

WHAT THE WILL EFFECTS.

By William James.



THE science of Man in our generation has started on a new career. Our ancestors considered him as something set over against Nature and opposed to all her laws and ways. We, on the contrary, are beginning to regard him as Nature's flower, possessing nothing not ultimately drawn from her influences,—her showers, her breezes and her soil. Psychology has shared in the general awakening. We begin to hear the phrase "the new Psychology." "Physiological Psychology," "Psychophysics" have become the titles of accredited departments of literature. To know how to handle a chronograph, or a Bunsen cell, and to dissect out a frog's sciatic nerve, even if not a dog's, are beginning to be held as important requisites in a professor of mental science, as that polite learning and power of introspection, which were formerly an all-sufficient equipment for his work.

Rich as are already in some respects the results of this natural-history method of studying human nature, it must be confessed that, in the main, what it has brought forth is more an accumulation of materials from which to draw future conclusions than any very important new conclusion itself. None of the old classical problems of Psychology have received their definitive quietus at the hands of the zoological school; and what animates the enthusiasm of us disciples is less the sense of the great things which we have already done than of those which we are probably upon the eve of doing. In many departments of psychology, however, genuine progress has been made, not only in the way of collecting materials, but in that of clearly conceiving their relations. The Psychology of Volition is an example; and, if the reader is so disposed, we will spend an hour together in asking what happens according to recent Psychology, whenever we exert our will.

The only conception at the same time renovating and fundamental with which Biology has enriched Psychology, the only *essential* point in which "the new Psychology" is an advance upon the old, is, it seems to me, the very general, and by this time very familiar notion, that all our activity belongs at bottom to the type of reflex action, and that all our consciousness accompanies a chain of events of which the first was an incoming current in some sensory nerve, and of which the last will be a discharge into some muscle, blood-vessel, or gland. This chain of events may be simple and rapid, as when we wink at a blow; or it may be intricate and prolonged, as when we hear a momentous bit of news and deliberate before deciding what to do. But its normal end is always some activity. Viewed in this light the thinking and feeling portions of our life seem little more than half-way houses towards behavior; and recent Psychology accordingly tends to treat consciousness more and more as if it existed only for the sake of the conduct which it seems to introduce, and tries to explain its peculiarities (so far as they can be explained at all) by their practical utility. Mr. Spencer, by his broad description of mental life as "adjustment to the environment" has done more than any English writer to popularize this view. My writing of this article is just as much a self-maintaining reaction of mine upon my environment as my flinching from a blow would be.

Some reactions are involuntary and others are voluntary; and the first point which "the new Psychology" scores, is that the voluntary reactions are all derived from the involuntary. This is a point easy to make clear. In a former article (see "The Nature of Instinct," vol. I., p. 355) I discussed the involuntary reactions. They are commonly divided into three kinds, reflex acts, manifestations of emotion, and instinctive or impulsive performances. But from a scientific point of view these distinc-

tions are unmeaning, for the physiological process is in all our involuntary actions essentially one and the same. The other day I was standing at a railroad station with a little child, when an express-train went thundering by. The child, who was near the edge of the platform, started, winked, had his breathing convulsed, turned pale, burst out crying, and ran frantically towards me and hid his face. Here were so many involuntary discharges let loose by the same stimulus. But there was no essential difference between them from the point of view of their causation and mode of execution. The winking and starting we name reflex, the effects on pulse, breathing and tear-glands emotional, and the running and hiding, instinctive acts; but these terms are obviously mere practical conveniences; and in all concrete cases of reaction upon an impression organs of all classes, glands, blood-vessels, and muscles of every description, are affected at one and the same time.

Now in these involuntary reactions the creature can know what he is going to do only after he has done it, if I may express myself by such an Irish bull. Every time we first perform an action of this sort, it takes us by surprise. I have no doubt that that child was almost as astonished by his own behavior as he was by the train, and more than I was who stood by. Of course, if such a reaction has already many times occurred, we learn what to expect of ourselves, and can then foresee our conduct even though it remain as involuntary and uncontrollable as it was before.

But in voluntary action properly so called the act is foreseen from the very first. The idea of it always precedes its execution. This, as all will admit, is the *sine quâ non* and essence of every voluntary action. And it is an immediate consequence of this that no act can possibly be voluntary the first time it is performed. Until we have done it at least once, we can have no idea of what sort of a thing it is like, and do not know in what direction to set our will to bring it about. One cannot will into the void. Most of us have never moved our ears; none of us have stopped our hearts. If we knew how to start we might set to work to learn these feats.

But we can't tell in which direction to begin, or what particular sort of effort to make. It is like suddenly telling a man to utter any sentence he pleases in the Ethiopian tongue. The problem is altogether indeterminate. What we need is a more definite idea of just what we are to do. Now what constitutes our definite idea of just what any movement is? If the reader will carefully consider the matter, he will be able, I think, to give only one answer. Our idea of a movement is our image of the way in which we shall feel when it is in process of doing or is done. Our idea of raising our arm for example, or of crooking our finger, is a sense, more or less vivid, of how the raised arm, or the crooked finger, feels. There is no other idea than this, or any other mental material out of which an idea might be made. We cannot possibly have any idea of our ears' motion until our ears have moved. This is why most of us cannot make even a vain effort to move these organs. They have never moved. If we wished to learn to move them (and many of us might learn, with perseverance) the first thing would be to move them passively with our fingers in the right direction, until we had a pretty clear idea of how the movement felt. Only then could we begin to train our voluntary power. This is why we begin to teach children to write by "holding their hand," to look through a telescope by telling them to hold one eyelid closed; and in general why the acquisition of all feats of address is accelerated by a bystander helping our recalcitrant members into position. Without such aid we must wait for some random contortion to hit the right attitude and give us an idea of just what it is at which we are to aim.

It thus appears that voluntary activity must be regarded as always of a secondary and never of a primary sort. It must come consecutively to activity of an involuntary kind. The movements which it consciously intends must once have been performed with no intention, or it could not intend them. Our forefathers were hazy as to this. They thought the will could exert its effects *ex abrupto*. We now see clearly that it can only go to work on reminiscences of earlier movement; that a creature without

memory can have no will; and that all the contractions of which the most complex volitional utterances are composed must originally have been random or instinctive expressions of our automatic life.* The works of Bain, Maudsley and Sully copiously illustrate this dependence of voluntary action upon a pre-existing machinery, and the growth of the will out of a blind impulsive soil.

So much for the first point in the Psychology of the Will. The second point which modern Psychology scores, is one which may strike the reader as less obviously true. Having made him see that before the Will can go to work it needs a store of recollections of how various movements may feel, I must now make him see that *it needs nothing else*, and that such ideas of movement are not only indispensable conditions of volition, but sufficient conditions as well.

Dr. Carpenter long ago gave the name of "ideo-motor actions" to a class of performances with which all of us are familiar; and which, if I mistake not, he seemed to place among the curiosities of our volitional life. The truth is that these ideo-motor actions are not curiosities, but true types and patterns of normal volition, simply stripped of complication and disguise. The actions I have in mind are such as these. Whilst talking, I become conscious of a pin on the floor, or of some dust on my sleeve. Without interrupting the conversation I brush away the dust or pick up the pin. I make no express resolve, but the mere perception of the object and the fleeting notion of the act seem of themselves to bring the latter about. Similarly, I sit at table after dinner and find myself from time to time taking nuts or raisins from the dish and eating them. So far as deliberate resolution goes my repast is long since done; but the sight of the dish awakens a rapid idea of the possibility of eating the fruit, and this idea, *not meeting any express contradiction*, fatally passes over into action. It needs for this no separate *fiat* of the will; it

*Of course I do not mean that a man cannot commit a murder voluntarily until he has committed one involuntarily. Such acts as murders are *complex combinations* of movements, crouching, springing, stabbing and the like. What I mean is that he can perform no one elementary movement voluntarily unless it has been already involuntarily performed.

is enough that no positively hindering idea should be there.

We all know what it is to get out of bed on a freezing morning in a room without a fire, and how the very vital principle within us protests against the ordeal. Probably most of us have lain on certain mornings for an hour at a time unable to brace ourselves to the resolve. We think how late we shall be, how the duties of the day will suffer; we say "I *must* get up, this is ignominious," etc.; but still the warm couch feels too delicious, the cold outside too cruel, and resolution faints away and postpones itself again and again just as it seemed on the verge of bursting the resistance and passing over into the decisive act. Now how do we *ever* get up under such circumstances? If I may generalize from my own experience, we more often than not get up without any struggle or decision at all. We suddenly find that we *have* got up. A fortunate lapse of consciousness occurs; we forget both the warmth and the cold; we fall into some reverie connected with the day's life, in the course of which the idea flashes across us, "Hollo! I must lie here no longer"—an idea which at that lucky instant awakens no contradictory or paralyzing suggestions, and consequently produces immediately its appropriate motor effects. It was our acute consciousness of both the warmth and the cold during the period of struggle, which paralyzed our activity then and kept our idea of rising in the condition of *wish* and not of *will*. The moment these inhibitory ideas ceased, the original idea exerted its effects.

This case seems to me to contain in miniature form the data for an entire psychology of volition. If we wisely generalize its teachings we shall say that anywhere and everywhere *the sole known cause for the execution of a movement is the bare idea of the movement's execution*, and that if the idea occurs to a mind *empty of other ideas*, the movement will fatally and infallibly take place.

The hypnotic subject passively acting out every motor suggestion which his operator makes, seems to embody this simplest of all possible cases. Ask him what he is thinking of before you make the suggestion, and he will say "noth-

ing." But seldom are our minds as empty as his. Usually they contain other ideas in addition to that of the movement in question, and according as these additional ideas are of one sort or another, we get one or another kind of result. If they are entirely irrelevant to the idea of the movement they neither help nor hinder its effects;—such were presumably the topics of our conversation when we picked up the string from the floor. If they *harmonize* with the idea of the movement, they re-enforce its efficacy over the muscles;—when the idea of rising comes in the midst of an exciting vision of what is to be done when we are dressed, we fairly leap from bed. But if the additional ideas *conflict* with the idea of the movement, they block the path of its discharge and inhibit its motor efficacy altogether. The thought of the cold room thus blocked the discharge of the idea of rising. The thought "We have eaten enough!" would have checked the raising of our hand, had it come whilst we were about to extend the latter towards the confectionery on the dinner table.

There is nothing paradoxical about this blocking of one process in the nerve-centres by another. The physiology of recent years has shown that any and every process, almost, may, under certain conditions, arrest activities going on elsewhere; and "inhibition" now figures, in text-books of nervous science, as a function almost as wide-spread and characteristic as stimulation itself. Just which are the processes which will inhibit, and which are those which will re-enforce each other, are matters for delicate experimentation to decide. *All* our thoughts correspond to processes in the cerebral hemispheres. We know that certain thoughts conflict with others and that certain acts are only possible so long as objections to them do not pop into our minds. This seems, introspectively, to be a logical consequence of the contrasted inner natures of the ideas themselves. The "new Psychology" is, of course, far from denying this; but she insists that the logical law is a mechanical law as well, and that the brain-processes to which the contrasted ideas severally correspond, are such as dam each other up and stop each other's discharge.

The immense complicacy and subtilty of these mutually inhibitory processes appears from the number of actions that are thought of every hour of the day by an ordinarily active mind, and which yet give rise to no sensible movement. The other things which are thought of at the same time do not naturally conspire with these actions. They are not consented to. *Consent*, in short, is a word which describes most of our activity far more accurately than *volition* does. Volition implies something positive, energetic, and akin to effort. Consent is passive; and three-fourths of our daily conduct consists in simply taking off the brakes, and letting ideas and impulses have their way. Volition, properly so-called, if there were any, would in these cases lie in refusing consent. I think every man's consciousness will bear witness to the truth of this.

Not that the refusing of consent need imply energetic volition either. Quite as little as the execution of a movement does its inhibition always require an express effort or command. Either of them *may* require it, as we shall presently see. But in all simple and ordinary cases, just as the bare presence of one idea will prompt a movement, so the bare presence of another idea will prevent its taking place. Try to feel as if you were crooking your finger, whilst keeping it straight. In a minute it will fairly tingle with the imaginary change of position; yet it will not sensibly move; because *its not really moving* is also a part of what you have in mind. Drop *this* idea, think of the movement purely and simply, with all brakes off, and presto! it takes place with no effort at all.*

A waking man's behavior is thus at all times the resultant of two opposing neural forces. With unimaginable fineness some currents among the cells and fibres of his brain are playing on his motor nerves, whilst other currents, as unimaginably fine, are playing on the first currents, damming or helping them, altering their direction or their speed.

* It always takes place insensibly even when the brakes are on. The skill of such muscle-readers as Mr. Irving Bishop depends on the fact that hardly anyone in thinking of a movement is able entirely to suppress the tendency to carry it out. The muscle-reader feels this tendency in the "Agent's" hand which is laid upon his person.

The upshot of it all is that whilst the currents must always end by being drained off through *some* motor nerves, they are drained off sometimes through one set and sometimes through another; and sometimes they keep each other in equilibrium so long that a superficial observer may think they are not drained off at all. Such an observer must remember, however, that from the physiological point of view a gesture, an expression of the brow, or an expulsion of the breath, are movements as much as an act of locomotion is. A king's breath slays as well as an assassin's blow; and the outpouring of those currents which the magic imponderable streaming of our ideas accompanies need not always be of an explosive or otherwise physically conspicuous kind.

The ideas which perhaps more generally than any others inhibit muscular activity, and keep us quiet, are those of pains and pleasures; the pains of movement and the pleasures of the *status quo*. The paralyzing effects of the bed's warmth and of the cold in the room are cases in point. And conversely, the ideas which more generally than any others incite to movement are those of the pleasures to be gained by action, and the pains connected with repose. A hasty philosophy has universalized these facts, and gravely insisted that the only *possible* inciter to voluntary action is the idea of pleasure, and its only *possible* inhibitor the idea of pain. Ethically, this might be true; that is, it might be (as utilitarians contend) that the ideas of pleasure and of pain are the only *rational* motives for acting or for desisting from activity. I will express no opinion as to whether this be true or not in ethics; but I know that its counterpart in psychology is absolutely false. Be it or be it not admitted that the idea of pleasure *ought* to be, it certainly cannot be admitted that it *is* the only idea which moves a man to action. If there is any one point which "the new Psychology," with its derivation of the will from involuntary impulse, makes plain, it is that. Our first acts, of every sort, are blind, made for no motive, properly so called, but fatally stimulated into being by sensations due to determinate outer things or inner

states. Our next acts are from ideas or representations of these things and states. Our last acts (as we see them in the thoroughly cultivated man) are from ideas of some abstract good, be the good pleasure, or something which may exclude pleasure, as "duty" is often felt to do. Pleasure is apt to be throughout a secondary complication to the drama of stimulation and desire.* It regulates, but need not operate; it steers, but need not propel. And when the idea of it does propel, and becomes itself the motive, it is only as one among many ideas which have this privilege coequally. If one idea, such as that of pleasure, may let loose the springs of action, surely other ideas may; and experience alone can decide which ideas have this power. It decides that their actual name is legion. Innumerable objects of desire and passion innervate our limbs just as they light up a fever in our breasts; and ninety-nine times out of a hundred we no more act for the pleasure connected with the action, than we frown for the pleasure of the frowning, or blush for the pleasure of the blush. Blind reactive impulse at the beginning, ideational coercion of some sort at the end, such are the poles between which the evolution of human conduct swings. Ask the common drunkard why he falls so often a prey to temptation. He will say that half the time he cannot tell. It is a sort of vertigo. His nerve-centres are a sluice-way, pathologically unlocked by every passing conception of a bottle and a glass. He does not thirst for the beverage; the taste of it may even appear repugnant; and he perfectly foresees the morrow's

* An activity prompted by any cause or motive whatsoever brings a certain pleasure with it when successfully completed (especially if the completion involves the overcoming of obstacles), and an activity prompted by any cause or motive whatsoever, if frustrated, brings pain. It is painful to have our breathing stopped, and pleasant to have the activity of listening to a lecture ended by the lecturer getting through. The pleasure is an incident or concomitant of such acts, just as coal-consumption is a concomitant of a steamer's locomotion. As long as the locomotion continues the coal-consumption goes on; when it stops, the coal-consumption ends. But habitually we no more go to lectures for the mere relief of getting through, or breathe for the mere sake of escaping pain, than steamers go to sea or stop for the mere sake of consuming or not consuming coal. Of course we may occasionally make these our express motive for breathing or lecture-going, just as steamers may go to sea for the express sake of getting rid of coal. But the hedonist in psychology is like one who should say that no steamer can possibly go to sea for any other motive than to burn its coal. The incidental consequence of the activity, which only sometimes may be the deliberately proposed purpose of the activity, is made everywhere and always to usurp the proposed purpose's place.

remorse. But when he thinks of the liquor or sees it, he finds himself preparing to drink, and does not stop himself; and more than this he cannot say.

This is why volcanic natures like the Mahomets, the Luthers, and the Bonapartes are usually fatalists. They find themselves bursting into action with an energy at which they are themselves astonished, as if some god or demon had released a spring. But there is an intoxication in this outpour which makes them welcome and adopt it, whithersoever it may lead, coupled, in men of the heroic mould, with an ability to meet its consequences whatever they may be.

To sum up our results so far. We are an organized machinery for muscular explosion, placed in an environment full of things which pull and clamp the triggers of the machinery in various preappointed ways. This is our involuntary life. But the things leave images behind them, and so do the discharges themselves, with their consequences in the way of pleasure and of pain. All these images in turn incite to new discharges, and reinforce and inhibit each other just as their originals did. This is our voluntary life, so far as we have studied it; and the great conclusion we now reach is, that *the only thing which can either incite or check a voluntary movement is the cerebral process which corresponds to an idea.* A priori, of course, there is nothing strange in an ideational process doing this. For, in our ignorance of the intimate nature of nerve-action, it seems as likely that an ideational centre should discharge into a motor-nerve as that any other sort of centre should.

So much for the middle stage of volition, which we will call, for convenience, the *volition of consent.* In the volition of consent the idea which serves as motive or temptation is sufficient of itself to engender action if no other idea stands in the way. But there remains a *volition of effort*, which seems a widely different thing. Often the idea which serves as our motive or reason for action seems too weak to produce action unless aided by another force. Of this force we seem conscious in the effort of will which we

have to make whenever we do a difficult thing. This seems the act of will *par excellence*; and it would be the play of Hamlet with the Prince left out, were I to end my tale here, and not give some account of this last and most mysterious feature of the case.

The older psychologists treated the effort of will as the only spiritual force which can influence immediately the material world. Its point of application might be muscles or brain-cells—that was an inessential part of their theory, but the *mode* of its application, its relation to the bodily process with which it is connected, was altogether different from the relation of any bare idea to the bodily process to which it corresponds. The idea was inert and passive, a mere concomitant. The effort, on the contrary, was a *force*, which passed from the mental to the physical world.

Now it seems to me that if there is anything which recent advances in psychology ought to teach, it is that this is a mistaken view, and that the feeling of effort has no such exceptional position between the inner and the outer worlds. Either all states of consciousness are forces, or none are; either all feelings react upon the brain-states which they accompany, or none do. Ideas react as much as efforts. What effort does when it comes to the aid of ideas is not to *supplant the ideas* in making the bodily machine obey, but to *hold the ideas fast*, so that *they* may acquire strength and stability enough to make the machine obey. The ideas are the spiritual things which the body obeys quite as much when the effort is, as when it is not, there. A very few words ought, it seems to me, to make this clear.

Every man alive knows what it is to be under the empire of passion. Either he has had a fever of desire upon him for the acquisition of a possession—a horse, or boat, or house, or land; or he has loved a woman's eyes; or some ambition or other has seized him in its fiery grasp. Let us now suppose a man with a passion the circumstances of which make it thoroughly unwise, and then ask ourselves what constitutes the difficulty for him of acting as if this were the case—for difficulty there is, as we all well know. Certainly there is no phys-

ical difficulty. It is as easy physically to pocket one's money as to pay it out, and as easy to walk away from as in the direction of a coquette's door. The difficulty is mental; it is that of getting the idea of the wise action to stay before our mind at all. When any strong emotional state whatever is upon us the tendency is for no images but such as are congruous with it to come up. If others by chance offer themselves, they are instantly smothered and crowded out. If we be joyous we cannot keep thinking of that tomb which certainly awaits us—try it now, sanguine reader! If lugubrious, we cannot think of new triumphs, flowers and spring; nor if vengeful, of our oppressor's community of nature with ourselves. The cooling advice which we get from others when the fever-fit is on us is the most jarring and exasperating thing in life. Reply we cannot, so we get angry; for by a sort of self-preserving instinct which our passion has, it feels that these chill ideas, if they once but gain a lodgement, will work and work until they have frozen the very vital spark from out of all our mood and brought our airy castles in ruin to the ground. Such is the inevitable effect of reasonable ideas over others—if they can once get a quiet hearing; and passion's cue accordingly is always and everywhere to prevent their still small voice from being heard at all. "Let me not think of that! Don't speak to me of that!" This is the sudden cry of all those who in a passion perceive some sobering considerations about to check them in mid career. "*Haec tibi erit janua leti,*" we feel. There is something so icy in this cold-water bath, something which seems so hostile to the movement of our life, so purely negative, in Reason, when she lays her corpse-like finger on our heart and says "Halt! give up! leave off! go back! sit down!" that it is no wonder that to most men the steadying influence seems, for the time being, like a very minister of death.

The strong-willed man, however, is the man who hears the still small voice unflinchingly, and who, when the death-bringing consideration comes, looks at its face, consents to its presence, clings to it, affirms it, and holds it fast, in spite of the host of exciting mental

images which rise in revolt against it and would expel it from the mind. Sustained in this way by a resolute effort of attention, the moral idea ere long succeeds in calling up its own congeners and associates, and ends by changing the man's consciousness altogether. And with his consciousness his actions change. The new ideas, as soon as they are stably in possession of the mental field, infallibly produce their motor effects. The struggle, the difficulty is all in their getting possession of the field. The strain of the will lies in keeping the attention firmly fixed upon them, in spite of the fact that the spontaneous drift of thought is all the other way. That is what takes the moral effort. And when the moral effort has victoriously maintained the presence of the moral ideas, its work is over. The mysterious tie between the ideas and the cerebral motor-centres next comes into play, and, in a way which we cannot even guess at, the obedience of the bodily organs follows as a matter of course.

In all this one sees that the immediate point of application of the voluntary effort does not lie in the physical world at all, but in the mental world. It is an idea to which our will applies itself, an idea which, if we let it go, would slip away, but which we will not let go. Consent to the idea's undivided presence, this is effort's sole achievement. Its only function is to get this feeling of consent into the mind. And for this there is but one way. The idea to be consented to must be kept from flickering and going out. It must be held steadily before the mind until it fills the mind. Such filling of the mind by an idea, with its congruous associates, is consent to the idea, and to the fact which the idea represents. There is no other possible sort of consent than this. If the idea be that of the beginning or stopping of some bodily movement of our own, we call the consent, thus laboriously gained, a volition. The movement in this case becomes real as soon as we agree to the notion that it shall be real. Nature here "backs" us instantaneously and follows up our inward will-iness by outward changes of her own. Nature does this in no other instance than this one of our own bodily move-

ments. I may consent to the table dancing across this room ; but that will not make it dance, as my legs would dance if the consent applied to them. My legs themselves will refuse to dance if my spinal cord be diseased. But these differences in the way in which nature acts at different places and times do not affect the *psychology* of my volition in the least degree. As far as my *mind* is concerned, it is just as good and true willing when I say to the table's moving "*fiat*," as when I say "*fiat*" to the movement of my own legs. The will, mentally considered, is consent to a *fact* of any kind, a fact in which we ourselves may play an active, a neutral, or a suffering part. The fact always appears to us in an idea : and it is willed by its idea becoming victorious over internal and external difficulties, banishing contradictory ideas and remaining in stable possession of the mind.

I think it will not be possible to find a single case of voluntary effort to which this description does not apply. Take violent muscular exertion for example. The feeling of muscular exertion consists of an immense number of in-coming sensations, due to the contraction of the muscles of our glottis, chest, jaws, body and limbs, and to our strained joints and ligaments and squeezed or twisted skin. The only volition which is required to bring about the actual state of muscular exertion is a sincere and genuine consent that all these sensations shall be real. But when we are lazy, or exhausted with fatigue, the sensations in question are very unwelcome, and the idea of being filled with their reality is repugnant to the mind. When once we have brought ourselves to face it, however, to say to the muscular sensations, "Be our reality, however disagreeable you may prove," to utter our "*fiat*," in a word, the contractions and their effects occur, and the muscular exertion is realized to its full extent. The effort of will required for muscular exertion consists then, like all other efforts of will, in the forcible holding fast to an incongenial idea.

It is a strange fact, this, that the fixed idea of a set of muscular feelings should immediately be followed by bodily changes which make those feelings real.

But it is not an unexampled fact, because there is no idea whatever which is not immediately followed by *some* bodily change. We call many of these changes emotional. The peculiarity of the emotional changes is that the sight or idea of some *object* is needed to produce them. We cannot weep, for example, by dint of thinking of the feeling of our tears, but only by dint of thinking of an outward cause of grief. The odd thing about the changes called *voluntary* is that we provoke them by thinking of how they themselves are going to feel. This is no doubt due to some anatomical cause. The brain-centres for imagining the contraction of our voluntary muscles, etc., must be connected with the motor-nerves in an altogether special way. But, neglecting all these variations, there results from the aggregate of facts which we have reviewed a lesson for brain-physiology which is as simple as it is important : *There can be no centres in the upper brain which are exclusively motor.* All its parts must be motor and sensory alike—sensory at all times, motor when not inhibited by each other.* In other words, they all have a permanent sensory *property*, and intermittent motor *functions*. Their sensory property is ideation.

When they inhibit each other, there is no outer movement, but in the mind a conflict of ideas. All that consciousness embraces is the swaying to and fro of the ideas, and the final repose of the attention in the one which gains the day. Now this repose of the attention may come about spontaneously, or it may come with moral effort. The work of moral effort then, when we come to reduce it to its simplest expression, is neither more nor less than the work of attending to a difficult idea. Effort of volition and effort of attention, psychologically considered, are, in short, two names for an identical thing. Muscular discharges and arrests are all consecutive to the central phenomenon in

*The hinder part of the brain does not respond to electrical stimulation by the production of any muscular movements. This may be due to inhibitions. Goltz and his pupil Loeb have noticed that when the frontal lobes are cut off, the animal's mobility becomes extreme, as if habitual inhibitions were removed. It would be interesting to try whether, in an animal so operated on, direct stimulation of the occipital lobes might not give rise to movements, similar in general character to those discharged from the so-called motor zone.

volition, which is this bare attention to the idea. The only sort of resistance which our will can possibly experience is the resistance which certain ideas offer to being attended to at all. This resistance may come from an intrinsic and more or less permanent uncongeniality in the ideas. I know a person who, on some days, will turn to anything rather than to the noon-day lesson in logic which he has to get up, poke the fire, set chairs straight, dust the floor, snatch the newspaper, trim his nails, take down any book which catches his eye, waste the morning anyhow and everyhow, in short, rather than attend to that tedious and accursed thing. Or the resistance may come from an *extrinsic* uncongeniality, due to the temporary possession of the mind by ideas of an incompatible sort. Such are the cases of passion we talked of a while ago; such would be the thought of an ordeal we must go through on the morrow, visiting us in the midst of a dinner party, at a theatre, or other scene of pleasure, where our cares had temporarily been lulled to sleep. Under such circumstances we shy away like frightened horses from the incongruous topic, the moment we get a glimpse of its ugly profile on the threshold of our thought.

To attend to it, under such circumstances, is, however, the moral act; and it is the only moral act which, as spirits, we are ever called upon to perform. The effort which such attention implies seems to be indeterminate in quantity, as if we might make more or less as we chose. If it be really indeterminate, our future acts are ambiguous, or unpredestinate: in common parlance our wills are free. If the amount of effort be not indeterminate, but be related in a fixed manner to the ideas themselves, in such wise that whatever idea at any time fills our consciousness was from eternity bound to fill it then and there, and compel from us the exact effort of attention, neither more nor less, which we bestow upon it; then our wills are not free, and all our acts are foreordained. The question of fact in the free-will controversy is thus extremely simple. It relates solely to the amount of effort of attention which we can at any time put forth. Are the duration and intensity of this

effort fixed functions of the idea attended to or not? Now as I just said, it *seems* as if the attention were an independent variable, as if we might exert more or less of it in any given case. When a man has let his thoughts go for days and weeks until at last they culminate in some particularly dirty or cowardly or cruel act, it is hard to persuade him in the midst of his remorse, that he might not have reined them in; hard to make him believe that this whole goodly universe (which his act so jars upon) required and exacted it of him at that fatal moment, and from eternity made aught else impossible. I must confess that I sympathize with such a man, and favor the free-will belief. But the question will never be decided by purely empirical or scientific evidence; and free-will and determinism, as actual creeds, will probably always be just what they are to-day, postulates of rationality, namely, different assumptions which different thinkers make, because so each of them is able to cast the world into what seems to him personally the most intelligible form.

We have thus answered the question with which we started, of what happens when we exert our will. *We simply fill our mind with an idea which, but for our effort would slip away.* But it is impossible before we close not to look for a moment into the vista of moral reflections which this reply throws open to the view.

In the first place it makes it plain that the will has as much to do with our beliefs and faiths as with our movements. It is, in fact, only in consequence of a faith that our movements themselves ensue. We think of a movement and say, "let it ensue! so far as we are concerned let it be part of reality!" This is all that our *mind* can do—physical nature must do the rest. And this is all that our mind does in any theoretic belief, such as that in the divine or undivine nature of the essence of life. In espousing any such belief, who can do more than say of it "as far as I am concerned, let that view of life stand. Let it be real. Let my mind be filled up with the thought of it, let no difficulties drive it from my sight"? But, as all sober-

minded thinkers know, there are great difficulties in the way of holding any unwavering view of life. The unutterable complexity of this huge world that girdles us about, seems sometimes as if it were expressly meant to defy our attempts to conceive it as a unity. Beliefs and unbeliefs shake us by fits.* The thoughts of the dayspring and the thoughts of midnight drive each other out. No sooner are we settled in the mood of spiritual trust than some new brutality on the part of Nature overturns our peace; no sooner at ease in a materialistic *parti pris* than we catch a phrase of music, or a friend dies, or we see some dewy morning break over the hill-tops of the world, and then the ice cracks, and all our questions and hopes are afloat and alive again.

Now whereas in all practical affairs, in all matters where the willing produces an immediate result, it is universally admitted that the men who can will, who can hold on to unwelcome or elusive ideas, are a higher kind of men than those who cannot,—more evolved, more fit for life, more helpful to the race; it is a singular fact that in these theoretic questions it is commonly supposed to be a sign of weakness and inferiority if one let one's will have anything to say. One's ideal attitude towards *Truth*, we are carefully taught, should be that of utter passivity. The truth must come and stamp itself in its own person authentically upon our unaiding and unresisting minds. If we let our satisfactions or dissatisfactions influence the manner of our reception of it, we shall surely fail to get it pure.

Now if one had a perfectly single set of interests, it would be tolerably easy to live up to the professions of this creed. If one were a pure sentimentalist, with no sense for Nature's cold mechanics, one might keep an utterly cloistered faith and live with one's head in the sand of some creed which utterly defied physiology and physics, and yet have a perfectly good intellectual conscience, and consider that this was nothing but yielding to evidence of an objective sort. So too if one were a good bull-necked materialist by nature. Having no yearnings for the Infinite, it would cost noth-

ing to give the Infinite up, nor to say that the mechanical philosophy had written itself in characters of living light on the virgin tablets of one's pure intelligence. But these ostrich-like attitudes are both of them getting harder than ever to maintain. With civilization, sympathy and sensibility and the love of life are ever growing more acute and exacting; and, tolling obstinately within us like never to be silenced bells, they demand that the element which we call divine in things shall be an essential and eternal element as well. But there too, on the other hand, like a great ocean spread outside of us, lies the world without a purpose of the mechanical philosophy, in which what is divine appears as a mere accident; and no modern man's ears can be quite deaf to the tumbling of that ocean's waves.

So long as our mind is assailed in two such different ways, it is quite idle to talk of its being passive and will-less until the objective truths shall have written themselves down. They write down no messages which are both coherent and universal. Nor if (conscious of the immensity of our ignorance) we resolve to go without a universal message for the present, and to wait till more light comes, can we be passive and will-less any more easily. For one must always wait in some dominant mood or attitude; and the mere resolve itself of waiting and not making what is called a snap-decision, often demands volition of the most energetic sort. The theoretic life of a cultivated modern man requires, in fact, as vigorous a co-operation of his will as his practical life does. Look at the men who at the present day feel life on all its sides, and yet who are incapable of volition in intellectual affairs, and imagine that there ought to be some sort of truth with which they can remain in passive equilibrium. Their feelings make them shiver at the materialistic facts; whilst their loyalty to science makes them dread to be dupes of their feelings. They become one mass of indecision, plaintiveness and defeat, so far as they take the philosophic life seriously at all; and remain facing the same urgencies and the same difficulties to the end, unable to deal with them, unable to drop them, and worrying their span of time

* Compare the immortal Blougram in Browning's verse.

away between disconsolately wishing certain things were true, yet dreading to affirm them in the teeth of other facts.

But the men of will do not let "I dare not wait upon I would," in any such sorry fashion. They choose their attitude and know that the facing of its difficulties shall remain a permanent portion of their task. Whether it be the materialistic idea, the spiritualistic idea, or the waiting idea, which they adopt, they do it resolutely and strike the major key. They hold fast to it in the teeth of the opposite ideas which ever urge them to let go their grasp. They find a zest in this difficult clinging to truth, or a lonely sort of joy in pressing on the thorns and going without it, which no passively warranted possession of it can ever confer. And thereby they become the masters and the lords of life. They must be counted with henceforth; they form a part of human destiny. No more in the theoretic than in the practical sphere do we care for, or go for help to, those who have no head for risks, or sense for living on the perilous edge. But just as surely as time flows on and as our consciousness grows more com-

plex, so surely does our theoretic life lie more and more upon the perilous edge. And, just as in every siege and shipwreck, there is found some dauntless heart, whose example pours new life into his company; so in the wars of speculation and the shipwrecks of faith it is the same. Ever there rises up the prophet, the hero of belief, who drinks more deeply than any of the cup of bitterness; but his countenance is so unshaken and he speaks such mighty words of cheer, that his thought becomes our thought, and to later generations he seems a being half divine.

But if we ask how this is possible, and how one may one's self set about it to get this sovereign mood of will, the only answer is to point to the hero who can hold to ideas that are difficult and elusive, and say "lo, be as this man!" *Velle non discitur*, said Seneca. The only thing which no theory, no printed directions, can teach us, is how to will. What it *might* do, what it *might have done*, we can be taught; what it *shall* do depends on the inalienable essence of each individual man.

UPON A WINTER MORNING.

By Maybury Fleming.

WHEN hoary frost doth shroud the grass,
And bare death sitteth in the trees,
And life is come to sorry pass,
And morning lacketh drowsy bees—

Then think I of my lady's mouth,
And of the violets in her eyes;
So, roses warm the wintry drouth,
And death, by thinking of her, dies.