will attack the problem in all its complexity. It is evident that since the physical and the moral state of the parents is the same for the two individuals at the instant of procreation, one cause of difference is eliminated. And as their development has for its starting point one single fecundated ovum, it is highly probable that there will be an exceedingly close resemblance between the two in physical constitution, and hence, according to our thesis, in mental constitution. Let us first see what are the facts in our favor; we will then consider objections and exceptions.

Perfect likeness between twins is a matter of every-day observation. In ancient times it was turned to account by comic poets, and ever since novelists have made use of it. But usually they have dealt only with external resemblances, as stature, figure, features, voice. There are resemblances far deeper than these. Physicians have for a long time remarked that most twins exhibit an extraordinary agreement in tastes, aptitudes, faculties, and even in their fortunes. Mr. Galton has investigated this subject by sending out a list of questions to which he received eighty replies whereof thirty-six entered into circumstantial details. Mr. Galton's purpose was entirely different from ours. In pursuing his researches on heredity he wished to determine by a new method the respective parts played by nature and education; but much of his material will be of great use to us.*

He gives many anecdotes of the same character as those which have long been current, *e. g.*: one sister taking two music lessons a day so as to leave her twin sister free; the perplexities of a college janitor who whenever the twin brother of one of the students came to see his brother, was at a loss which of the two to let out, etc. In other cases the twins exhibit a persistent likeness to each other under circumstances little calculated to preserve it. Thus:

"A was coming home from India on leave; the ship did not arrive for some days after it was due; the twin brother B had come up from his quarters to receive A, and their old mother was very nervous. One morning A rushed in saying, 'Oh, mother, how are you?' Her answer was, 'No, B, it's a bad joke. You know how anxious I am'—and it was a little time before A could persuade her that he was the real man." †

But facts regarding mental organization have more interest for us. "The next point," says Galton,

"which I shall mention in illustration of the extremely close resemblance between certain twins is the similarity in the association of their ideas. No less than eleven out of the thirty-five cases testify to this. They make the same remarks on the same occasion, begin singing the same song at the same moment, and so on; or one would commence a sentence and the other would finish it. An observant friend graphically described to me the effect produced on her by two such twins whom she had met casually. She said: 'Their teeth grew alike, they spoke alike and together, and said the same things, and seemed just like one person. One of the most curious anecdotes that I have received concerning this similarity of ideas was that one twin, A, who happened to be at a town in Scotland, bought a set of champaign glasses which caught his attention, as a surprise for his brother B, while at the same time, B, being in England, bought a similar set of precisely the same pattern for A. Other anecdotes of a like kind have reached me about these twins.'" ‡

Bodily and mental diseases, in themselves and in their evolution, supply many confirmatory facts. And though the latter are of interest only to the psychologist, the former disclose a likeness in the inmost constitution of the two organisms not to be seen at a glance like external resemblances. Says Trousseau:

"I have had as patients twin brothers that were so extraordinarily alike that it was

* See the title 'History of Twins" in Galton's *Inquiries into Human Faculty and its Development.*

† Galton, *Inquiries into Human Faculty.* (London, 1883), p. 224.

‡ *Ibid.*, p. 231.

impossible for me to distinguish them except when they were side by side. This bodily resemblance went further still: there was even a more remarkable pathological likeness between them One of them, whom I saw in Paris suffering from rheumatic ophthalmia, said to me: 'This very moment my brother is no doubt suffering from ophthalmia too.' I scouted the idea, but a few days afterward he showed me a letter he had just received from his brother, then at Vienne, in which he wrote: 'I have my ophthalmia, you too must be having yours.' Strange as this may seem, the fact was even so. This I have not on hearsay, but I myself have seen it, and similar cases have come to my knowledge in my practice." *

Galton gives many similar cases, but I quote only one. Two twins bearing a perfect resemblance to each other, with a strong mutual attachment and with identical tastes, were in government employ, and lived together. One fell sick of Bright's disease and died; the other was attacked by the same disorder and died seven months later.

Pages might be filled with similar cases. And it is the same with mental maladies. A few instances will suffice. Moreau of Tours had under treatment two twins physically alike and both insane. In them

"the dominant ideas are absolutely the same. Both believe themselves to be the victims of imaginary persecutions. The self-same enemies have sworn to undo them and employ the self-same means of attaining their ends. Both have hallucinations of hearing. They never address a word of conversation to any one, and are loth to answer questions. They always hold themselves aloof and do not communicate with each other. An exceedingly curious fact, and one again and again noticed by the attendants in their ward and by ourselves is, that from time to time, at very irregular intervals—two, three or more months—without ascertainable cause and by a spontaneous effect of their complaint, a very marked change occurs in the condition of the two brothers. Both of them, about the same period, often on the same day, quit their habitual state of stupor and prostration; they utter the self-same complaints and present themselves before the physician, earnestly begging to be allowed their liberty. I have been witness of this rather singular fact even when the twins happened to be several kilometers apart, one at Bicêtre, the other at the Ste. Anne farm." †

Recently the *Journal of Mental Science* published two observations on insanity in twins. Here we see two sisters much alike in features, manners, speech and mental traits, so that they might easily be taken for one another. They were placed in different wards of the same asylum without the possibility of seeing one another, and yet the symptoms of insanity were the same in both.

But we must meet some objections. There are some twins of one sex who do not resemble each other, and though the observed facts do not tell us in what proportion true twins (from one ovum) present these differences, one instance suffices to make the subject worthy of discussion. We have in another place ‡ enumerated the many causes that in every individual, from conception till death, tend to produce variations, that is to say marks proper to that individual and differentiating him from all others. Here, as we have said, one class of causes must be eliminated, viz., those which come immediately from the parents. But the fecundated ovum represents also the ancestral influences—four, twelve, twenty-eight possible influences, accordingly as we go back to the grand-parents, great-grand-parents, great-great-grand-parents, and so on. Only by experience do we learn which influences prevail and in what degree. Here indeed one same ovum serves to produce two individuals, but there is nothing to prove that always and everywhere division is made between the two with strict equivalence in quantity and quality of the materials. The ova of all animals not only possess the same anatomic composition, but furthermore chemical analysis can discover in them only infinitesimal differences; nevertheless one ovum produces a sponge, another a human being. It follows that this apparent likeness hides profound differences which our keenest investigation fails to detect. Are these differences due to the nature of the molecular motions, as some authors think? We may suppose what we please, provided it be understood that the ovum is a complex product, and that the two individuals that come from it may not be rigorously alike. Our difficulty springs simply from ignorance of the processes according to which the primordial elements group themselves

* Trousseau *Clinique Médicale* I., p. 253.

† *Psychologie Morbide*, p. 172. See also an exceedingly curious case in the *Annales Médico-psychologiques*, 1863, tome I., p. 312. On the question of twins the reader may consult Kleinwæchter's special work, *Die Lehre von den Zwilligen*. Prag, 1871: also Dr. B. Ball, *Insanity in Twins* (Humboldt Library, No. 87, page 37).

‡ *L'Hérédité Psychologique*, 2d edition, part II., ch. iv.

in order to constitute each individual, and consequently from our ignorance of the physical and psychical differences thence resulting. Some of Galton's correspondents mentioned the curious fact of some twins being "complementary to each other." The mother of a pair of twins wrote:

"There seemed to be a sort of interchangeable likeness in expression that often gave to each the effect of being more like his brother than himself."* "A fact struck all our school contemporaries, that my brother and I were complementary, so to speak, in point of ability and disposition. He was contemplative, poetical, and literary to a remarkable degree, showing great power in that line. I was practical, mathematical, and linguistic. Between us we should have made a very decent sort of a man." †

If the reader will consider how complex man's psychic organization is, and, in consequence of this complexity, how unlikely it is that two persons should be simply copies of each other, he will be inevitably led to the conclusion that one well-proved fact of this kind outweighs ten exceptions, and that the moral likeness is only the correlative of the physical. If *per impossibile* there were two men so constituted that their organisms should be identical, and their hereditary influences exactly the same: if *per impossibilius* both of them received the same physical and moral impressions at the same moment: then the only difference between them would be their position in space.

In concluding this chapter, I am a little ashamed to have collected so many proofs and arguments to establish what in my eyes is a plain truth, viz., that as the organism is, so is the personality. I should have hesitated to do it, were it not that this truth has been forgotten and misconceived rather than denied, and that authors have nearly always contented themselves with mentioning it under the vague heading of "influence of the physical upon the moral."

The facts so far studied do not of themselves lead to a conclusion: they only prepare the way. They prove that physical personality presupposes the properties of living matter and their coördination; that as the body is but the organized and coördinated sum of the same elements regarded as psychic values. It expresses their nature and their action, nothing more. This is proved by the normal state, by teratological cases, and by the likeness between twins. The aberrations of physical personality, or as Bertrand ‡ happily denominates them, "hallucinations of the bodily sense" (*les hallucinations du sens du corps*) confirm this view. But there are deviations of human personality produced by other causes, by a more complex mechanism: these we are now to study.

CHAPTER III.

AFFECTIVE DISTURBANCE.

ONCE for all the reader must be reminded that in this chapter (as also in the one on intellective disorders) we are still pursuing, under another form, the study of organic conditions. The desires, feelings, passions that give the fundamental tone to character, have their roots in the organism, are pre-determined by it. The same is true of the highest intellectual manifestations. Nevertheless since the psychic states have here a predominant *rôle*, we will treat them as immediate causes of changes of personality, the while never forgetting that these causes are in their turn themselves effects.

Without pretending strictly to classify affective manifestations (which we shall not have to consider in detail) we will reduce them to three groups of increasing psychological complexity but decreasing physiological importance. These are 1. Tendencies connected with the conservation of the individual (nutrition, defense); 2. Those which relate to the conservation of the species; and 3. The highest of them all, those which presuppose the development of mind (manifestations of a moral, religious, æsthetic, or scientific kind; ambition in all its forms; and the like). If we consider the development of the individual we find that it is in this order that feelings and sentiments make their appearance. It is seen more clearly still in the evolution of the human species. The inferior races, where education does not come in to correct nature, when they bring together the accumulated result of ages of labor, have little to show beyond the conservation of the individual

* *Inquiries into Human Faculty*, p. 224.
† *Ibid.* p. 240.

‡ *De l'Aperception du Corps Humain par la Conscience*, p. 269, *et seq.*

and of the species, and present only the faintest trace of the sentiments enumerated under the third head.

The affective states relating to nutrition are, in the child during its early years, the only element, so to speak, of the nascent personality. From these come well-being and discomfort, desire and aversion : here we see that "bodily sense," of which we have spoken so often, arrived at its highest psychic expression. Inasmuch as certain natural causes, too evident to need enumeration, make nutrition the almost exclusively dominant concernment in the infant, the babe has and can have only an almost entirely nutritive personality, *i. e.*, the vaguest and lowest form of personality. The Me, in the view of whoever does not consider it as an entity, cannot be here anything but an extremely simple composite.

As we quit the period of infancy, nutrition plays a less dominant part, but it never loses its just place, for, of all the properties of the living being, this one alone is fundamental. Hence with variations in nutrition are connected serious alterations of personality. With nutrition reduced, the individual feels himself depressed, enfeebled, diminished. With nutrition increased, he feels himself stimulated, strengthened, reinforced. Of all the functions whose harmonious action constitutes this fundamental property of living beings, the circulation appears to be the one whose sudden variations have the greatest influence upon the affective states, and are most speedily answered by a counter-stroke. But we must quit conjectures about details, and look at the facts.

In the states known as hypochondria, lypemania, melancholia (in all its forms), we find alterations of personality ranging through all possible degrees, including complete metamorphosis. Physicians draw lines of clinical distinction between these different morbid states, but they do not concern us just now, and we may comprise them under one common description. There is a certain feeling of fatigue, oppression, anxiety, down-heartedness, sadness, absence of desire, persistent *ennui*. In the worst cases, the springs of the emotions are quite dried up. "The patients become insensible to everything. They are without affection, whether for their parents or for their children, and even the death of those who once were dear to them leaves them utterly cold and indifferent. They can no longer weep, and nought save their own sufferings moves them."* Then, as regards bodily or mental activity : such patients exhibit torpor, powerlessness to act or even to will, insuperable inaction for hours at a time : in a word that "abulia" all the forms of which we studied in the work on *Diseases of the Will*.† As regards the outer world, the patient, though not hallucinated, finds all his relations to it changed. His habitual sensations seem to have lost their usual character. "Everything about me," said such a patient, "is still as it used to be, yet there must have been some changes. Things still wear their old shapes : I see them plainly, and yet they have changed a good deal too." One of Esquirol's patients complained "that his existence was incomplete. 'Every one of my senses,' he used to say, 'every part of myself is, so to speak, separated from me, and no longer gives me any sensation : it seems to me that I never come quite up to the things I touch.'" This state, due sometimes to cutaneous anæsthesia, may become so intensified that to the patient "it seems as though the real world had completely vanished or is dead, and that only an imaginary world remains in which he is anxious to find his place."‡ To all this, add the physical symptoms, viz., disordered circulation, respiration, and secretion. There may be great emaciation, and the weight of the body may decline rapidly during the period of depression. The respiratory function is retarded as also the circulation, and the body's temperature is lowered.

By degrees these morbid states become embodied, organized, and combine to produce a false conception which becomes a center of attraction toward which everything converges. One patient avers that his heart is a stone, another that his nerves are burning coals ; and so on. These aberrations have all sorts of forms, and they differ from one patient to another. In extreme forms, the individual doubts of his own existence, or denies it. A young man who said he was for two years dead, expressed as follows his perplexity : "I exist, but outside of real, material life, and in spite of myself, nothing having given me death. Everything is mechanical with me, and everything is done unconsciously." This contradictory situation, in which the subject says that

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* Falret, *Archives Générales de Médecine*, Dec., 1878.

† No. 52 HUMBOLDT LIBRARY.

‡ Griesinger, *Traité des Maladies Mentales* (French Trans.), p. 265.

he is at once living and dead, would seem to be the logical, natural expression of a condition of things in which the former Me and the present Me, vitality and annihilation, come to equilibrium.

The psychological interpretation of all these cases admits of no doubt: here are organic perturbations whose first result is to reduce the sense-faculty in general, and whose second is to pervert it. Thus is found a group of organic and psychic states that tend to modify the constitution of the Me profoundly and in its inmost nature, because they act not after the manner of sudden emotions whose effect is violent and superficial, but slowly, silently, persistently. At first, this new state seems strange to the individual, something outside of himself. Little by little, through custom, it finds its place, becomes an integral part of the individual's being, and, if it is progressive, transforms him entirely.

Seeing how the Me is broken up, we can understand how it comes to be. Doubtless, in most cases, the change is only partial. The individual, while becoming for himself and for those who know him, other than he used to be, retains a residuum of himself. Complete transformation can, in fact, be only of rare occurrence; and it may be remarked that when the patient says he is changed, transformed, despite the contradiction or the ridicule of his friends, he is right and not they. He cannot feel otherwise, for his consciousness is but the expression of his organic state. Subjectively, he is not at all under an illusion: he is just what he must be. On the contrary it is the unconscious, unavowed hypothesis of a Me, independent and existing by itself as an unchangeable entity, that instinctively leads us to believe this change to be an external occurrence—or, as it were, some unwonted or ridiculous garb, while the fact is that the change is inward and involves gains or losses in the very substance of the Me itself.

The counterpart of these partial alterations of the Me is seen in cases where it becomes exalted, amplified, and where it immeasurably transcends its normal tone. Instances of this are seen in the beginning of general paralysis; also in certain cases of mania. This is in every respect the reverse of what occurs in those other cases. Here we see the patient possessed of a sense of physical and mental well-being, of abounding strength, of exuberant activity: he talks unceasingly, is a fertile deviser of projects and undertakings, ever traveling hither and thither to no purpose. The superexcitation of his psychic life has a corresponding superactivity of the organic functions. Nutrition becomes more active and is often excessive; respiration and circulation are accelerated, the genital function is quickened. Yet, despite the great expenditure of force, the patient feels no fatigue. Then these states become grouped and unified, and at length they in great part transform the Me. One man is conscious of herculean strength, is able to lift prodigious weights, to beget thousands of children, run a race with a railroad train, etc. Another possesses an inexhaustible store of science, is a great poet, great inventor, great artist, and so on. Sometimes the transformation comes still nearer to complete metamorphosis: mastered by the sense of boundless power, the patient calls himself pope, emperor, god. As Griesinger justly remarks,

> "The patient feeling proud, daring, light hearted, conscious to himself of unwonted freedom in executing his projects, his mind swarming with ideas, is naturally led to conceive thoughts of greatness, station, wealth, great moral or intellectual power. * * * This overweening sense of strength and freedom must however have a reason: there must exist in the Me something to correspond to this; the Me must have become for the time being something quite different from what it was before, and this change can be expressed by the patient only by declaring himself to be Napoleon, the Messiah, or some other exalted personage."*

We will not waste time in proving that this transformation of the Me, whether, partial or complete, momentary or permanent, is in kind the same as the preceding cases and that it presupposes the same mechanism. with this only difference, that here the Me undergoes dissolution in the reverse way, by excess, and not by default.

These *plus* or *minus* alterations of personality, this metamorphosis of the Me, which raises it or lowers, would be still more striking if they succeeded one another regularly in the same individual. Now this occurs often in what is called *folie circulaire*, or *folie à double forme*, a malady characterized essentially by successive periods of depression and exaltation following one another in fixed order, with intermissions of lucidity in some patients. Here we observe a curious fact. Upon the personality that may be called

* *Op. cit.*, p. 333.

the original and fundamental one, are grafted, one after the other, two new personalities not only quite distinct, but totally exclusive of each other. Upon this point it is necessary to give the gist of a few observations.* A woman whose case was observed by Morel, had been abandoned to a vicious life by her mother from the age of fourteen years.

"Later, in her shame and wretchedness, her only resource was to enter a brothel. She was taken thence one year afterward and placed in the convent of the Good Shepherd at Metz. Here she stayed two years, and the too strong reaction that took place in her feelings gave rise to religious mania, which was followed by a period of profound stupidity."

Being now placed under the care of a physician, she would pass through two alternate periods, believing herself to be in turn prostitute and nun. On emerging from the period of stupidity,

"she would go to work regularly, and her language was always proper, but she would arrange her toilet with a certain *coquetterie*. Then this tendency would increase, her eyes growing brighter, her glance lascivious; she would dance and sing. At last her obscene language and her erotic solicitations would compel her sequestration in solitary confinement. She would say her name was Madame Poulmaire, and would give the fullest details of her former life in prostitution. Then, after a period of depression, she would become again gentle and timid, carrying even to scrupulousness the sense of propriety. She would now arrange her toilet with the utmost austerity. The tone of her voice too would assume a peculiar character, as she spoke of the Good Shepherd convent at Metz and of her longing to return thither. Now her name would be Sister Martha of the Five Wounds, Theresa of Jesus, Mary of the Resurrection, etc. She would not speak in the first person singular, but would say to the attendant sister, 'Take *our* dress'; 'there is *our* handkerchief.' Nothing was her own any more, according to the rule in convents. She would have visions of angels smiling upon her, and moments of ecstasy."

In a case reported by Krafft-Ebing, a neuropathic patient, son of an insane father, "during the period of depression was disgusted with the world, and all his thoughts were about the nearness of death, and about eternity, and his purpose then was to become a priest. During his maniacal periods he was noisy, pursued his studies with mad ardor, would not hear of theology, and thought only of practicing medicine."

An insane woman at Charenton, possessing very remarkable power and originality of mind,

"from day to day would change in personality, in condition, in life, and even in sex. Now she would be a young lady of blood royal betrothed to an emperor; anon a plebeian woman and a democrat: to-day a wife and in the family way; to-morrow still a maid. It would happen also that she would think herself a man, and one day she imagined herself to be a political prisoner of importance, and composed some verses upon the subject."

Finally in the observation which follows we find the complete formation of a second personality.

"A lunatic in the Maison de Vanves," says Billod,† "about every eight months would let his beard grow and would show himself to all the inmates in unusual garb and with unwonted behavior, giving himself out to be one Nabon, an artillery lieutenant lately returned from Africa to take the place of his brother. The patient would then remain several months in a state of great exultation, adapting all his conduct to his new character. After some time he would announce the return of his brother who, he would say, was in the village and was now to take his place. Then some day he would have his beard shaved off, would make a complete change in his habits and demeanor, and would resume his true name. But now he would present all the signs of melancholia, walking about slowly, loving silence and solitude, continually reading the *Following of Christ* and the *Fathers of the Church*. In this mental state, a lucid one if you please, but one that I am far from considering as normal, he would remain till the coming back of 'Lieutenant Nabon.'"

The two cases first cited are, in reality, but an exaggeration, a largely magnified copy, so to speak, of the normal state. The Me is always made up of contradictory tendencies—virtues and vices, modesty and arrogance, avarice and prodigality, desire for rest and need of action, and so on. Usually these opposite tendencies equilibrate one another, or at least the one which dominates is not without its counterpoise. In the cases before us, in virtue of pretty well ascertained organic conditions, not only is equilibrium impossible, but a group of tendencies becomes hypertrophied at the expense of the antagonist group, which becomes

* They can be found *in extenso* in Ritti, *Traité Clinique de la Folie à Double Forme*. Paris, 1883. Obss. XVII., XIX., XXX., XXXI.

† *Annales Médico-psychologiques*, 1858.

atrophied; then an inverse reaction takes place, so that the personality, instead of consisting of those mean oscillations whereof each one represents one side of human nature, passes ever from one excess to another. We may remark that these diseases of personality consist of a reduction to a simpler state: but we must not yet dwell upon that point.

Nutrition being less a function than the fundamental property of whatever has life, the tendencies and the feelings connected with it possess a very general character. The same cannot be said of what concerns the conservation of the species. That function, attached as it is to a definite part of the organism, finds expression in very definite feelings. Hence this is well fitted to verify our thesis; for if personality is a composite varying according to its constituent elements, a change in the sex instincts will change the personality, a perversion will pervert it, an interversion will intervert it: and this is just what happens.

First let us recall some known facts, though commonly the conclusions they enforce are not drawn. At puberty a new group of sensations and consequently of feelings, sentiments and ideas comes into existence. This influx of unwonted psychic states—stable because their cause is stable, coördinated to one another because their source is one—tends profoundly to modify the constitution of the Me. It feels undecided, troubled with a vague and latent unrest whose cause is hid. Little by little these new elements of the moral life are assimilated by the existing Me, enter into it, are converted into it, withal making it other than it was. It is changed; a partial alteration of the personality has taken place, the result of which has been to produce a new type of character—the sexual character. This development of an organ and of its functions, with their train of instincts, imaginings, feelings, sentiments and ideas, has produced in the neuter personality of the child a differentiation—has made of it a Me male or female, in the complete sense of the term. Till now there existed only a sort of rough draft [*ébauche*] of the complete personality, but that has served to obviate all sudden shock in the change, to prevent a rupture between the past and the present, to make the personality continuous.

If now we pass from the normal development to exceptional and pathological cases, we shall find variations or transformations of personality dependent on the state of the genital organs.

The effect of castration upon animals is well-known. Not less known is its effect upon man. A few exceptions apart (and such are found even in history) eunuchs present a deviation from the psychic type. "Whatever we know about them," says Maudsley, "confirms the belief that they are for the most part false, lying, cowardly, envious, revengeful, void of social and moral feeling, mutilated in soul as well as in body." Whether this moral degradation be the direct result of castration, as some authors assert, or whether it result from an equivocal social situation, is a question that does not affect our thesis: whether the result comes directly or indirectly from the mutilation, the cause remains the same.

As regards hermaphrodites experience verifies what we might have predicted *a priori*. With the characteristics of one sex they present some of those peculiar to the other, but instead of combining the functions of both, they possess only imperfect organs, and commonly these are sexually impotent. The moral character of hermaphrodites is sometimes neutral, again masculine, in other cases feminine. Abundant instances are cited by writers who have treated the question.* "Sometimes the hermaphrodite, after having shown a very strong liking for women, is animated with the very opposite instincts by the descent of the testicles." In a case recently observed by Dr. Magitot an hermaphrodite woman successively manifested feminine tastes and very pronounced masculine appetites. "In general the affective faculties and the moral dispositions show the effects of the malformation of the organs. Nevertheless, it is but fair" says Tardieu, "to make large allowance for the influence of the habits and occupations imposed upon these individuals by the error as to their real sex. Some of them being from the first educated as girls, dressed as girls, employed in women's work, married perhaps as women, retain the thoughts, the habits, the demeanor of the female sex. Such was the case with Maria Arsano, deceased at the age of eighty years, who was in fact a man whose character had been made feminine by habit."

I do not propose here to detail the

* For the facts see Isidore Geoffroy Saint-Hilaire *Histoire des Anomalies* vol. II., p. 65, *et seq.* Also Taraieu and Laugier, *Dictionnaire de Médecine*, art. HERMAPHRODISME.

perversions or aberrations of the sexual instinct, * each one of which imprints its mark upon the personality, altering it more or less, transiently or permanently. These partial alterations reach their term in total transformation, in change of sex. There are many instances of this: the following may serve as a type. Lallemant records the case of "a patient who believed himself to be a woman, and who wrote letters to an imaginary lover. At the autopsy there was found an hypertrophy with induration of the prostate, and an alteration of the ejaculatory canals." It is probable that in many cases of this kind there has been perversion or abolition of the sexual feelings.

Some exceptions, however, are to be noted. From sundry detailed observations (which see in Leuret, *Fragments Psychol.*, p. 114 *et seq.*) we learn of individuals who assume the gait, the habit, the voice, and, as far as they may, the garb of the sex they imagine themselves to belong to, though they present no anatomical or physiological anomaly of the sexual organs. In such cases the starting point of the metamorphosis is to be sought elsewhere: it must be found in the cerebro-spinal organ. Indeed when we speak of the sexual organs as constituting or as modifying personality, we are to be understood as speaking, not of those organs themselves alone as defined by their anatomic conformation, but also of their relations to the encephalon, in which they are represented. Physiologists locate in the lumbar region of the spinal column the reflex genito-spinal center. From that center to the brain all is undiscovered territory; for the hypothesis of Gall, who made the cerebellum the seat of physical love, is not much in favor, despite the confirmatory observations of Budge and of Lussana. But however great our ignorance upon this point, sexual impressions must reach the encephalon, for they are felt, and there are centers from which psychic incitations are sent out to the sexual organs to put them in action. These nerve-elements, whatever their nature, their number, or their seat; whether they are localized or diffused, are the cerebral, and consequently the psychic, representatives of the sexual organs; and since in producing a special state of consciousness they usually produce others also, there must be some association between this group of psycho-physiological states and a certain number of others. The conclusion to be drawn from the cases already cited, is that there has arisen a cerebral disorder of unknown character (a woman supposing herself to be a man, or *vice versa*) whence results a fixed erroneous state of consciousness. This fixed state of consciousness, predominating over the normal states, calls forth natural, almost anatomical associations, which are as it were its radiations (the feelings, the ways, the speech, the dress of the imaginary sex): it tends to complete itself. Here is a metamorphosis from above not from below; and here we have an instance of what is called the influence of the moral upon the physical. We will endeavor to show further on that the Me upon which most psychologists have based their reasonings is formed by a like process. Further these cases belong among the *intellective* deviations of personality, of which we shall treat in the next chapter.

Before we quit this subject, I would notice a few facts hard to account for, but which nevertheless cannot be seriously alleged against our thesis. I refer to the phenomenon of "opposite sexuality" [*sexualité contraire*] often mentioned of late, and about which a few words will suffice. Certain patients observed by Westphal, Krafft-Ebing, Charcot and Magnan, Servaes, Gock, *et al.*, present a *congenital* introversion of the sexual instinct, whence results, despite their normal physical constitution, an instinctive and violent attraction to a person of the same sex, with strong repulsion toward the opposite sex: in short, "a woman will be a woman physically but psychically a man: a man will be physically a man, psychically a woman." These facts are entirely at variance with what logic and experience teach us: here the physical and the moral are in mutual contradiction. Strictly speaking, those who regard the Me as an entity might quote these facts as proving its independence, its autonomous existence. Nevertheless that were a gross illusion, for their whole argument would rest upon two very weak bases, viz., on some facts of very rare occurrence, and on the present difficulty of finding an explanation of them. No one will deny that cases of "opposite sexuality" are but an infinitesimal faction of the sum of the cases known to us by experience. By their rarity they form an exception, and by their nature a psychological monstrosity: but monstros-

* For a full discussion of this question see the article by Dr. Gley, "Sur les Aberrations de l'Instinct Sexuel" in the *Revue Philosophique*, Jan. 1884.

ities are not miracles, and it behooves us to find out whence they come.

We might attempt to account for them in many ways, but that usually means that no explanation is sufficient. I will not inflict these explanations upon the reader. Like every other science, psychology must be resigned to be ignorant for a time, and must not fear to confess ignorance. Herein it differs from metaphysics, which undertakes to explain all things. Physicians who from their own medical point of view have studied these strange creatures, regard them as degenerate individuals. The point of special interest for us would be to know why degenerescence takes this form and not another. Probably the explication of this mystery is to be sought in the multiple elements of heredity, in the complex play of the conflicting male and female elements: I leave the question to minds more clear-sighted and more fortunate in discovering the causes of things. But aside from the question of the cause, one can hardly refuse to recognize a deviation of the cerebral mechanism, as in the cases quoted by Leuret, and in like instances. But the influence of the sexual organs upon the nature and formation of character is so little open to question that to dwell upon it were to waste time, and an hypothetical explanation of "opposite sexuality" would in no wise further our research.

The instincts, desires, tendencies, sentiments, etc., that relate to the conservation of the individual and to that of the species, have their material conditions clearly determined, the former in the totality of organic life, the latter in a special set of organs. But when from the primordial and fundamental forms of the affective life we pass to those which are of secondary formation and which have sprung up later in the course of evolution (tendencies social, moral, intellectual, æsthetic, etc.), then, to say nothing of the impossibility of assigning to these their direct organic bases, we find that they are by no means so general; none of them, except perhaps the moral and the social tendencies, express the individual in his totality; they are partial, and represent only one group in the sum total of his tendencies. Hence no one of them has of itself the power of producing a metamorphosis of the personality. As long as the habitude we call bodily sense (or cœnæsthesis) and that other habitude which is memory, do not come into play, there can be no complete transformation: the individual may be changed, he does not become *another*.

But these variations, though partial, are interesting. They show the transition from the normal to the morbid state. In studying the diseases of the will * we found in ordinary life many foreshadowings of the graver forms. Here, too, common observation shows us how little cohesion and unity the normal Me possesses. Apart from perfectly balanced characters (though in the strict sense of the term such characters do not exist) there are in every one of us tendencies of every kind, in every degree of contrariety, with all possible intermediate shades of difference, and with all sorts of combinations between them. For the Me is not merely a memory, an accumulation of recollections linked to the present moment, but a sum of instincts, tendencies, desires, which are simply its innate and acquired constitution entering into action. Memory is the Me *statical*, the group of tendencies is the Me *dynamical*. If, instead of being influenced unconsciously by the idea of the Me being an entity—a prejudgment instilled into us both by education and by the so-called testimony of consciousness—we were to take it for what it is, namely a coördination of tendencies and of psychic states whose proximate cause is to be sought in the coördination and consensus of the organism, we should no longer be surprised at its oscillations—incessant in fickle, but rare in stable characters—which for a longer or a shorter time, or even for an almost infinitesimal instant, exhibit the person in a new light. Some organic state, some external influence, reinforces some tendency; it becomes a center of attraction toward which converge the directly associated states and tendencies; then associations grow closer and closer; the center of gravity of the Me becomes displaced, and the personality is altered. "Two souls" said Goethe "dwell in my breast." Nor two only! If the moralists, poets, dramatists have shown us to satiety these two Mes contending in one Me, common experience shows yet more; it shows us many Mes, each as it comes to the forefront, excluding the others. This is less dramatic, but more true. "Our Me differs widely from itself at different times: according

* See the work so entitled (HUMBOLDT LIBRARY No. 52).

to a person's age, his various duties, the occurrences of his life, the excitements of the moment, such or such an aggregation of ideas which at a given moment represents the Me, becomes more highly developed than others, and takes the foremost place. We are another and yet the same. My Me as physician, my Me as man of science, my sensuous, my moral Me, etc., in other words, the complex of ideas, inclinations, will-tendencies, so denominated, may at any time come into a state of mutual opposition and repulsion. This would result not only in discord and scission between thought and will, but also in total loss of power, for each of these two isolated phases of the Me, if in all these spheres there was not a more or less open way for the return of the consciousness of some of these fundamental directions." * The orator, master of speech, who while speaking judges himself; the actor who notes his own performance; the psychologist who studies himself, all are instances of this normal scission of the Me.

Between these momentary and partial transformations (which because they are common do not strike one as psychologically important) and the more serious states we have yet to consider, there exist intermediate variations either more stable or more far-reaching, or both. The dipsomaniac, for example, leads two alternate lives: in one he is sober, discreet, industrious; in the other quite overmastered by passion, reckless, heedless. It is as though two incomplete and contrary individuals were grafted on a common trunk. The same is true of those who are subject to irresistible impulses and who declare that an external force constrains them to act in spite of themselves. We may cite also those transformations of character which are accompanied by cutaneous anæsthesia. One of the most curious instances of this was observed by Renaudin: A young man whose conduct had always been exemplary, suddenly gave way to evil tendencies. His mental state gave no clear evidence of alienation, but it was noticed that the whole surface of his body had become absolutely insensible. The cutaneous anæsthesia was intermittent. "When it ceased, the young man's disposition was quite different; he was now docile, affectionate, fully conscious of his painful situation: when it returned, immediately his evil inclinations controlled him, and these, as we found out, might go even so far as to incite him to homicide."

Inevitably we come back in every case to the organism. But this *excursus* through diverse fields of observation, however monotonous it may be, exhibits to us the variations of personality in all its aspects. Since no two cases are identical, each one offers a special decomposition of the Me. The cases last cited show us a transformation of character without lesion to the memory. As we proceed with our review of the facts, one conclusion will more and more impress itself upon our minds, viz., that *personality results from two fundamental factors —the bodily constitution with its tendencies and feelings, and the memory.*

If (as in the cases so far considered) only the first of these factors is modified, the result is a momentary dissociation followed by a partial change of the Me. If the modification is so profound that the organic bases of memory suffer a kind of paralysis, and become incapable of being revived, then the disintegration of the Me is complete: there is no longer a past, and there is a different present. Then a new Me is formed, and usually it knows nothing of the former Me. The cases of this kind are so well known that I will simply mention them, viz., the case of the American lady described by Macnish, that of Félida, described by Dr. Azam, and those recorded by Dufay.† Just because they involve the entire personality, these cases come under no specific heading, and we have no reason for mentioning them here rather than anywhere else, except that we wish to remark that the transition from one personality to another is always accompanied by a change of the character, associated no doubt with the unknown organic change which dominates the whole situation. This change is very clearly pointed out by Dr. Azam: his patient (Félida) is at one period gloomy, cold, reserved; in the other period, gay, sprightly, cheerful, full of life, even boisterous. The change is greater still in the following case, which I give in

* Griesinger, *Maladies Mentales*, p. 55. See a good essay by Paulhan on *Les Variations de la Personnalité à l'Etat Normal* (*Rev. Philos.*, June, 1882).

† For a full account of the observations, see Taine, *De l'Intelligence*, vol. I. p. 165; Azam, *Revue Scient.*, 20 May, 1876, 18 Sept., 1877, 10 Nov. 1879; Dufay, *ibidem*, 15 July, 1876. As regards the part played by memory in pathological cases, see *Diseases of Memory* (HUMBOLDT LIBRARY No 46), page 16 *et seq.*

some detail because it is recent and little known.*

The subject, a youth of seventeen years, V. L.—had an attack of hystero-epilepsy and quite lost all recollection of one year of his life. His character underwent a total change.

Born of "an unmarried vagabond girl and an unknown father, as soon as he was able to walk he began straying about the streets and begging. Later he became a thief, and was arrested and sent to the St. Urbain penal colony, where he worked as a farm-hand." One day while employed in the vineyard he grasped in his hand a snake concealed in a bundle of vine-cuttings. His fright was extreme, and on his return to the colony in the evening he lost consciousness. This fit returned again and again; his legs grew weak; at last came paralysis of his lower limbs, his intelligence remaining intact. He was now transferred to the Bonneval Asylum. There the physician reported of him that he had "a kindly, sympathetic expression"; that he was "of a mild disposition, and grateful for the care bestowed upon him. He would tell the story of his life with fullest details, even his thefts, of which he was ashamed. He laid the blame to his homelessness and to the influence of his companions, who led him into evil. He regretted the past, and declared that in the future he would lead a better life." It was decided to fit him for some occupation compatible with his infirmity. He learned to read, also to write a little. He was taken every morning to the tailor's shop, and being placed upon a table, assumed quite naturally the tailor's posture, his legs being paralyzed and greatly atrophied and contracted. At the end of two months he could sew very well, and was a diligent worker."

He had now an attack of hystero-epilepsy which continued for fifty hours, being succeeded by a quiet sleep. Then his former personality came back.

"On awaking, V— wanted to get up. He asked for his clothes, and succeeded in putting them on, though awkwardly; then he took a few steps about the room. The paraplegia had disappeared. His gait was unsteady and his legs could not sustain the weight of his body, but that was due to the atrophied state of the muscles. When his clothes were on, he wanted to go out to work on the farm with his comrades. We saw at once that the lad thought he was still at St. Urbain's, and that he wanted to resume his habitual occupations. He had in fact no recollection of his attack: did not recognize any one here—neither the doctor and nurses, nor his fellow-patients. He refused to believe that he had been paralyzed, saying that we were making sport of him. We attributed this to a momentary vesania, not an unusual sequel of strong hysteric seizures. But time went on, and still memory did not return. V— remembered distinctly his having been sent to St. Urbain's, that 'the other day' he was frightened by a snake, but from that point forward all was blank. He remembered nothing: he had no consciousness even of the lapse of time.

"Naturally we suspected that he was feigning, as hysterical subjects are wont to do, and we tried in every way to make him contradict himself, but in vain. Thus, we had him taken to the tailor's shop without letting him know where he was going. We walked alongside of him, careful not to give him a hint as to what direction he should take. V— did not know where he was going. Arrived at the shop, he gave no sign of knowing where he was, and declared he came there now the first time. A needle was put in his hand and he was asked to use it in sewing, but he set about it as clumsily as any one does who attempts for the first time to perform the task. Garments were shown him on which he had done the coarser stitching while in the paralytic state. In vain: he recalled nothing of all this. After a month of experiments, observations, and tests of every kind, we were convinced that V— remembered nothing."

One of the most interesting points of this case is the modification of the patient's character—a reversion to his prior life and hereditary antecedents.

"He is no more the same person: he is now quarrelsome, and an inordinate eater. He makes rude answers. He cared not for wine and usually gave his share of wine to his comrades: now he steals theirs. When some one tells him that once he used to steal, but that he ought not to begin thieving again, he boldly says that 'if he was a thief, he has paid for it, for they have put him in prison.' He is employed in the garden. One day he ran away, taking with him some property and sixty francs belonging to one of the infirmarians. He was captured five leagues away from Bonneval, just after he had sold his clothes to purchase others and was making ready to take the train for Paris. The arrest was not easily made, for he struck and bit the keepers who had come in pursuit of him. Brought back to the asylum, he became furious, shouting, and rolling upon the ground, so that he had to be confined in a cell."

Although we have not yet studied the

* The case is reported by Dr. Camuset in the *Annales Médico-psychologiques*, Jan., 1882.

anomalies of personality in all its forms, it will not be out of place here to attempt a few partial and provisional conclusions which will serve to lessen the obscurity of the subject. I will confine myself however to one point—to cases of false personality consisting essentially of a fixed idea, an overweening idea toward which converges the whole group of concordant ideas, all others being eliminated and as it were annihilated: as when persons believe themselves to be God, pope, emperor, and speak and act accordingly. The study of the intellectual conditions of personality will furnish us with many an instance of this—hypnotized subjects, for example, who assume a personality or enact a *rôle* at the operator's will; but the instances we are already familiar with warrant a question as to what we are to learn from them.

At first view, these cases are quite simple as regards the mechanism of their formation. The prime origin is obscure; why is this particular idea produced and not some other? Commonly we know nothing whatever about it, but once the morbid conception produced, it grows and grows, till at last it reaches its highest point, through the mere automatism of association of ideas. Hence it is not my intention to dwell upon this point, but to show that these pathological cases explain for us an illusion into which psychology has almost always fallen when it has based itself simply upon internal observation—the illusion of substituting for the real Me a factitious Me that is far simpler.

In order to comprehend the real, concrete personality and not an abstraction substituted in its room, what we must do is, not to shut ourselves up in our consciousness and, closing our eyes, proceed to question it: rather must we open our eyes and observe. The child, the peasant, the laborer, the millions of people who walk the streets or who work in the fields; who have never heard of Fichte or Maine de Biran; who have never read a dissertation on the Me and the non-Me, nor a single line on psychology—have each one his own definite personality, and this personality they instinctively affirm. Every moment ever since that forgotten epoch when their Me was first constituted, *i.e.*, when it was formed as a coherent group amid the occurrences that assail it, that group has maintained itself steadily, steadily undergoing modification. In great part it is made up of states and acts nearly automatic which in each individual constitute the bodily sense (or cœnæsthesis) and the routine of life; which serve as support to all the rest, but whose every alteration, how brief or partial soever, is immediately felt. In great part too it is made up of a complex of sensations, images, ideas, representing the habitual environment within which the individual lives and moves, with the recollections thereto attached. All this represents organized states, firmly linked together, mutually calling each other forth, systemized. The fact we actually are cognizant of, though we may not inquire into the cause. Whatever is new, unwonted; all changes in the state of the body or of its environment, are unhesitatingly adopted, classed by an instinctive act as forming part of the personality or as being external to it. Not by a definite and explicit judgment is this operation performed each moment, but by an unconscious logic far more profound than the logic of the schools. Had we to characterize with one word this natural, spontaneous, real, form of personality I should call it an *habitude*. nor can it be anything else, since, as we maintain, it is but the expression of an organism. Let the reader, instead of observing himself, proceed objectively: that is, let him observe and interpret with the aid of the data of consciousness the state of those who have never reflected upon their personality, and he will see that the foregoing thesis is true, and that real personality affirms itself not by reflection but by acts.

Let us now consider factitious or artificial personality. When the psychologist essays to comprehend himself, as he says, by inward observation, he attempts the impossible. When he sets about the task, either he restricts himself to the present, and that helps him little: or, letting his reflection extend over the past, he affirms himself to be the same that he was a year or ten years ago; he does but express learnedly and laboredly what any peasant knows as well as himself. By inner observation he can grasp only transitory phenomena, and so far as I know answer has never been made to these just observations of Hume:

"As for me, whenever I contemplate what is inmost in what I call my own self, I always come in contact with such or such special perception as of cold, heat, light or shadow, love or hate, pleasure or pain. I never come unawares upon my mind existing in a state void of perceptions: I never observe aught

save perception. . . . If any one, after serious reflection and without prejudices, thinks he has any other idea of himself, I confess that I can reason no longer with him. The best I can say for him is that perhaps he is right no less than I, and that on this point our natures are essentially different. It is possible that he may perceive something simple and permanent which he calls himself, but as for me I am quite sure I possess no such principle." Hume, Works, vol. I, p. 321.

Since Hume's day some one has said: "Through the sense of effort and of resistance we feel that we cause" [*par l'effort et la resistance, nous nous sentons cause*]. True; and pretty nearly all schools agree that in this way the Me distinguishes itself from the non-Me: but the sense of effort nevertheless is still simply a state of consciousness—the sense of the muscular energy spent to produce a given act.

To seek to grasp by analysis a synthetic whole as personality is, or by an intuition of consciousness lasting at most a few seconds to seize a complex like the Me, were to attempt the solution of a problem whose data are mutually contradictory. The psychologists have gone to work differently. They have considered states of consciousness as accessories, and the tie that connects them as the essential thing: and it is this mysterious *underlying something* that, under the name of unity, identity, or continuity, becomes the true Me. Nevertheless plainly we have here only an abstraction, or more precisely a *schema*. For the real personality has been substituted *the idea of personality*—a very different thing. This idea of personality is like all general terms formed in the same way, as sensibility, will, etc.; but it is no more like the real personality than the plan of a city is like the city itself. And as in the cases of aberration of personality that have led to the present remarks, one idea has taken the place of a complex, forming an imaginary and a diminished personality, so by the psychologist the *schema* of personality is substituted for the concrete personality, and it is upon this beggarly framework that he rests all his reasoning, inductions, deductions and dogmatizings. Of course this comparison is made on the condition of *mutatis mutandis* and with many restrictions, which the reader will find out for himself.

In short, for one to reflect on his Me is to take an artificial position which changes its nature—to substitute an abstract representation for a reality. The true Me is that which feels, thinks, acts, without exhibiting itself, so to speak, to itself upon a stage. For the Me is in its nature and by its definition a subject; and to become an object it must undergo a reduction, an adaptation to the mind's optical conditions, and that transforms it, mutilates it.

Till now we have considered the question only on its negative side. To what positive hypothesis as to the nature of personality are we led by the observation of morbid cases? First let us lay aside the hypothesis of a transcendental entity—an hypothesis that cannot be reconciled with pathology, and which explains nothing.

Let us put aside also the hypothesis which makes of the Me "a bundle of sensations" or of states of consciousness, as many have held it to be, following Hume. So to think is to take appearances for reality, a group of signs for a thing, or more exactly, to take effects for their cause. Besides, if, as we hold, consciousness is only an indicative phenomenon, it cannot be a constitutive state.

We have to penetrate deeper, to that *consensus* of the organism of which the conscious Me is but the psychological expression. Has this hypothesis any firmer ground than the other two? Both objectively and subjectively considered, the characteristic trait of personality is that continuity in time, that permanence which is called identity. This has been denied of the organism, on grounds so well known that there is no need to state them: but it is strange that those who refuse to concede continuity, identity, to the organism should fail to see that all the arguments for a transcendental principle hold good also for the organism, and that all the arguments that can be brought against the latter have the same force against the former. That every higher organism is *one* in its complexity is an observation at least as old as the Hippocratic writings, and since Bichat's time no one attributes this unity to a mysterious vital principle; certain writers however make a great noise about the constant molecular renovation which constitutes life, and ask, Where is the identity? But as a fact every one believes in this identity of the organism. Identity is not immobility. If, as some savants hold, life has its seat not so much in the chemical substance of the protoplasm, as in the motions of the particles, then it is a "combination of motions," or a "form of motion," and this constant

molecular renovation must itself be subordinate to more recondite conditions. However that may be, every unbiased mind will admit that the organism possesses identity. What hypothesis then could be more simple or more natural than to consider the conscious identity as the inward manifestation of the external identity subsisting in the organism?

On this physical basis of the organism rests also, according to our thesis, what we call the unity of the Me, *i.e.*, the interdependence which links together the states of consciousness. The unity of the Me is the unity of a complexus, and only by a metaphysical illusion do we accord to it the ideal unity of the mathematical point. It consists not in the act of a supposedly simple "essence," but in a coördination of the nerve centers, which themselves represent a coördination of the functions of the organism. It is true that here we have to do with hypotheses, but at least they have no supernatural character.

Take man in the fœtal state, before the beginning of psychic life: leave out all the hereditary dispositions already in any way impressed upon him, which will later come into play. At some undefined period, at the latest in the last weeks of the fœtal life, some sort of body sense (cœnæsthesis) must come into existence —a vague feeling of well-being or of discomfort. However confused this may be supposed to be, it implies certain modifications in the nerve centers, as far as their rudimentary state may allow. When, later, sensations (objective or not) of external causation are added to these simple vital, organic, sensations, they too necessarily produce a modification in the nerve centers. But they are not inscribed on a *tabula rasa*; the warp of the psychic life is already laid, and this warp is general sensibility, the feeling of life, which, even though it be very vague, absolutely constitues, at this period of life, almost the total sum of consciousness. Thus we have a glimpse of the origin of the connection between states of consciousness. The first sensation—supposing one to exist in the isolated state—does not come like an aërolite in a desert: at its entrance even it is connected with others—with the states which constitute the bodily sense, and which are simply the psychic expression of the organism. In terms of physiology, this means that the modifications of the nervous system representing materially sensations and the desires that arise out of them (these being the first elements of the higher psychic life) are added to prior modifications which are the material representatives of the vital and organic sensations; and that thereby relations are established between these nervous elements; so that from the first the complex unity of the Me has its conditions of existence, and these it finds in that general consciousness of the organism so much overlooked, though it is nevertheless the main support of all the rest. In short, all depends upon the unity of the organism: and when the psychic life, having itself passed the embryonic stage, has taken shape, the mind may be compared to a rich piece of tapestry where the warp has completely disappeared, being in some instances lightly overlaid with figures, in others being embroidered in high relief; the psychologist who employs inner observation only, sees but the figures and the embroidered designs, and loses himself in a maze of conjecture as to what may underlie them; if he were but to change his position or to look at the reverse side, he would save himself many a useless induction, and would learn more.

The same thesis might be discussed under the form of a criticism of Hume. The Me is not, as Hume held, a mere bundle of perceptions. Without appealing to psychology, but confining one's self to simple ideological analysis, one observes here the omission of one important point, viz., the *relations* between the primordial states. Relation is an element vague in its nature, and hard to determine, since it does not exist by itself. Still, it is something more and something else than the two states which limit it. In Herbert Spencer's *Principles of Psychology* is found a searching study (too little noticed) of the elements of psychic life, with hypotheses as to their material conditions. Quite recently Mr. W. James has taken the question up again.* He compares the course of our consciousness with its uneven flow to the progress of a bird that alternately flies and perches. The resting-places are occupied by relatively stable sensations and images: the spaces passed over in flight are represented by thoughts of relations between the points of rest: the latter—the "transitive portions" are nearly always forgotten. It seems to me

* See *Mind*, Jan., 1884, p. 1 *et seq.*

that this is our thesis in another form—the continuity of the psychic phenomena by reason of a deep, hidden *substratum*, to be sought in the organism. In truth, that were a precarious sort of personality which should have no other ground, but consciousness, and this hypothesis is found wanting when tested by the simplest facts: as for instance when an explanation is asked of the fact that after a sound sleep of six or eight hours I unhesitatingly declare my identity. To refer the essence of our personality to a mode of existence (consciousness) that disappears at least during one-third of our life, is to offer a curious solution.

We therefore maintain, as we have elsewhere done with regard to memory, that individuality, in itself and such as it exists actually in the nature of things, is not to be confounded with individuality as it exists for itself in virtue of consciousness (personality). The organic memory is the basis of all the highest forms of memory, these being only its more perfect phases. The organic individuality is the basis of all the highest forms of personality, which are only its development. Of personality, as of memory, I hold that it is completed, perfected, by consciousness, not constituted by consciousness.

Although, in order to keep these remarks within due limits, I have carefully abstained from all digression, from criticism of opposite doctrines, and from exposition of points of detail, I must, in passing, point out one question which suggests itself naturally: Does the consciousness of our personal identity rest upon memory, or *vice versa?* One person will say, without memory I should be but a present existence incessantly renewed, and that does away with all possibility, however faint, of identity. Another will say, without a feeling of identity binding them together and impressing a character upon them, my recollections would not be mine: they would be foreign to me. Is it then memory which produces the sense of identity, or is it the sense of identity which produces memory? Neither! These are both *effects*, whose cause is to be sought in the organism: for on the one hand its (the organism's) objective identity is expressed in that subjective state which we call the sense of personal identity; and on the other hand, it is here (*i.e.* in the organism) that are enregistered the organic conditions of our recollections, and here too is found the basis of our conscious memory. The feeling of personal identity, as well as memory in the psychological sense, are effects whereof the one cannot be the cause of the other. Their common origin is in the organism, where identity and organic enregistration (*i.e.* memory) are one. Here we touch one of those mal-posited-questions which abound in the hypothesis of an entity-consciousness.

CHAPTER IV.

INTELLECTIVE DISTURBANCE.

In certain morbid states the traditional five senses are subject to serious perturbations, their functions becoming perverted or distorted. Do these "paræsthesias" and "dysæthesias" play any part in changes of personality? Before we examine this point, we have first to ask, what happens when one or more of the senses are suppressed? Is the personality then altered, maimed, or transformed? Experience seems to give answer in the negative.

Total loss of any sense may be either acquired or congenital. We will first consider the former case. We will set aside the two secondary senses, taste and smell, as well as touch in its several forms, allied as it is to the general sensibility; and we will consider only hearing and sight. Instances of acquired blindness and deafness are not rare: quite frequently they produce modifications of character, but such changes are not radical, and the individual remains the same. Congenital blindness and congenital deaf-muteness affect the personality more profoundly. Those who are deaf-mutes from birth, if they have to depend on their own resources and are not instructed in the deaf-mute language, remain in a state of mental inferiority. This has sometimes been exaggerated,* but it is nevertheless incontestable, and it is due to causes so often explained that there is no need to recall them here. The conscious personality falls below the normal stage: but in this case we have an arrest of development rather than an alteration of personality in the strict sense of the term.

As for those born blind, many of them, as we know, are clever and ingenious, and there is no ground for supposing in their case any diminution or alteration of

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* See on this point the facts reported by Kussmaul, *Die Störungen der Sprache*, VII. p. 16 *et seq.*

personality. However odd, to our minds, their conception of the visible world, which they image to themselves according to hearsay only, that does not seriously affect either the nature of their personality or the idea they have of it.

Take the case of Laura Bridgman—the most noted case of sense privation on record, a case minutely studied, and fully detailed.* Here we see a woman bereft at the age of two years of sight and hearing, almost entirely deprived of the senses of smell and taste, and possessing only the sense of touch. Doubtless very great credit is due to the painstaking and intelligent training which has fashioned her mind: nevertheless her instructors could not endow her with new senses, and her one sense of touch had to suffice for all purposes. Now Laura Bridgman is seen to possess an individuality of her own, and a clearly marked character, being of a kindly disposition, almost invariably good-humored, untiring in her efforts toward self-instruction: in short, she is a *person*.

Disregarding the innumerable details involved in the foregoing cases, we may safely conclude that congenital or acquired privation of one or more of the senses involves no morbid state of the personality. In the less favorable cases there is a relative arrest of development, which is remedied by education.

For those who hold the Me to be an exceedingly complex composite—and such do we hold it to be—every change, addition, or subtraction, in its constituent elements affects it more or less. But the aim of our analysis is precisely to distinguish, in these elements, what is essential from what is accessory. What the external senses (touch excepted) bring in is not an essential factor. The senses determine and circumscribe the personality; they do not constitute it. Were it not rash to trust to pure logic in questions of observation and experience, this conclusion might be deduced *a priori*. Sight and hearing are pre-eminently objective: they reveal to us what is without, not what is within. As for touch, a complex sense which many physiologists resolve into three or four senses, this, in so far as it makes us acquainted with the properties of the outer world—in so far as it is an eye for the blind—belongs in one group with sight and hearing; otherwise, it is only one form of the sense we have of our own body.

It may seem strange to say that paræsthesia and dysæsthesia, of which we are now to treat, *i. e.*, simple sensorial perturbations or alterations, disorganize the Me. Yet observation proves this, and reflection explains it. This work of destruction comes not from them alone; they are but an external episode of an internal disorder that lies deeper, and which affects the bodily sense (or cœnæsthesis). These sensorial disturbances are causes assistant rather than efficient. This the facts will show.

Alterations of personality with sensorial disturbances, but without noteworthy hallucinations, without loss of judgment, are found in certain morbid states. We select as a type the neurosis studied by Krishaber under the title "cerebro-cardiac neuropathy." It matters little whether or no this group of symptoms deserves to be regarded as a distinct pathological unit: that is a question for physicians. † Our investigation is not concerned with it.

First let us consider briefly the physiological disturbances whose immediate effect is to produce a change in the cœnæsthesis, or bodily sense. First, there are disorders of the circulation, consisting principally in an extreme irritability of the vascular system, due probably to excitation of the central nervous system, whence results contraction of the small vessels, ischæmia in certain regions, insufficient nutrition, and exhaustion. Then there is disordered locomotion, dizziness, a constant feeling of vertigo, unsteady gait as from intoxication, hesitating step, involuntary impulse to walk "as though moved by a spring."

Passing from interior to exterior, we find the sense of touch, which forms the transition from general sensibility to the special senses. Some subjects have a feeling as if they no longer weighed anything, or of being very light. Many lose all precise notion of resistance, and cannot by touch alone determine the shapes of objects. They believe themselves to be "apart from the universe": their body, as it were, surrounded by insulating media interposed between it and the outer world.

"There was formed," says one who was so affected, "a sort of murky atmosphere round

* See Mary Swift Lamson, *Life and Education of Laura Dewey Bridgman, the Deaf, Dumb, and Blind Girl.*

† Krishaber, *De la Neuropathie Cérébro-Cardiaque.* Paris, Masson, 1873.

about my person; nevertheless, I saw perfectly well that it was a clear day. The word 'murky' does not express my thought exactly: in German I should call it 'dumpf,' which means heavy, thick, dull. This sensation was not only visual, but cutaneous. The 'thick' atmosphere enveloped me; I saw it, felt it; it was as if I were surrounded by a bad conductor of some kind which insulated me from the outer world. I cannot tell you how impressive this sensation was: I felt as though I had been carried away to an immense distance from the world, and involuntarily I cried out aloud, 'I am far away, far away.' Still, I knew very well that I was not far away, and I remembered distinctly all that had happened to me: but between the moment before and the moment after my attack, stood an interval of immeasurable duration, a distance like that from earth to sun."

The sense of sight is always affected. To say nothing of slight disorders of vision (photophobia, amblyopia), some patients see all objects double: to others, all surfaces seem flat, and to them a man looks like a reliefless silhouette. For many patients, surrounding objects appear to shrink in size, and to retreat into immeasurable distance.

The troubles of the sense of hearing are of a similar nature. The patient does not recognize the sound of his own voice: it seems to come from far away, or to be lost in space, so that it never can reach the ears of those he is talking with; and their replies are no less difficult to hear.

If we bring together in thought all these symptoms (which are accompanied by physical pain, and by changes in the sense of taste and of smell) we find ourselves in presence of a group of internal and external sensations of a new character, united by their simultaneity in time, but more deeply united by the morbid state which is their common source. Here we see all the elements of a new Me: sometimes a new Me is formed. "I have lost consciousness of my being: I am no more myself"—such is the language of patients as reported by most observers. Some patients go farther and at times fancy themselves to be double; "A curious thought possesses my mind in spite of myself" said one patient, a civil engineer; "I believe myself to be double. I feel within me a Me that thinks and a Me that acts." (Krishaber, Obs. 6.)

This process of formation has been so well studied by Mr. Taine, that I need not do the work over again.

"One might best compare the state of the patient to the state of a caterpillar which, retaining all its ideas and all its recollections of the caterpillar state, should in an instant become a butterfly, with the senses and sensations of a butterfly. Between the old state and the new, between the first Me (that of the caterpillar) and the second Me (that of the butterfly) there is a deep cleft, a complete rupture. The new sensations find no anterior series with which to connect, the patient cannot interpret them, cannot use them: he does not recognize them, for him they are as unknown. Hence two strange conclusions, first, 'I am not'; the second, a little later, 'I am another.'" *

It is difficult for a sane, well-balanced mind to conceive of so extraordinary a mental state as this. The skeptical observer who looks at the matter from without, does not accept these conclusions, but the patient, who looks at it from within, finds them rigorously correct. For him this continual feeling of vertigo and intoxication is like a permanent chaos, in which the state of normal equilibrium and coördination either cannot exist or at least cannot endure.

If now we compare with the other more or less serious forms this change of the personality *a sensibus læsis*, we find that a new Me is not in all cases formed: when it is formed, it always disappears with the sensorial disturbances. It never supplants entirely the normal Me; there is an alternation between the two; the elements of the original Me retain so much cohesion that it resumes at intervals the supremacy. Hence the illusion—but which is not in the strict sense an illusion for the patient—that he is double.

As for the psychological mechanism by which he thinks himself double, that is explained by the memory. I have before endeavored to show that real personality, with its enormous mass of sub-conscious and conscious states, presents itself to our mind in an image or fundamental tendency which we call the *idea* of our personality. This vague conception (*schema*), which represents the real personality much as the general idea of "man" represents a man, or as the plan of a city represents that city, suffices for the ordinary needs of our mental life. In neuropathic patients there must be two images or *schemas* which succeed each other in the consciousness, as the physiological state gives precedence to the new Me or the old. But in the transition

* *Revue Philosophique*, vol. I., p. 289. See also *L' Intelligence*, 4th ed., vol. II., appendix.

from the one to the other, however sudden it may appear, there is a certain continuity. There is no absolute beginning of the one state of consciousness with absolute ending of the other, but with an hiatus, vacancy between. Like all states of consciousness, these have a certain duration: they occupy some portion of time, and the terminal end of one touches the initial end of the other. Nay they trench upon each other, while one is beginning the other still subsists, though vanishing: for a certain period they co-exist. In our opinion it is *during this period of co-existence or of transition*, that the patient thinks himself twain.

Finally it is to be observed that the sensorial disorders are only the result of a deeper disorder that is felt throughout the organism; and that consequently here again the bodily sense plays the principal part in the pathology of personality.

We can now understand how the congenital or acquired suppression of one or more of the senses leaves the personality intact at bottom, while momentary perversions of a less serious aspect transform it. Physiologically considered, we have in the first case a sum of nervous elements condemned to inertia either at their origin or in the course of the individual's life: here the personality is like a weak or a weakened orchestra, which however serves for all necessary purposes. In the second case all the nervous elements subsidiary to the impaired external senses, to muscular sensibility, and to organic and visceral sensibility, have undergone an unwonted modification: it is as with an orchestra in which most of the instruments have changed tone.

A natural transition from sense perceptions to ideas is seen in hallucinations, and we have now to consider the part played by these in anomalies of personality. Let us at the outset recall some general considerations touching the hallucinatory state.* Four hypotheses have been offered to explain it.

1. The peripheric or sensorial theory, which finds the seat of hallucinations in the sense-organs.

2. The psychic theory, which localizes it in the center of ideation.

3. The mixed, or psycho-sensorial theory.

4. The theory which refers hallucination to the perceptive centers of the cortical layer.

Observation teaches us that hallucinations affect now one sense only, again several senses; that usually they extend to both sides of the body, less often to only one side—right or left indifferently; more rarely still they are bilateral but at the same time present a different character at each side: thus one ear may be assailed by threats, abuse, evil counsels, while the other may hear only words of comfort; or one eye may see only things depressing and repugnant, while the other may see gardens full of flowers. The latter cases, those at once bilateral and contradictory, are most interesting for us.

Fortunately we have to explore only a very restricted area of this immense domain. Let us clearly define our subject. In the normal state the individual that senses and thinks is adapted to his environment. Between the group of internal states and relations that constitute the mind, and the group of external states and relations that constitute the outer world, there exists a correspondence, as Herbert Spencer has shown in detail. In the hallucinate this correspondence is destroyed: hence false judgments and senseless acts, that is non-adapted acts. Nevertheless all this constitutes a disease of the reason, not of the personality. No doubt the Me suffers an impairment, but as long as the *consensus* which constitutes it has not disappeared, and has not split in two, or has not alienated a part of itself (as we shall see later) there is no proper disease of personality and the disorders are secondary and superficial. Consequently we may leave out of consideration the immense majority of cases of hallucination.

Neither need we take account of the large number of patients who misapprehend others' personalities—who take the physicians and the nurses in the asylum for their own relatives, or who take their own relatives for the imaginary personages of their ravings.†

The ground being thus cleared, the cases that remain to be studied are not

* For a full exposition of the question see Binet's important articles in the *Revue Philosophique*, April and May, 1884.

† For some patients the same individual is alternately transformed into an imaginary personage and kept in his real personality. A woman patient would now recognize her husband, again would take him for an intruder. She had him arrested by the police, and he had much trouble in proving his identity.

very numerous, comprising only changes of personality with their basis in hallucination. Nearly always there is simply an *alienation* (in the etymological sense) of certain states of consciousness which the Me does not consider as its own, which it makes objective, which it sets outside itself, and to which it at last attributes an actual existence independent of its own.

As regards hearing, the history of religious insanity furnishes many instances: I will cite the simpler cases, those in which the hallucinatory state stands alone at first. A woman was beset by an inner voice "which she heard only in her ear," and which made opposition to whatever she herself willed. The voice was ever for evil, while the patient willed the good. It would at times cry out to her though it could not be heard externally "Take your knife and kill yourself." Another woman, subject to hysteria, at first uttered words that she did not intend to utter, and soon she began to express these alien thoughts in a voice different from her ordinary voice. At first this voice made remarks of an ordinary tenor or not inconsistent with reason: afterward it assumed a habit of negation.

"To-day, after thirteen years, the voice simply confirms what the patient has just said, or comments upon her words, criticises them, ridicules them. The tone of this voice, when the 'spirit' speaks, always differs a little and sometimes differs totally from the patient's ordinary voice, and hence it is that she believes in the reality of the spirit. I have myself often observed these facts." *

As regards sight, aberrations of this kind are less frequent. "A very intelligent man" says Wigan (page 126), "had the faculty of bringing before himself his own double. He would laugh heartily when the double appeared, and the double would laugh too. This was for a long time a matter of amusement for him but the final result was pitiable. The man gradually came to believe that he was haunted by himself. To put an end to this wretched life he arranged his affairs, and unwilling to enter on another year, at midnight of Dec. 31 he shot himself with a pistol in the mouth."

Finally, Dr. Ball † describes the case of a young man who, while traveling in South America had a sunstroke which "left him very ill: he was unconscious for a month. A few days after having regained his senses, he heard distinctly a man's voice perfectly articulated, uttering the words, 'How are you to-day?' The patient answered and a short conversation ensued. The next day the same question was repeated. This time the patient looked about, and could see no one in the room. 'Who are you?' he said, 'I am Mr. Gabbage,' answered the voice. Some days later the patient had a glimpse of his interlocutor, who thenceforward presented the same features and dress. He saw him always from the front, but only his bust; he always wore a hunting costume, and had the look of a vigorous and well built man of about thirty-six years, with a heavy beard; complexion dark, eyes large and black, and eyebrows strongly marked. Impelled by a justifiable curiosity, our patient would fain know the calling of his questioner and how and where he lived, but the man never consented to tell more about himself than his name."

At last Gabbage grew more and more exacting, ordering the young man to throw into the fire his newspaper, his watch and chain, to poison a young woman and her child, to throw himself out of a third-story window, etc.

In these facts we see the beginning of a *dissolution of personality*. We will further on cite other cases not having their ground in hallucination, and which will enable us better to understand these. That coördination more or less perfect which in the normal state constitutes the Me, is here partially broken up. In the group of states of consciousness which we feel to be our own because they are produced or experienced by ourselves, there is in such cases one which, though it has its source in the organism, does not enter into this *consensus*, stands apart, appears as though foreign to it. Here we have in the order of thought the analogon of irresistible impulse in the order of action—a partial incoördination. ‡

Certainly these voices and these visions emanate from the patient: why then does he not regard them as his own? It is a difficult question but I will endeavor to answer it. There must exist anatomical and physiological causes which would solve the problem, but unfortunately they are hidden from us.

* Griesinger, *Mental Diseases*, French trans. p. 285. Baillarger reports a similar case in the *Annales Médico-Psych.*, 1st. series, vol. VI. p. 151.

† *Cerebral Dualism.* See HUMBOLDT LIBRARY No. 87. p. 31.

‡ With regard to irresistible impulse as a phenomenon of partial incoördination, see *Diseases of the Will, Chapter* III. (HUMBOLDT LIBRARY No. 52.)

Being ignorant of the causes, we can view only the surface, the symptoms, the states of consciousness, with the signs which interpret them. Take then a state of consciousness (with its organic conditions) having this special character of being local, *i. e.*, one that has the faintest possible relation to the physical and psychic organization. To make my meaning clear by antithesis, take a violent, sudden emotion: it reverberates everywhere, stirs the whole life, physical and mental: there is thorough diffusion. Our case is the reverse of this. Organically and psychically, it has but few connections, and these precarious, with the rest of the individual. It is outside, like a foreign body lodged in the organism, and not sharing in its life. It does not enter the general sensibility (cœnæsthesis) which maintains and unifies the whole. It is a cerebral phenomenon almost without a support, like the thoughts imposed by suggestion in hypnotism. What gives force to this attempt at an explanation is the fact that the morbid state, unless it be removed by nature or by medical treatment, has an irresistible tendency to expand and grow strong at the expense of the original personality, which begins to decline, preyed upon by this parasite. Nevertheless, in this case it retains its original character: it does not constitute a duplication of personality but an alienation.

I offer this effort toward an explanation only as an hypothesis, well aware that our ignorance of the organic conditions of the phenomenon makes definitive proof impossible. In presenting this explanation I have had to anticipate what will later be said with regard to ideas, and which will perhaps furnish us with new arguments in favor of our hypothesis.

We come now to speak of recent experiments on hallucinations; these, in conjunction with other facts, have led certain authors to offer an explanation of double personality so simple as to be palpable, so to speak. These authors show first the functional independence of the two hemispheres of the brain, and thence infer that from their synergy results equilibrium of the mind, but from their disaccord sundry perturbations and finally scission of the psychic individual. There are here two distinct questions that are clearly recognized by many of the authors we are about to quote, but which have been confounded by others.

A physician of note as a psychologist, Sir Henry Holland, was the first to study in 1840, the brain as a double organ, and to suggest that certain mental aberrations might be due to ill-regulated action of the two hemispheres, seeing that, in some cases, the one seems to correct the perceptions and the feelings of the other. In 1844 Wigan went farther, holding that we have two brains, not one brain, and that "the corpus callosum, instead of being a bond of union between them, is a wall of separation."* Later progress in brain anatomy yielded more positive results, showing the inequality in weight of the two lobes of the brain, their constant asymmetry, differences in the topography of the cortex, etc. Broca's discovery of the seat of aphasia was a new argument of great value. It was further supposed that the left hemisphere might be the principal seat of intelligence and will, while on the right hemisphere would devolve more especially the life of nutrition (Brown-Séquard). I condense this account, which else might be long, to come at once to hallucinations. The occurrence simultaneously of contradictory hallucinations—joyous and sad—attracted the attention of observers. There was something better than observation, too—experimentation; and hypnotism made this possible. The hypnotized subject has three phases: the lethargic, characterized by nervo-muscular excitability; the cataleptic, produced by raising the eyelids of the subject; the somnambulic, caused by pressure on the vertex. If during the cataleptic state we lower the right eyelid, we thereby act upon the left brain, and determine a lethargic state of the right side only. Hence the subject finds himself as it were divided in twain: he is hemilethargic on the right side, hemicataleptic on the left. I take from Richer's well-known work an account of what takes place.

"I set upon a table a pail of water, a basin, and soap. As soon as the patient s eye is drawn to these objects, or her hand touches one of them, apparently quite of her own accord she pours water into the basin, takes the soap, and washes her hands with scrupulous

* Wigan, *The Duality of Mind Proved by the Structure, Functions, and Diseases of the Brain, and by the Phenomena of Mental Derangement, and shown to be Essential to Moral Responsibility.* London, 1844. This ill-compacted work does not bear out the promise of its title.

care. If now we close the lid of one of her eyes, the right for instance, the whole right side becomes lethargic, and the right hand is stayed, while the left hand continues to perform its movements. Raise the eyelid again, and both hands resume their action as before." The same thing occurs with the left side. "Put in the patient's hands the box containing her knitting, and she will open it, take out her work, and knit away with remarkable skill. Close one of her eyes, and the corresponding hand stops, the arm falling inert to her side, while the other hand strives to continue, unaided, a work that now is impossible. The mechanism keeps on working on one side, but it modifies its motions in order to make them effective."

The author recounts several instances like this: I will cite only the last one, because it confirms Broca's experiment. One places in the subject's hands an open book directing her gaze upon one of the lines. She begins to read.

"During the reading, if you close the right eye—and by the decussation of the optic nerves, it is the left brain that is now affected—she stops short in the middle of a word or of a phrase. When the right eye is opened again, she forthwith completes the interrupted word or phrase. If on the other hand the left eye be closed, she continues her reading, hesitating a little because she is amblyopic and achromatopsic in the right eye."*

These experiments may be varied. A different attitude is given to the members of each side of the body: then the subject shows, on one side, the expression of one giving a command, on the other, that of one that is smiling and sending kisses. We can produce the hallucinatory state on the right side only, or on the left side only. Or let two persons approach the ear of the subject; one, on the right, speaks of the fine weather, and there is a smile on the right side of the subject's countenance: the other, on the left, tells how it rains, and the left side manifests dissatisfaction, while the labial commissure falls. Or again, while one is suggesting through the right ear the hallucination of a *fête champêtre*, let another at the opposite ear imitate the barking of a dog: then the right side of the face expresses pleasure, the left uneasiness.

These experiments (of which we give only the baldest summary), together with many other facts, lead inevitably to the conclusion that the two hemispheres are *relatively* independent; that this does not at all contradict their normal coördination; but that in certain pathological cases this relative independence may become an absolute dualism.

Some authors go farther, and hold that this cerebral dualism suffices to account for all disaccord in the mind, from mere hesitation in choosing between two things, to complete duplication of personality. If we simultaneously will the good and the bad; if we have criminal impulses and a conscience that condemns them; if the insane at times are conscious of their insanity; if the delirious have lucid moments; if finally some individuals believe themselves to be double, the reason is simply that the two hemispheres are in disaccord: the one is sane, the other morbid: one state prevails in the right brain, its opposite in the left—a sort of psychological manicheism.

Griesinger, on encountering this theory, for it was put forward timidly in his day, having cited the facts supposed to make in its favor, and having described the case of one of his patients who "was conscious that he was out of his mind on one side of his head, the right," concludes in these words: "As for me, I am not in the least disposed to accord any great weight to these facts." Have they gained in cogency since? It is very doubtful. In the first place, since the theory rests on the question of number, are there not individuals who believe themselves to be triple? I find at least one case. "I have met," says Esquiros, "in an institution for the insane a priest who, having applied his mind too intently to the mystery of the Holy Trinity, came at last to see around him triple objects. He fancied that he himself was in three persons, and wanted to be served at table with three covers, three plates, three napkins."† Other cases could, I suppose, be found, were one to search for them: but I do not care to take advantage of this case of triplicity, for it is susceptible of many interpretations. The theory in question is opposed by stronger reasons, based upon familiar facts. Its ultimate ground is the perfectly gratuitous hypothesis that the contest is always between *two* states only. This is flatly contradicted by experience. Who is there that has never found himself hesitating between doing this and doing that and refraining from acting at all? between making a journey northward or

* P. Richer, *Etudes Cliniques sur l' Hystéro-Epilepsie*, p. 391.

† *Revue des Deux Mondes*, 15 Oct., 1845, p. 307.

southward, or remaining at home? Many a time in our lives does it happen that we have to make our choice between three alternatives each one of which necessarily excludes the other two. Where shall we locate the third? for under that strange form the question has been raised.

In some cases of congenital atrophy of the brain which appear to be confirmed by authentic observations, we find individuals possessing from infancy only one cerebral hemisphere, yet their intellectual development has been up to the ordinary standard, and they have been like other human beings. * In such individuals, according to the hypothesis we are combating, there could have been no interior conflict. But it is needless to pursue this criticism further, and I content myself with recalling Griesinger's remark upon a verse in Faust. Not two souls only, but many souls dwell within us.

Idle indeed were this discussion if it did not afford us a view of our subject under a different aspect. These contradictions within the personality, this partial scission in the Me, such as we see them in the lucid moments of insanity and delirium, or in the self-condemnation of the dipsomaniac while he raises the cup to his lips, are not oppositions in space (of one hemisphere against the other) but oppositions *in time*. To borrow a favorite expression of Lewes's, they are successive "attitudes" of the Me. This hypothesis accounts for everything that is explained by the other and besides it explains what that does not.

If one is fully imbued with the idea that personality is a *consensus*, one will easily see how the mass of conscious, sub-conscious, and unconscious states which make it up may at a given moment be summed up in a tendency or a predominant state which, for the person himself and for others, is its expression at that moment. Straightway this same mass of constituent elements is summed up in an opposite state which has become predominant. Such is our dipsomaniac, who drinks and who condemns himself. The state of consciousness predominant at a given moment is for the individual himself and for others his personality.

Clearly three states or more may succeed one another (co-exist apparently) by the same mechanism. We are no longer restricted to the number two. True, it must be admitted that this inner scission occurs more frequently between two contrary states than between three or more. This is owing to certain conditions of consciousness which we must recall.

Is there actual co-existence of two states of consciousness, or only so rapid a succession of one to the other as to resemble simultaneousness? The question is a very difficult one and has not yet been settled, though it will perhaps one day be settled by the psycho-physicists. Hamilton and others have maintained that we may have as many as six impressions at once, but their conclusion is grounded on very inexact observations. The determination of the duration of states of consciousness by the rigorous processes of physics is a great step in advance. Wundt has endeavored to go further, and to determine by experiment what he justly calls the extension of consciousness (*Umfang des Bewusstseins*), that is, the maximum number of states that it can simultaneously contain. His experiments have had to do only with exceedingly simple impressions (the strokes of a pendulum at fixed intervals punctuated by strokes on a small bell) and therefore they are not in all respects applicable to the complex states we are considering. He finds that "twelve representations form the maximum 'extension' of consciousness in the case of successive relatively simple states." † Experience then, seems to pronounce in favor of a very rapid succession, equivalent to a co-existence. The two, three, or four contrary states would be at bottom a succession.

Further, we know that, to use a comparison that is often employed, consciousness, like the retina, has its "blind spot." Distinct vision is but a small portion of the total vision. Distinct consciousness is only a small portion of the total consciousness. Here we hit the natural, the incurable cause of that illusion whereby the individual identifies himself with his existing state of consciousness, particularly when the same is intense; and of necessity this illusion is far stronger for himself than for others. We see also why (apparent) co-existence is easier for two contrary states than for three; and far easier than for a larger number. This fact is due to the limitations of the consciousness. As we said

* Cotard, *Etude sur l' Atrophie Cérébrale*, Paris, 1868. *Dict. Encyc. des Sciences Médicales*, art. CERVEAU, pp. 298, 453.

† *Grundzüge der Physiol. Psychologie*, 2d ed., vol. II., p. 215.

before, there is an opposition in time, not in space.

In short, the relative independence of the two hemispheres is not open to doubt: neither may we doubt that the personality is perturbed by disaccord between them. But to reduce the whole matter to a simple division between the left side and the right is an hypothesis not supported by any weighty argument.

A few words with regard to memory. We have no occasion to study memory separately, for it pervades our subject everywhere. Personality, in fact, is not a phenomenon but an evolution; not a momentary thing but a history; not a present nor a past but both. We will not consider what I may call the objective, intellectual memory—the sense perceptions, images, experiences, cognitions stored up within us. All these may disappear, in part or wholly, through diseases of memory, of which we have given many illustrations elsewhere.* We will consider now only the subjective memory—memory of ourselves, of our physiological life and of the sensations or feelings that accompany it. This distinction is purely artificial, but it will enable us to simplify matters.

First, does such a memory exist? One might say that in the perfectly healthy individual the vital tone is so constant that the consciousness he has of his body is but a present ever repeated: but this monotony, if it exists, by excluding consciousness would on the other hand favor the formation of an organic memory. As a fact there are always going on changes—inconsiderable they may be—and as we are conscious only of differences, these are felt. So long as they are faint and partial the impression of uniformity persists, because actions that are continually repeated are represented in the nervous system far more enduringly than ephemeral changes. Consequently the memory of them is organized beneath consciousness, and it is hence all the more firmly based. Here we see the groundwork of our identity. These slight changes act in the long run, producing what is called an insensible change. After ten years of absence, an object, say a monument, is the same to the eye, but it is not the same as regards feeling and sentiment: here it is not the faculty of sense perception but its accompaniment that has changed. But we have here the state of sanity and health—the simple transformation that is natural to everything that lives and that evolves.

Such is organic memory, such its habit. But now let certain disturbing causes intervene of which we can demonstrate the effects, subjective and objective. There is produced a profound and sudden, or at least a rapid and persistent transformation of the cœnæsthesis. What is the result? Experience alone can tell, for in our ignorance of the causes we are reduced to simple empiricism. In extreme cases—and we will not notice others—the individual is changed. His metamorphosis occurs in three principal forms, as regards the memory,

1st. The new personality, after a longer or shorter period of transition, alone remains, the original personality being forgotten (Leuret's patient). This case is rare. It supposes the former cœnæsthesis completely done away, or at least forever inactive and incapable of resuscitation. When it is considered that *absolute* transformation of personality, *i.e.*, substitution of one personality for another—substitution complete, unreserved, without a link to connect the present with the past—presupposes a radical and thorough transformation in the organism, one is not surprised to find that it occurs but rarely. I am not aware of any case where the second personality has not inherited at least some small share of the effects of its predecessor—at the very least certain acquired faculties that have become automatic, as the power of walking, talking, and the like.

2d. Usually beneath the new bodily sense (cœnæsthesis) that has become organized and has become the groundwork of the exsiting Me, the old organic memory persists. From time to time it returns to consciousness, weak and faint like some memory of childhood that repetition has not reawakened. Probably this reviviscence is caused by some remainder of the old organic memory that is common to the two: the individual then seems another. The existing state of consciousness evokes a like one, but this has another accompaniment. The two seem *mine* though contradictory of each other. Such is the case with patients who find that everything is as it ever was, and yet that all is changed.

3d. Finally, there are cases of alternation. Here the two subjective memories

* *Diseases of Memory* (HUMBOLDT LIBRARY No. 46.)

—the organized expression of the two cœnæstheses—persist, both in turn becoming predominant. Each is attended by, and sets in action a group of feelings and of physical and intellectual aptitudes that do not exist in the other. Each forms part of a separate *complexus*. The case reported by Azam is a good illustration of two memories alternating.

We can add nothing more without repeating what we have already said, or without heaping up hypotheses. Our ignorance of the causes stops us short. The psychologist is here like the physician who has to deal with a disease of which he can make out only the symptoms. What physiological influences are they which thus alter the general tone of the organism, consequently of the cœnæsthesis, consequently too of the memory? Is it some condition of the vascular system? Or some inhibitory action, some arrest of function? We cannot say. So long as this question remains undecided we are still only at the surface of the matter. Our purpose has simply been to show that memory though in some respects it may be confounded with personality, is not its ultimate basis.

Even in the normal state the same physical situation has a tendency to recall the same mental situation. I have often observed how, on falling asleep, a dream of the preceding night till then forgotten comes back to memory in great detail and very distinct. In traveling, when I leave one town to sleep in another, this recurrence of the previous night's dream sometimes takes place, but then the dream comes back piecemeal, disjointed, and hard to reconstruct. Is this the effect of the physical conditions, in one case alike, in the other slightly different? Though I have not seen this fact mentioned in any work upon dreams, I do not suppose it to be peculiar to me.

But there are certain familiar facts that are more conclusive. In somnambulism, whether natural or induced, the occurrences of preceding states of the same kind that are forgotten during wakefulness come back in the hypnotic state. Of this we have an illustration in the well known case of the porter who while intoxicated mislaid a parcel: on becoming sober he was unable to discover it, but he found it on getting drunk again. Do we not here see a tendency to the formation of two memories, one normal, the other pathological, the two pertaining to two distinct states of the organism, and constituting as it were the embryonic forms of the extreme cases already mentioned?

We have already shown in a general way the *rôle* of ideas in the transformation of personality. It remains to observe this new factor in operation and to ascertain what results it produces *per se* and distinctively. Of the many elements whose *consensus* constitutes the Me, none perhaps can be so easily isolated and studied apart. But we must guard against an ambiguity in terms. For the conscious individual the idea of his personality may be an effect or a cause; a result or a prime factor, a point of arrival or a point of departure. In the normal state it is always an effect, a result, a point of arrival. In the morbid state it is both an effect and a cause. In many of the instances already cited we have seen organic perturbations, whether affective or sensorial, produce such a feeling of exaltation or of depression, that the individual believes himself to be a god, a giant, a great man, or on the other hand a mere automaton, a phantom, a dead man. Clearly these erroneous ideas are a fairly logical conclusion from the inner transformation of the individual—the ultimate formula expressing it. There are other cases of a contrary nature, where the transformation of personality comes not from below but from above; where it is not completed in the brain but where it begins in the brain; and where accordingly the idea is, not a conclusion, but a premise. No doubt it were rash to assert that in many instances where an erroneous idea becomes the starting-point for a change in the Me, this has not underlying it and before it in time an organic or an affective perturbation. Indeed it must be affirmed that such is the case always; even in the hypnotized subject, in whom the personality is changed by suggestion. Between the two forms of metamorphosis indicated above there exists no clear line of demarkation: the term "ideal metamorphosis of personality" is only an *a priori* denomination. Having made this reservation, we will now examine this new aspect of our subject, starting as usual from the normal state.

A very common occurrence is the engrossment of the personality by an intense fixed idea. So long as this idea occupies the consciousness it is hardly an exaggeration to say that it is the individual. When a man is wrestling con-

tinually with a problem, or intent on working out an invention, or bending his energies toward the production of some original work in any field, his entire mental resources, his whole personality, are drawn upon for the benefit of one idea. In such cases, a man is overmastered by his dominant idea, that is, he is an automaton: he is in an abnormal state; there is a disturbance of equilibrium. Of this we have proof in the innumerable anecdotes that are current the world over about inventors, whether well balanced or half-crazed. And it may be remarked in passing that a fixed idea is a fixed sentiment, or a fixed passion. The fixed idea gets its intensity, its stability, its tenacity from some longing, some emotion of love or hatred, some consideration of gain. Ideas are ever servitors of the passions, but they are like those masters who always obey the while they think they command.

So far we have no change of personality, but only simple deviation from the normal type, or better, the schematic type, where *ex hypothesi* the organic, the affective, and the intellective elements produce a perfect *consensus*. There is hypertrophy at one point, atrophy at other points, conformably to the law of compensation. Let us consider morbid cases. Outside of the artificial alterations produced during hypnotism it is difficult to find any great number of cases in which the starting-point is indisputably an idea. But I think I am justified in classing among changes of personality having their source in the intellect the phenomena of lycanthropy and of zoanthropy; once so common, now rare. At all events, in every instance of which we have authentic record * the mental debility in the *lycanthrope* is so great, and so near akin to stupidity, that one is disposed to see here a case of reversion, of return to the purely animal individuality. We may add that as these cases are complicated with disorders of the viscera, and with hallucinations of touch (*cutanées*) and of sight, it is not easy to decide whether they are the effects of a preconceived idea, or whether they themselves produce it. Still it must be remembered that lycanthropy has sometimes been epidemic, that is, it must have begun, at least among the imitators, with a fixed idea. Finally, this particular malady disappeared when men had ceased to believe in it—when the thought that he was a wolf could no longer find a lodgment in a man's brain.

The only perfect instances of transformation of the personality by ideas (*transformation idéale*) are those already mentioned, where men believe themselves to be women, and *vice versa*, without presenting any sexual anomaly that could account for this metamorphosis. The influence of an idea appears also to be initiative or preponderant with the possessed, demoniacs. It often acts upon the exorcist by contagion. To cite one instance of this, Father Surin, so long mixed up with the well-known doings at the Loudun Ursuline nunnery, was convinced that he had two souls, and sometimes, as it would appear, even three.†

In short, transformation of personality through the dominance of an idea are not very frequent, and this affords new proof of what we have again and again repeated: that personality comes from the more fundamental psychic elements. In the higher nerve centers it attains its unity and there does it come to full consciousness of itself, there it reaches perfection. If by a mechanism acting in the reverse direction it proceeds from above downward, the result is superficial, precarious, momentary.

Of this we have a demonstration when artificial personalities are produced in hypnotized subjects. The observations of Ch. Richet on this subject are full and conclusive.‡ I will sum them up briefly.

* See Calmeil, *De la Folie Considérée sous le Point de Vue Pathologique, Philosophique, Historique, et Judiciaire*, vol. 1, book 3, chap. 2, and book 4, chap. 2.

† He has left us a detailed account of his mental state in his *Historie des Diables de Loudun*, p. 297 *et seq.*: "I cannot describe to you what passes within me during this time [*i. e.*, when the demon passes from the body of the possessed nun into his body] and how this spirit unites with mine, without depriving me either of the cognition or of the liberty of my soul, nevertheless making himself like another *me*, and as though I had two souls whereof one is dispossessed of its body and of the use of its organs and stands aside, looking on while the intruder makes herself at home. The two spirits fight on one field, which is the body, and the soul is as it were divided in twain: in one part of her, she is the subject of the diabolic impressions: in the other, she is the subject of the motions that are proper to her or that God gives her. When I would, by the motion of one of these two souls, make the sign of the cross upon my lips, the other turns my hand away very rapidly, and seizes my finger with the teeth to bite it in its rage. * * When I would speak my speech is checked; at the mass I am stopped quite short; at the table I cannot raise a morsel to my mouth; at confession, I suddenly forget my sins, and I feel the devil going and coming within me, as in his own house."

‡ *Revue Philosophique*, March, 1883. He gives some later observations in his work, *L'Homme et l'Intelligence*. See also Carpenter, *Mental Physiology*.

The hypnotized subject (usually a woman) is made to believe herself to be, now a peasant, again an actress, or a general, an archbishop, a nun, a sailor, a little girl, and so forth; and she acts her part without any misgiving. Here the psychological data are perfectly clear. In this state of artificially produced somnambulism the real personality is intact; the organic, affective, and intellectual elements have undergone no considerable alteration, but they all remain *in posse*. A certain not well understood state of the nerve centers, an arrest of function, prevents them from passing into act. By suggestion an idea is evoked; instantly by the mechanism of association, this awakens analogous states of consciousness, and no others, and in connection with them—always by association—the appropriate gestures, acts, speech and sentiments. In this way is constituted a personality external to the real personality, made up of borrowed elements and depending on automatism. This experiment shows what an idea may do when freed from control by other ideas, but at the same time reduced to its own sole forces, and no longer supported and aided by the totality of the individual.

In some cases of imperfect hypnotism dualism is produced. Dr. North, professor of physiology in the Westminster Hospital, says, in speaking of the period of hypnotization when he was being influenced by the fixing of the gaze.—"I was not unconscious, but it seemed as if I lived as two beings. I fancied that an inner Me was alive to all that was passing, but that it took no part in the acts of the outer Me, nor had any care to control them. The repugnance or the inability of the inner Me to direct the outer Me seemed to increase as the situation was continued."*

Can this inner personality—the true personality—ever be entirely suppressed? Can the individual's proper character be reduced to nought, so as to be transformed into its opposite? No doubt it can: the operator, by persistent enforcement of his authority, succeeds in doing this, after more or less resistance. Richet impressed upon a woman who was a very strong Bonapartist strict republican convictions. Braid having hypnotized a "teetotaler," whose sobriety was without reproach, assured the man again and again that he was drunk. "This assertion was strengthened by a feeling of staggering (produced by muscular suggestion) and it was amusing to see the man wavering between this imposed idea and the conviction resulting from his habits." This momentary metamorphosis however is perfectly innocuous. As Richet justly remarks:—"In these curious modifications what changes is simply the outer form, the habits and general demeanor, and not the individuality proper." As for the question whether by repeated suggestions to susceptible subjects, we might be able at length to produce a modification of the character. that is a problem to be solved by experiment alone, and that is beyond our present purpose.

Here perhaps is the place to note the fact of the *disappearance of personality*, a phenomenon that has been described by the mystics of every age, according to their own experience, and often in elegant language.† The pantheistic meta-

* Hack Tuke, *On the Mental Condition in Hypnotism*, published in the *Journal of Mental Science*, April, 1883. We have also in this article the case of a physician who, during a troubled slumber after some twenty hours of climbing among the Alps, dreamt that he was twain: one Me had died, the other was making the autopsy. In some cases of intoxication and of delirium, the psychic coördination disappears, and there is a kind of scission of the personality in two. See the articles by Dr. Azam on changes of personality (*Revue Scientifique*, Nov. 17, 1883) and of Dr. Galicier (*Revue Philosophique*, July, 1887). Taine gives a curious case of semi-pathological incoördination:—"I have seen a person who, while singing or talking writes, without looking at the paper, consecutive phrases, even whole pages, quite unconscious of what she is writing. In my opinion she is perfectly sincere, yet she declares that when she comes to the end of the page she has no idea what she has set down on the paper. On reading it she is amazed, sometimes alarmed. The handwriting differs from her ordinary style. The movement of the fingers and of the pencil is stiff and seems automatic. The writing always ends with a signature, the name of one who is dead and it bears the impress of a mental background [*arrière-fond mental*] that the author would be unwilling to divulge." (*De l'Intelligence*, 3d edition, preface).

† I will quote only one of these descriptions, and that one because by its style of language and its date it comes nearest to our own time. "I seem to have become a statue on the banks of the stream of time, and to be assisting at some mystery, whence I shall go forth aged or ageless. I feel myself to be without name, impersonal, with the staring eyes of a corpse, with mind vague and universal like nothingness or the absolute: I am in suspense, I am as if non-existent. In such moments it seems to me that my consciousness withdraws into its eternity * * * it sees itself in its very essence, superior to every form containing its past, its present, and its future [sees itself as the] void which encompasses all, an atmosphere (*milieu*) invisible and fecund, the virtuality of a world which detaches itself from its own existence to regain itself (*se ressaisir*) in its pure inwardness (*intimité pure*). In those sublime moments the soul re-enters herself, goes back again to indetermination; she becomes *retro-voluted* (*Sit venia verbo*. The original has *s'est réimpliquée*. Translator) beyond her own life, she becomes again a divine embryo. All is ef-

physicians, too, without attaining to ecstasy, speak of a state in which the mind thinks of itself "under the form of eternity," appears to itself as outside of time and space, as free from all contingent modality and forming one with the infinite. This psychological situation, though infrequent, must not be forgotten. To me it seems as an absolute engrossment of the mental activity by a single idea (in the mystics a positive one, negative in the empirics) which idea, from its high degree of abstractness, and from its being exempt from all determination and limitation, contradicts and excludes all feeling of individuality. Let but one sensation, however commonplace, intervene, and the illusion disappears. This state is neither above the personality nor below it, but without and beyond.

To sum up, the states of consciousness called ideas are only a secondary factor in constituting personality and in changing it. Ideas play their part, but it is not a predominant one. These results do not agree with the time-honored teachings of psychology. Ideas have an objective character: hence they cannot express the individual as do his desires, his feelings, his passions.

CHAPTER V.

DISSOLUTION OF PERSONALITY.

To complete our review of the facts, we have yet to treat of alterations of personality in progressive dementia caused by old age, general paralysis, and all other morbid causes. If in the normal state personality is a psycho-physiological coördination of the highest degree possible, which endures amid perpetual changes and partial and transitory incoördinations (such as sudden impulses, eccentric ideas, etc.), then dementia, which is a progressive movement toward physical and mental dissolution, must manifest itself by an ever increasing incoördination till at last the Me disappears in absolute incoherence, and there remain in the individual only the purely vital coördinations—those best organized, the lowest, the simplest, and consequently the most stable, but these in turn disappear also. And it is perhaps in these states of progressive and inevitable dissolution alone that we find instances of double personality in the strict sense, that is, of *co-existent* personalities. In the course of this work we have seen cases of successive personalities (cases mentioned by Azam, Dufay, Camuset); of a new personality supplanting another that is forgotten or thrust out and held to be extraneous and foreign (the case cited by Leuret, and that of the soldier of Austerlitz); of an invasion of the normal personality by unwonted sensations which it resists with more or less success, and which *at times*, and *momentarily* lead the patient to think himself twain (cases noted by Krishaber, etc.) But in the subjects of dementia disorganization becomes organized: the demented are double in personality, think themselves double, act as double personalities. This admits of no doubt. They retain no trace of that indecision which, in the numerous cases we have cited, shows that the normal personality (or what remains of it) possesses some remainder of strength which, weeks or months later, will insure its return. To the demented it seems as natural to be double as to us to be of one personality. Such individuals have no skepticism as to their own state and do not regard the opinions of others. Their mode of being, given to them by their consciousness, seems so clear to them, so evident, as to be above all question. This point is worthy of notice because it shows in these morbid forms of personality, that spontaneousness of affirmation and of action which is characteristic of every natural state. Here are two cases of this kind:

A retired soldier, D——, who afterward was a police sergeant, having been several times struck on the head, lost his memory by degrees, and at last was sent to an asylum. His mind becoming more and more affected, at last he came to think himself double.

"In talking he always uses the pronoun *we*: *we* will go, we have made a long march, etc. He uses this form of speech, he says, because there is another with him. At the table he says, 'I have had enough, but the other is still hungry.' Sometimes you see him running, and if you ask why, the answer is that he would rather sit still, but 'the other' makes him run. One day he attempted to choke a child to death, saying it was not himself but 'the other' that was to blame. At last he attempted his own life to

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faced, dissolved, dissipated, resumes the primordial state, is immersed again in the original fluidity without form, or angles, or fixed contours. This state is contemplation, not stupor: it is neither painful, nor joyous, nor sad; it is beyond all special feeling and sentiment, as it is beyond all finite thought. It is the consciousness of Being (*l'être*) and the consciousness of the omnipossibility latent in the depths of that Being. It is the sense of spiritual infinitude." Amiel, *Journal Intime*, 1856.

slay 'the other,' whom he supposes to lie hid in the left side of his body. Hence he calls 'the other' the left D—— while he himself is the right D——. This patient soon fell into dementia."*

A case reported by Langlois exhibits a still lower grade.

"The man G—— is imbecile, loquacious, with no hesitation in utterance, no paralysis of the limbs, and no disturbance of the cutaneous sensibility. Though he talks continually he does but repeat the same stereotyped phrases. He always speaks of himself in the third person, and almost every morning greets us with 'G—— is sick, he must go to the infirmary.' Often he goes upon his knees, and gives himself a sound pummeling; then bursts out laughing, and rubbing his hands exclaims, 'G—— has been bad, he has had to do penance.' Often he will take up his wooden shoe, and beat himself violently on the head, or he will bury his nails in his flesh, or will scratch his face. These fits of rage come on suddenly, and while he is disfiguring himself his countenance is expressive of anger, but it wears a look of satisfaction, as soon as he has done correcting the other. At times when he is not overwrought by these imaginary resentments, we ask him 'Where is G——?' 'Here he is,' he answers, striking his breast. We touch his head, asking whose that is. 'That,' he answers, 'is the pig's head.' 'Why do you beat it so?' 'Because I must punish the pig's head.' 'But you just now struck G——.' 'No. G—— is not a bad boy to-day: it is the pig's head that has to be beaten.' For many months we asked him the same questions, and the answers were ever the same. Generally it is G—— that is displeased, but sometimes it is the other, and then it is not the head that is punished."†

A certain subject of general paralysis, in a condition bordering on dementia, used to be continually giving himself advice, or reproaching himself. "Mr. G——," he would say, "you are aware that you have been placed in this institution, and here you are. We tell you that we have no hope whatever of you," etc. As the general paralysis progressed his words became less intelligible, but in his raving this conversation with himself could always be made out. Sometimes he both asked the questions and answered them. When dementia had reached almost the last degree, he kept up the same practice. He would cry out, and show signs of agitation, but immediately growing calm would say in a low voice, and with a significant gesture, "Won't you be still; speak low." Then he would answer, "Yes, I am going to speak low." "Once we found him very busy, making all the motions of tasting [wines, etc.], and spitting out. We asked him, 'You are amusing yourself, Mr. G——?' 'Which?' was his reply, and then he relapsed into incoherence. This reply, repeated here literally, may seem to be the result of chance, but it accords so well with the duality so long observed in this patient, that we have deemed it worthy of mention."‡

In the following case the dissolution of personality is presented in a new aspect: the individual has no consciousness of a portion of himself, which is become foreign to him, or hostile. We have already, while speaking of hallucinations, seen the patient coming by degrees to embody his hallucinations, and finally giving them objective existence. In the demented the case is more serious. The acts and states that are perfectly normal for a person of sound mind and that have none of the morbid or imaginative characters of hallucination, are for the subject of dementia something external to himself, nor is he conscious that he is himself their cause. How may we account for this curious situation without supposing a profound change in the cœnæsthesis, and that certain portions of the body are no longer represented—or sensed—in the ruined brain. The sense of sight remains, as experience proves, but the patient sees his own movements as an external, an antagonistic phenomenon which he attributes neither to himself nor to others; which he notices passively without more ado, because his internal sensations being effaced and his reasoning power reduced to impotence, there is no means of correcting this incoördination.

Then we have the case of a general paralytic in the period of dementia, whose speech was almost unintelligible, and of

* Jaffe, *Archiv für Psychiatrie*, 1870.

† *Annales Médico-Psychologiques*, vol. VI., p. 80.

‡ Descourtis, *Du Fonctionnement des Opérations Cérébrales, et en particulier de leur Dédoublement dans les Psychopathies*, Paris, 1883, p. 33. Possibly this second personality which advises and admonishes the other is only the purely passive reproduction of the phrases addressed to the patient by his physician or his attendants. It may be remarked that not seldom the demented speak of themselves in the third person. The same is seen in young children, and it has been accounted for by the fact that their personality is not yet formed. In my opinion we have here simply imitation. The infant is used to hearing such remarks as these: "Paul has been bad, he must get a whipping," etc. He thus learns to speak of himself in the same way. Is the use of the third person by some subjects of dementia a sign of reversion?

whose notions of the external world but little remained.

"One day he was employed in picking peas. Though inexpert, and naturally right-handed, he employed only the left hand. Once the right hand came forward as though to take its share of the work, but hardly had it touched the peas when the other hand came down upon it, seized it and gave it a hard squeeze. The patient's countenance meanwhile bore an expression of anger and he repeated in a tone of authority, 'No, no.' His body trembled and shook with passion and it was plain that a violent struggle was going on within him. On another occasion he had to be tied down in an armchair. His countenance grew clouded, and seizing his right hand in his left, he exclaimed: 'There! It is all your fault; on your account they have tied me here,' and he struck the offending hand again and again. Nor were such occurrences exceptional. Many times it was observed that on the right hand quitting its habitual state of inactivity the patient checked it with the left. He would become angry and excited, and would beat it with all the strength he had." *

Some demented patients blame their fellow patients for the noise they themselves make, and complain of being disturbed by their cries. Finally, we will quote the case, observed by Hunter, of an old man, whose faculties were very much impaired. He always referred to the present time the occurrences of his early life. Though he was capable of acting correctly upon certain impressions, and of referring them to the portions of the body affected by them, he habitually attributed his own sensations to those around him. Thus he would tell his keeper and the attendants that he was sure they were hungry or thirsty. But when food or drink was offered him, it became apparent that this absurd idea had been suggested to him by his own feeling of hunger and thirst, and that the word *they* referred to himself, not to others. He had frequent violent fits of coughing, after each of which he would resume the thread of his conversation, first expressing in appropriate and sympathetic terms his concern on account of his friend's complaint. "It grieves me," he would say, "to see *you* suffering from so troublesome and so distressing a cough." †

Little by little all these cases steadily advance toward absolute incoördination and complete incoherence. They come to resemble congenital imbecility that has never been able to reach the mean level of human personality. In the gradual and progressive coördination which constitutes normal man, the idiot has met with arrest of development. In him the evolution has not preceded beyond the early stages: it has made provision for the physical life and some few elementary manifestations of the psychic life; but the conditions of an ulterior development are lacking. We have now in conclusion to consider this fact of coördination as the groundwork of personality.

But we must first attempt a rapid classification of the perturbations of personality of which we have given so many illustrations, all so different from one another that it might seem impossible to refer them to a few fundamental types.

Though in the normal state the bodily sense (cœnæsthesis) undergoes different changes in the course of one's life—in the evolution which goes on from birth to death—this change is usually so slow, so continuous, that the assimilation of new sensations proceeds little by little, and the transformation is brought about insensibly, so producing what we call identity, *i.e.*, apparent permanence amid incessant variations. Nevertheless all serious maladies, as well as all profound changes (puberty, change of life) import more or less of indecision: between the new state and the old there is not immediate fusion and as it has been well expressed, "at first these new sensations present themselves to the old Me as an extraneous Thee." But should the general bodily sense (cœnæsthesis) be modified suddenly; should there be a large instantaneous influx of unwonted states, then the fundamental element of the Me is completely transformed: the individual is parted from his prior personality, and he appears to himself like another. More usually there is a period of disturbance and incertitude, and the break is not instantaneous. When the morbid state has become fixed, one or other of these three principal types of diseases of personality will be presented:

1. The general bodily sense is changed completely. The new state serves as basis for a new psychic life (new ways of sensing, perceiving, thinking, hence a new memory). Of the former Me there remain only the completely organized processes (language, manual dexterity, power of walking, etc.), activities that are

* Descourtis, Op. cit., p. 37.
† Hunter, quoted by Winslow, *Obscure Diseases of the Brain*, p. 278.

purely automatic and almost unconscious, faculties that are like slaves ready to serve any master. But it must be remarked that in reality this type is subject to exceptions. Sometimes a portion of the automatic acquisitions are not transferred to the new Me. Again, at long intervals, some few traces of the old personality reappear, and produce momentary indecision in the new. Looking at the matter as a whole, and disregarding slight deviations, we may say that here we have an *alienation* of personality, the old personality having become alien to the new, so that the individual has no knowledge of his former life, or, when he is reminded of it, regards it objectively, as something apart from him. Of this we see an excellent example in the woman inmate of La Salpêtrière who ever after her forty-eighth year spoke of herself as "the person of myself" (*la personne de moi-même*). She gave a fairly correct account of her former personality, always, however, identifying it with another. "*La personne de moi-même* does not know the one that was born in 1779"—her former personality.* The case of Father Lambert belongs also to this type. Hack Tuke tells of a patient at the Bedlam hospital who had lost his Me, that is, the Me that was familiar to him, and would often go looking for himself under his bed.†

2. The second type has for its fundamental character *alternation* of two personalities, and to this type in particular properly belongs the current designation of double consciousness. As we have said, there are transition forms intermediate between the first type and this one, but at present we are concerned only with what is clear and well defined. The physical cause of this alternation is very obscure, unknown we may say. At the point where the new personality first appears, this case differs in nothing from those of the preceding class: the difference begins when the first personality reappears. The hypothesis seems inevitable, that in these subjects (who as a rule are hysterical, that is to say instable in a high degree) there exist, with secondary variations, two distinct habits in the physical life, each serving as groundwork for a psychic organization. The hypothesis appears all the more probable when it is remarked that the alternation bears upon character, the thing that in personality is inmost, and which most fully expresses the individual nature. (Cases observed by Azam, Dufay, Camuset.)

Of this alternation type too, we have different forms. Sometimes the two personalities know nothing of each other (Macnish). Again, one touches the whole life, while the other is but partial: such is the case observed by Azam. In this case, the most instructive of all because it now covers a period of twenty-eight years, we see the second personality continually encroaching upon the first. In the beginning, the duration of the first personality was very protracted, but by degrees it has come to be shorter and shorter, so that in time it promises to disappear entirely, leaving the second to stand alone. It would hence appear that this state of alternation, when prolonged, tends necessarily to be converted into the first type: thus it holds a place intermediate between the normal state and complete alienation of personality.

3. The third type is more superficial: I will call it *substitution* of personality. To this type I refer the rather frequent case of individuals imagining themselves to have changed from one sex to the other —from man to woman, and *vice versa*, or from ragman to king, etc. The state of certain hypnotized subjects already mentioned may serve as an example of this whole class. The alteration is rather psychical, in the narrower sense of the term, than organic. I do not for a moment suppose that it arises, or that it persists, without material conditions. I mean only to say that it is not caused and maintained, like the other two groups, by any profound modification of the cœnæsthesis, involving a complete transformation of the personality. It arises from the brain, and not from the inner recesses of the organism. It is a local rather than a general disorder—the hypertrophy of a fixed idea, which makes impossible that coördination which is necessary for the normal psychic life. Hence, while in alienation and alternation of personality all conspires and co-operates, exhibiting the inner unity and logic of the organic processes, here, oftentimes, the one who says he is a king admits that he has been a laborer, and the imaginary millionaire that once he earned only a couple of francs a day. Even outside of cases where the incoördination is manifest, we see that a fixed idea is a weak excrescence which does not at all imply total transformation of the individual.

* See the full details in Leuret, *Frag. Psychol.*, pp. 121–124.

† *Journal of Mental Science*, April, 1883.

This classification, proceeding from the gravest forms to the slightest, does not pretend to be rigorously exact. It may serve to array the facts in something like order, and to show how they differ, and especially to show once again that personality has its roots in the organism, undergoing like it change and transformation.

CHAPTER VI.

CONCLUSION.

IT follows necessarily from the doctrine of evolution that the higher forms of individuality must have arisen out of the lower by aggregation and coalescence. It follows, also, that individuality in its highest degree, in man, must be the accumulation and condensation in the cortical layer of the brain, of elemental consciousnesses that originally were autonomous and dispersed through the organism.

The different types of psychic individuality in the animal scale, from lowest to highest, cannot be described and defined save by a zoo-psychologist who makes his way cautiously through the tangle of facts, often trusting to conjecture. Hence we cannot do any more here than to note a few forms, in view of the principal aim of this work, which is to show that the ascending progress toward higher individuality is ever toward greater complexity and coördination.

There is no plainer term than "individual," when there is question of a man, a vertebrate animal, even an insect: but no term is more obscure as you descend the scale: on this point all zoologists are agreed.* According to its etymology, that is individual (*individuum*) which is not divided. The individual, in this sense, must be sought far down in the scale. While there are no limits to the dimensions of inorganic compounds (crystals), "every protoplasmic mass having a maximum diameter of a few tenths of a millimeter splits up spontaneously into two or more distinct masses equivalent to the mass from which they come, and which in them is reproduced. Hence, protoplasm does not exist save in the individual state, having a limited magnitude, and hence it is that all living things are necessarily made up of cells."† Life never attains any considerable augmentation except through the indefinite repetition of this fundamental theme, by the aggregation of an infinite number of these minute elements, true types of individuality.

The living, homogeneous matter which constitutes these elemental, primordial individualities, expands, contracts, draws itself out in slender filaments, creeps up to substances capable of affording it nourishment, involves them in its own substance, decomposes them, and assimilates their *débris*. We hear of "rudiments of consciousness" in this connection—of a sort of will reaching its determinations through external stimulations, and of vague wants. One may employ the term for want of a better, but let him not forget that it has for us no precise signification. In an homogeneous mass presenting not the slightest trace of differentiation, and in which the essential vital properties (nutrition, generation) are in a diffused, indistinct state, the sole representative (and it is a lowly one indeed) of psychic activity is the irritability common to all living things, and which will later, in the course of evolution, become general sensibility, special sensibility, and so on. May we call it a consciousness?

The first step toward a higher individuality consists of an association of individuals almost completely independent of one another. "The forced contiguity, the continuity of tissues, the nearly constant unity of the digestive apparatus, establish between them a number of relations, and these prevent the several individuals from remaining altogether strangers to what is taking place among their next neighbors: such is the case with sponges, colonies of Hydra polypes, corolla polypes, bryozoa, and some colonies of ascidia."‡ But this is, properly speaking, only a juxtaposition of a number of contiguous, homogeneous consciousnesses, having between them nothing in common save the limitation of their aggregate in space.

The rise of the *colony* individuality, and of the *colony* consciousness marks a great step toward coördination. The colony, made up of elemental individuals, has a tendency toward transformation into an

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* See in particular Häckel, *General Morphology*, I., p. 241 (French trans.); Gegenbaur, *Comparative Anatomy*, p. 24 et seq. (French trans.); Espinas, *Sociétés Animales*, 2d ed., Appendix II.; Pouchet, *Revue Scientifique*, 10 Feb., 1883.

† Perrier, *Les Colonies Animales et la Formation des Organismes*. Paris, 1881, p. 41. According to Cattaneo, *Le Colonie Lineari e la Morfologia dei Molluschi*, the division is carried farther still.

‡ Perrier, Op. cit., p. 774; Espinas, *Sociétés Animales*, section 2.

individuality of a higher order, in which there shall be division of labor. In colonies of Hydractinia we find seven different kinds of individuals—the nurses, the sexed individuals (male, female), those which capture prey, etc. In the Siphonophora and allied types, the faculty of locomotion is perfectly centralized: the individuals seem independent as long as the animal lets the common axis float about, on which they are implanted: but when any danger impends, or if the animal is to perform any complex movement, then the axis contracts, carrying with it all the polypes. The Prysalia knows how to quicken or to slacken its movement, can at will rise above the surface, or descend below it, can move straight ahead, or turn about, all its organ-individuals concurring to perform these complicated acts. The wandering life of these creatures, as Perrier remarks, favors the development of individuality.

"From it necessarily results greater interdependence of the individuals; closer ties are formed between them; impressions produced upon any part of the whole must necessarily be transmitted to the locomotive air-bladders; and the movements of these must needs be coördinated, else all is disorder. Hence arises a sort of 'colony consciousness,' and this tends to produce a new unity, to form what we call an individual." *

In other colonies the common consciousness has its rise in a different way. In Botrylus, a genus of Tunicata, there is a common orifice, which is the cloaca around which all the individuals are arranged. Each of these sends out in the direction of the cloaca a tongue-shaped process provided with nerves, whereby communication can be established permanently between all the members of a group. †

"But it by no means follows that because a colony gains the notion of its existence as a colony, therefore each of the individuals composing it loses its particular consciousness. On the contrary, each of these continues to act as if it stood alone. In some star-fishes, each severed branch keeps moving on, or turns aside, as the occasion may require: in short, appears to be conscious. Nevertheless, the consciousness of each of the rays is subordinate to the consciousness of the star-fish, as is proved by the harmony between the movements of the several parts when the creature changes position." ‡

It is difficult for man, in whom centralization is carried to so high a degree, to have anything like a clear idea of a mode of psychic existence in which partial individualities co-exist with a collective individuality. We might find some analogon in certain morbid states. So too it might be said that the human individual has consciousness of himself both as a person and as a member of the body social. But I do not wish to make comparisons that might be contested. But looking at the question objectively and from without, we see that this "colony consciousness," however imperfectly coördinated, however intermittent it may be in the beginning, has profound significance as regards evolution. It is the germ of the higher individualities, of personality. It will, little by little, rise to the highest grade, turning to its own advantage all these special individualities. In the political order we see a like evolution in thoroughly centralized governments. There the central power, at first very weak and hardly recognized, oftentimes inferior to that of the constituent parts, or provinces, gains strength at their expense, and by degrees absorbs them.

The development of the nervous system, which is the coördinating agency *par excellence*, is the visible sign of an advance toward a more complex and a more harmonious individuality. But this centralization is not brought about in a moment. In the Annelida the brain-like ganglia which send out nerves to the organs of sense seem to perform the same functions as the brain in vertebrates. but these ganglia are by no means fully organized. The psychological independence of the several rings is very evident. "Consciousness, while pretty distinct in the brain, seems to grow fainter in proportion as the number of rings is greater. Some species of Eunice, which often attain a length of five or six feet, bite the posterior part of their own bodies without appearing to notice it. To this diminution of consciousness no doubt we must attribute the fact that Annelids kept in captivity, under unfavorable conditions, readily prey upon themselves." In linear colonies, the individual that holds the front position, since it has to give the initiative, to advance or to retreat, to modify the gait of the colony which it draws after itself, becomes a *head*; but the term *head* is here employed by zoologists analogically only, and we must not suppose it to have the same meaning as when we speak of the

* Perrier, Op. cit., p. 232.
† Id. ibid., p. 771.
‡ *Ibid.*, pp. 772, 773.

head of an insect or of any articulate animal. The individuality it represents is so indefinite that in certain annulates, made up of forty rings or more, we may see the head of a sexed individual appearing at the level of the third ring, acquiring tentacles and antennæ, then separating itself from the original individual, and setting up for itself.*

For details the reader is referred to special treatises. As regards the higher animals, there is no need to dwell upon the subject: in them individuality, in the received meaning of the term, is established, being represented by the brain, which becomes more and more predominant. This *excursus* over the domain of zoology will not have been in vain if it shall have taught us that this coördination, of which we have had so much to say, is not a mere subjective view, but on the contrary an objective fact, visible and tangible; and that, in the words of Espinas, the psychic individuality and the physiological individuality are parallel—that consciousness becomes unified or diffused with the organism. Nevertheless the term "consciousness," or "psychic individuality" is highly ambiguous. If the psychic individuality is, as we maintain, simply the subjective expression of the organism, then the farther we go from the human type, the greater is the obscurity that surrounds us. Consciousness is a function that may be compared to generation, inasmuch as they both express the whole individual. Grant that the most elementary organisms possess a consciousness, and that like all their vital properties, and generation, in particular, it is diffused throughout their physical structure: now as regards generation, we see that this function, as the animal grade rises, becomes localized, and appropriates a part of the organism, and that this part, after countless modifications, becomes, with respect to that function and that alone, the representative of the whole organism. The psychic function takes a like course. In its highest grade it is strictly localized, and has appropriated to itself a part of the organism which becomes, for that function and for it only, the representative of the whole organism. In virtue of a long series of successive transfers of function, the brain of the higher animals now concentrates in itself most of the psychic activity of the colony: it has been entrusted, so to speak, with one function after another, till at last its associates have made complete abdication in its favor.† But take at random any species of animal, and who shall say to just what degree this delegation of psychic functions has in it proceeded. Physiologists have made many experiments upon the spinal cord in frogs: is its psychic value relatively the same in man? We may well doubt it.

Return we to man, and let us consider first his purely physical personality. We will for the nonce eliminate all states of consciousness, and will consider only the material groundwork of personality.

1. There is no need to show at length the very close relations subsisting between all the organs of the so-called vegetative life—the heart, vessels, lungs, intestinal canal, liver, kidneys, etc.—however foreign they may appear to be one to another, and however much engrossed with their several tasks. The multitudinous agents in this coördination are centripetal and centrifugal nerves of the great sympathetic and of the cerebro-spinal system (the difference between these two tends to disappear) together with their ganglia. Is their activity restricted to the simple molecular disturbance which constitutes the nervous influx, or has it also a psychic, conscious effect? No doubt it has such an effect, in morbid cases: it is then *felt*. In the normal state it simply calls forth that vague consciousness of life of which we have so often spoken. But vague or not, that is of no importance. May we maintain that these nerve actions, which represent the totality of life, are the fundamental facts of personality, and that, as such, their value is, so to speak, in inverse ratio to their psychological intensity? They do far more than just to call forth a few transitory, superficial states of consciousness; they shape the nerve centers, give them tone, give them a habit. Consider for a moment the enormous power of these actions (feeble though they appear) going on unceasingly, untiringly, repeating forever the self-same theme with few variations. Why should they not result in forming organic states, that is (as implied in the definition of "organic") stable and continuous states which shall represent, anatomically and physiologically, the inward life? Of course all this does not depend on the viscera alone, for

* Perrier, Op. cit., pp. 448, 491, 501.

† Espinas, *Les Sociétés Animales*, p. 520.

the nerve centers too have their own proper constitution, in virtue of which they react. They are not merely receptive but incitative also, and they are not to be separated from the organs they represent, and with which they form one whole: between both there is reciprocity of action.

Where do all these nerve actions come together and meet? where do we find the *résumé* of the organic life? We know not. Ferrier thinks that the occipital lobes have a special relation to the sensibility of the viscera, constituting the anatomical substratum of their sensations. Taking this view simply as a working hypothesis, it follows that by successive stages, by one transfer after another, the visceral life has at last found here its ultimate representation; that it is writ here in a language unknown to us indeed but which expresses the inward individuality and that only, to the exclusion of all other individuality. But in truth whether this anatomic representation exists in the occipital lobes or elsewhere, and whether it be localized or diffused, does not affect our conclusion, provided only it exists. I have the less hesitation in dwelling on this subject, because this coördination of the multitudinous nervous actions of organic life is the groundwork of the physical and psychical personality, since all the other coördinations are based upon this; because this coördination *is* the inner man, the material form of his subjectivity, the ultimate reason of his feeling and action, the source of his instincts, sentiments and passions, and in the language of the mediæval schoolmen, his principle of individuation.

To pass now from the inward to the outward, the periphery of the body forms a surface over which the nerve terminals are unequally distributed. Whether few or many, the nerve filaments receive and transmit from the different parts of the body impressions (that is to say, molecular disturbances); are centralized in the spinal cord, and thence pass to the medulla oblongata and the pons Varolii. There a new contingent is added—that from the cranial nerves: and now the transmission of sensorial impressions is complete. We must not overlook the centrifugal nerves, which act in a similar way, but in the direction of an increasing decentralization. In short, the spinal cord, which is a string of superposed ganglia, and more particularly the medulla oblongata with its special centers (of respiration, phonation, deglutition, etc.), while they are all organs of transmission, represent the reduction to unity of a vast multitude of nervous actions diffused throughout the organism.

At the point we have reached the question becomes full of obscurity. The mesencephalon seems to possess a more complex function than the medulla oblongata, and that a more complex function than the spinal cord. The corpora striata would seem to be the center in which are organized the habitual or automatic actions, and the optic thalami to be the point where the sense impressions are reflexed in movements.

However this may be, we know that the fasciculated portion of the crus cerebri, a bundle of white brain substance continuous with the peduncle, traverses the opto-striate bodies, penetrating into the strait between the optic thalami and the lenticular nucleus, and that it branches out in the hemisphere, forming the corona radiata of Reil. It is a pathway over which pass all the sensorial and motor fibers running to or from the opposite side of the body. The anterior portion contains only motor fibers. The posterior portion contains all the sensorial fibers, a certain number of motor fibers, and all the fibers coming from the sense organs. The bundle of sensorial fibers having received its full complement, divides into two: one portion ascends to the fronto-parietal convolution; the other is turned back to the occipital lobe, and the bundle of motor fibers is distributed through the gray cortex of the motor zones.

These details, tiresome as they will be to the reader despite their brevity, show the close interdependence of the different parts of the body and the cerebral hemispheres. Here the study of the localization of functions, though not yet carried very far, has settled a few points, as that there is a motor zone (formed of the ascending frontal and ascending parietal convolutions, the paracentral lobe, and the base of the frontal convolutions) in which are represented the movements of the different parts of the body; and that there is a sensitive zone far less clearly defined (embracing the occipital lobes and the temporo-parietal region). As for the frontal lobes, we have no definite knowledge with regard to them, but we may in passing notice the hypothesis recently offered by Dr. Hughlings Jackson that they represent, with respect to the other centers, combinations and coördi-

nations of a more complex kind, being thus a representation of representations. *

We cannot notice past and present discussions upon the physiological and psychological *rôle* of these centers: to do so would require a volume. But we may say that the cortical substance represents all the forms of nerve activity—visceral muscular, tactile, visual, auditory, olfactory, gustatory, motor, significatory. This representation is not direct. An impression does not go from the periphery of the brain as a telegram goes from one office to another near by. In one case, where the spinal cord was reduced to the size of a goosequill and the gray substance was extremely small, the subject possessed sensation.

But though indirect or even doubly indirect, this representation is, or may be, a total representation. Between the equivalents of these nervous actions distributed throughout the body there exist innumerable connections—commissures between the two hemispheres and between the several centers of each hemisphere—some of them innate, the others established by experience, having all possible degrees, from highly stable to highly instable. The physical personality, or in more precise language, its ultimate representation, thus appears to us not as a central point whence all radiates and where all converges—Descartes's pineal gland—but as a wonderfully complex net-work where histology, anatomy and physiology are baffled every moment.

From this very imperfect sketch the reader may see that the terms consensus, coördination, are not mere *flatus vocis*, abstractions, but that they truly express facts.

Let us reinstate now the psychic element hitherto eliminated, and note the result. It must be remembered that according to our view consciousness is not an entity, but a sum of states each of which is a specific phenomenon dependent on certain conditions of the brain's activity; that it is present when these are, is lacking when they are absent, disappears when they disappear. It follows that the sum of a man's states of consciousness is far inferior to the sum of his nerve-actions (that is, his reflex actions of every kind, from the simplest to the most composite). A period of five minutes may embrace a multitude of sensations, feelings, images, ideas, acts, and it is possible to determine the number of these with some degree of exactness. During the same lapse of time there will be a much larger number of nerve-actions. Hence the *conscious* personality cannot represent *all* that is going on in the nerve centers: it is only an abstract, an epitome of them. This follows necessarily from the nature of our mental constitution: our states of consciousness range themselves in time, not in space, and according to one dimension, not all dimensions. By a fusion and an integration of simple states are formed highly complex states, and these enter into the series as if they were simple: they may in some measure co-exist for a little time; but after all the compass (or extension) of consciousness [Umfang des Bewusstseins], and particularly the compass of clear consciousness, is always very limited. Hence we cannot regard the conscious personality, in its relation to the objective, cerebral personality, as a tracing which corresponds exactly with the drawing from which it is copied: it rather resembles a topographical sketch as related to the face of the country it represents.

Why do some nerve-actions (and which ones?) become conscious? To answer this question would be to solve the problem of the conditions of consciousness: but these, as we have said, are in great part unknown. There has also been much discussion as to the part played in the genesis of consciousness by the five layers of the cortical cells, but on this point we have nothing save pure hypotheses. These we need not consider here, for it cannot be of any advantage to psychology to rest its conclusions upon an insecure physiological foundation. We know that states of consciousness, always unstable, evoke and supplant one another. This is the result of a transmission of force, and of a conflict among forces; and, for us, it is not a conflict between states of consciousness, as commonly supposed, but between the nervous elements which underlie and produce them. These associations and these antagonisms, which have been the object of deep study in our day, do not however belong to the present inquiry: we must go further back and consider the conditions of their organic unity. For states of consciousness are no *ignes fatui*, now flaring, anon extinguished: there is something which unites them,

* *Lectures on the Evolution and Dissolution of the Nervous System*, 1884.

and which is the subjective expression of their objective coördination: in this we find the ultimate ground of their continuity. Though we have already studied this point, it is so important that I have no hesitation about returning to it and viewing it under another aspect.

Be it remarked that we are not speaking just now of self-conscious personality, but of that spontaneous, natural sense of our own being which exists in every normal individual. Every one of my states of consciousness possesses the twofold character of being such or such a state, and of being *mine*; pain is not simply pain, but *my* pain; seeing a tree is not simply seeing it but *my* seeing it. Each one has a mark whereby it is known to me as mine only, and without which it seems foreign to me, as in some morbid cases already referred to. This mark common to all my states of consciousness is a sign of their common origin, and whence can it come if not from the organism? Suppose we were able to obliterate in a man the five special senses and with them their entire psychological product, such as perceptions, images, ideas, associations of ideas with one another and of emotions with ideas. In that case there would still remain the inward, organic life with its proper sensibility to the state and functionment of each organ, to the general or local variations of the organs, and to the elevation or the depression of the vital tone. The state of a man who is sound asleep pretty fully realizes these conditions. If now we try the opposite hypothesis, we find it absurd, contradictory. We cannot imagine to ourselves the special senses, together with the psychic life which they sustain, isolated from the general sensibility and suspended *in vacuo*. None of our sense-apparatus is an abstraction: there is no such thing as a visual or an auditive apparatus in general, as they are described in physiological treatises, but only a concrete, invididual apparatus, and never, save perhaps sometimes in twins, are these apparatus alike in two individuals. Nor is this all, for not only is the sense apparatus of each individual peculiarly constituted—a peculiarity directly and necessarily communicated to all its products—but it is at all times and in every respect dependent on the organic life—on the circulation, digestion, respiration, secretion and so forth. These several expressions of the individuality attach to every perception, emotion, idea, and become one with them, like the harmonics with the fundamental tone in music. The personal and *possessive* character of our states of consciousness therefore is not, as some authors have held, the result of a more or less explicit judgment affirming them to be mine at the instant they arise. *The personal character is not superadded, but inherent:* it is an integral part of the fact, and results from its physiologigal conditions. We do not find out the origin of a state of consciousness by observing itself alone, for it cannot be at once effect and cause, subjective state and nerve-action.

The pathological facts confirm this conclusion. As we have seen, the consciousness of selfhood rises or falls according to the state of the organism, and hence some patients declare that their "sensations are changed"—the explanation being that in their case the fundamental tone has no longer the same harmonics. So too we have seen states of consciousness lose by degrees their personal character, becoming for the individual objective and extraneous. Can such facts be accounted for on any other theory?

John Stuart Mill, in an oft-quoted passage, asks what is the bond, what the "organic union" between one state of consciousness and another—the common and lasting element; and his conclusion is that we can affirm nothing definitively of mind but states of consciousness. That is doubtless so if we confine ourselves to pure ideology. But a group of effects is not a cause, and however minutely we study these, unless we go deeper our labor is incomplete—that is, unless we descend into that obscure region where, as Taine says, "innumerable currents are ever circulating quite beyond our consciousness." The organic *nexus* desiderated by Mill exists by definition, so to speak, in the organism.

The organism and the brain, its supreme representation, is the real personality, containing in itself the reminiscence of what we have been and the possibilities of what we shall be. On it is inscribed the entire individual character with all its aptitudes, active or passive, its sympathies and antipathies, its genius and talent or its stupidity, its virtues and its vices, its sloth or its activity. What comes forth in the consciousness is little compared with what lies hid though still active. The conscious personality is only a small part of the physical personality.

Hence the unity of the Me is not, as

taught by the spiritualists,* the unity of one entity manifested in multiple phenomena, but the coördination of a number of states that are continually arising, and its one basis is the vague sense of our own bodies—cœnæsthesis. This unity does not proceed from above downward, but from beneath upward: it is not an initial but a terminal point.

Does such perfect unity exist? In the strict sense, clearly not. In the relative sense it is seen, but rarely and momentarily. In the skilled marksman as he takes aim, or in the surgeon as he is performing an operation, there is a convergence of all the faculties mental and physical. But observe the result: in such circumstances the sense of the real personality disappears, and thus we see that perfect unity of consciousness and the sense of the personality are mutually exclusive. And we may reach the same conclusion by another route. The Me is a coördination. It oscillates between two extreme points—perfect unity and absolute incoördination—else it ceases to be; and we find all the intermediate degrees exemplified without any line of demarkation between normal and abnormal, health and disease, the one trenching upon the other.†

The unity of the Me then, in the psychological sense, is the cohesion, for a given time, of a certain number of clear states of consciousness, accompanied by others less clear and by a multitude of physiological states, which, though unaccompanied by consciousness, are not less effective than the conscious states, and even more effective. Unity means coördination. The gist of the whole matter is that the *consensus* of the consciousness, being subordinate to the *consensus* of the organism, the problem of the unity of the Me is, in the last resort, a biological problem, and it is for biology to explain, if it can, the genesis of organisms and the solidarity of their parts: the psychological explanation can come only then. This we endeavored to show in detail by analyzing and discussing morbid cases. Here then our task ends.

* Opposed to *Materialists*.

† Even in the normal state the coördination is often so lax that several series co-exist separately. One may walk about, or perform manual work with a vague, intermittent consciousness of his movements, at the same time singing and musing; but as he begins to think more intently, he stops singing.

CONTENTS.

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