

HOW BELIEFS ARE MADE.

A person for whose opinions I have much respect once said to me, that he disclaimed all responsibility for the beliefs that he held on certain very important matters.

"I try," said he, "to conquer prejudice; but having done this, I can do no more. My belief, whatever it is, forms itself in me. I look on. My will has nothing to do with the matter. I can will to walk or eat; but I cannot will to believe. I might as well will that my blood should circulate."

Now, as I admire not a little some of the beliefs of the person mentioned, I was disappointed to find him not responsible for them. It seemed a pity to regard his faith as no more creditable to him than the strong boughs are creditable to the oak that they adorn. But upon this matter I did not agree with my friend. Despite his disclaimer, I thought, and yet think, that he has made his beliefs very much for himself, and that these beliefs do him honor, as the statue does honor to the artist that chiseled it. To be sure, my friend did not hew out his beliefs from a wholly passive material, as the sculptor hews from marble. But his beliefs, as I think, resulted from a sort of struggle between him and the surrounding world. The world tried sometimes to check his thought, and to confine it to one channel; sometimes to confuse his thought, and to scatter it into spray before the quick heavy blows of innumerable disconnected sense apparitions. But my friend was a man of energy, and controlled the current of his thought. He fought hard, now for freedom from oppressive narrowness of thought, now for wholeness and unity of thought; and he has in so far conquered as to be the master of a very manly and many-sided system of doctrine. I think him responsible for this system; and I think that neither he nor any other person having the least influence with younger truth-seekers ought to think or speak slightlying of the

personal factor that has so large a power in forming every man's creed. As a man is, so he thinks. The only absolute truth of which we mortals seem to have any clear notion would be found in a perfect agreement of all rational beings with one another; and this agreement would simply express the fact that we were all in perfect moral harmony. Our beliefs are therefore in part the expression of our own will; and nobody can justly disclaim responsibility for his creed. He must be judged by the earnestness, the aim, the success of the efforts that he has made in struggling with his own experience to produce this creed.

Setting out with such a notion about the nature of belief, one is forthwith confronted by the objector that calls for the "facts." Are our beliefs actually formed through our interference? Does our will, our personal activity, have any large share in building our faith? And is such interference, where it exists, justified?

May the reader pardon our boldness in asking him to consider with us these matters, until we have shown him some of the ways in which our own personal activity is constantly interfering to form or to modify our simplest as well as our most complicated beliefs. The importance of the matter may excuse us for troubling the reader just now, and we promise to confine our attention to simple illustrations, saying in this article as little as possible about the deeper metaphysical aspect of our problem. Our purpose is a practical one. We wish to suggest the responsibility that a man has for his creed as well as for his conduct. We shall do this by pointing out that the formation of a creed is a part of conduct. And this we shall show by illustrating the way in which, whether one directs the process or not, one is at all times reacting upon what experience puts into his mind, so as to build for himself what mere

experience could never give. If this is true, then it follows that we are in duty bound to direct this natural process in the way that seems to us morally best.

Every one recognizes that at least our more abstract knowledge depends largely upon our own mental activity. Knowing is not mere passive reception of facts or of truths. Learning is not solely an affair of the memory. The man that without reflection commits things to memory is justly compared to a parrot, and might yet more justly be compared to the sponge of Hamlet's figure: "It is but squeezing you, and sponge, you shall be dry again." No knowledge, then, without active hospitality in the mind that receives the knowledge. But as soon as we recognize in mental life this our power to modify our knowledge by means of our own activity, just so soon do all the old comparisons of the mind to a wax tablet, to a sheet of paper, or to other like passive subjects of impression lose for us their meaning. Mental life becomes for us, in view of these facts, a field of constant activity. The commonest processes of knowledge acquire a new significance.

Let us begin our study of this activity with a distinction. Two kinds of activity are concerned in the attainment of knowledge. One kind consists in simply receiving impressions from without, such as sensations, or, on a higher plane, statements of truth; the other consists in modifying and in organizing these impressions. First, then, the receptive activity is partly a physical activity, since the one who receives information must use his eyes and ears, must keep awake, must at times move about; and this receptive activity is also partly made up of the mechanical processes of the memory. Association by contiguity, or learning by rote, is in the main a receptive process, though this process of reception requires some active effort on the part of the receiver. Committing words and sentences to memory is often hard labor, as we all of us learned when we first were tortured with ill-wrought geographies and grammars, or with merciless Latin declensions and conjugations. But of the whole of this

receptive activity I shall make no further mention in this essay. Simply receiving, keeping your mind in a submissive attitude, directing your eyes in the proper direction, using your ears, writing down your notes, memorizing whatever needs memorizing—all this is essential to knowledge, but has no reactive effect, does not modify the form or the matter of your knowledge. Secondly, however, knowledge is determined for each of us by his own reaction upon what he receives; and this second mentioned kind of mental activity, that which forms the subject of the present paper, consists in a modification as well as in an organization of what we have received from without. All processes of reasoning, and so all original discoveries in science and in philosophy, all speculations, theories, dogmas, controversies, and not only these complex processes, but, as we shall see, even simple judgments, commonplace beliefs, momentary acts of attention—involve such independent reaction upon the material furnished to us from without. The nature of this reaction we are to examine.

Let us begin with simpler forms of knowledge. Sense-impressions constantly suggest to us thoughts; in fact, we have few thoughts that are not either immediately suggested by sense-impressions, or else sustained in their course by a continuous stream of suitable sense-impressions.

To carry on a train of even the most abstract reasoning, I must keep my eye on some diagram, or on a formula; or, perhaps closing my eyes, I must look steadfastly with the mental eye at imaginary forms and colors, or must listen to imagined words. Thus either the present sense-impression, or the memory of a sense-impression, is something essential to the keeping up of a train of thought. But now, how does the sense-impression go to form knowledge? What transforms it into knowledge?

The answer is, First of all, attention, an active mental process. The sense-impression is itself not yet knowledge. A sense-impression to which we give no attention slips through consciousness as a man's hand through water. Nothing grasps and retains

it. No effect is produced by it. It is unknown. You cannot even tell what it is. For to know what such an unnoticed impression is, would be to pay attention to it. But let us now consider some familiar examples of the working of attention. A simple instance will bring home to us how the boundaries of our consciousness are crowded with unknown impressions—unknown, because not attended to; but yet in some inexplicable way a part of our consciousness, since an effort of attention serves to bring them, any one of them, clearly into mental vision. At this instant you are looking at something. Now without moving your eyes, try, by merely attending to your visual impressions, to say what is now in the field of vision, and where is the boundary line of the field of vision. The experiment is a little hard, because our eyes, condensed embodiments as they are of tireless curiosity, are always restless, and rebel when you try to hold them fast. But conquer them for an instant, and watch the result. As your attention roams about the artificially fixed visual field, you will at first, indeed, be confused by the vagueness of all but the center; but soon you will find, to your surprise, that there are more different impressions in the field than you at first can distinguish. One after another, many various impressions will appear. But notice: you can keep your attention fixed on only a portion of the field at a time. The rest of the field is always lost in a dim haze. You must be receiving impressions all the time from all points of the field. But all of these, except the few to which you pay attention, nearly or quite disappear in the dim thickets that seem to surround the little forest-clearing made by our attentive consciousness. A like experiment can be tried with the sense of hearing, when you are in a large room full of people who are talking all around you in many independent groups. A mass of sound comes to your ear. Consciousness interferes to make you pick out one or another of the series of sounds, an act which is indeed made possible by the natural analytic tendency of the human auditory sense, but which does not take place without a notice-

able effort of attention. When you are learning a foreign language, and are for a while much among those who speak it, there comes a time when your ear and mind are well enough trained to follow and understand ordinary speakers with only a little effort of attention; but yet, at this stage, you are able, by simply withdrawing your attention a mere trifle, to let very common phrases run through your sense without your understanding them one whit. You can thus, by a slight change of attention, convert the foreign language from a jargon into a familiar speech, and back again into a jargon; just as, in the fixed visual field, you can make yourself see an object pretty plainly, or lose it altogether by ceasing to give attention.

All these instances, which could be indefinitely multiplied, prove, first, that what we call attention modifies the knowledge that we at any moment get; and secondly, that this modification, through attention, may take place without any change in the impressions that at any moment come from without. The first stage in getting knowledge from bare sense-impressions is therefore the modification of sense by attention—a process belonging wholly to the subjective side; i. e., to our own minds.

But what is attention? and how does it modify sensation? Apparently, attention in the previous instances has been merely a power to increase or to diminish the intensity of impressions. But is this all that attention does? No: there are many cases in which attention directly affects the quality, at least of our complex impressions. This direct modification is commonly attended by some alteration of our emotional state. It is a familiar fact, that in listening to a series of regular and even beats, such as the strokes of an engine, or of a pendulum, or the ticking of a watch, we have a tendency to modify the impressions by introducing into their series the more elaborate regularity of rhythm. In paying attention to them, we increase, at our pleasure, the intensity of every third or fourth beat as heard, and so make a rhythm, or series of measures, out of the actually monotonous impressions. Now attention,

which here first acts by modifying the intensity of impressions, soon produces the effect of qualitatively modifying our total impression of the whole series. If I have taken the fancy to listen to the even strokes in quadruple time, intensifying by my own act every fourth stroke, the character of the series is changed for me. The impressions are less monotonous, and they arouse new associations. They seem to be caused by some force that rhythmically increases and decreases. Perhaps a melody, or some phrase of a few words, arises in my mind, and persists in associating itself with the strokes. Probably some vague feeling, as of rhythmic motion through the air, or of pleasure or of displeasure in the presence of some rhythmically moving living being, is awakened. Qualitatively, my consciousness is thus altered through my attention. I seem to be experiencing something that, as an objective reality, I do not experience. More striking becomes this qualitative alteration of experience through attention, in case you bring together two watches of different beat, or a watch and a clock, and listen to both at once at the distance of a few inches, first, perhaps, stopping one ear to avoid confusion. Here, by attention, you make or try to make a compound rhythm, and this effort alters a good deal the total impression that you derive from the sound. If the two series are such that a simple small multiple of the interval of one gives you a simple small multiple of the other's interval, you can combine the two series into one rhythm, and then there is an immediate impression as if the two series were really but the complex ticking of one source of sound. But if the series will not agree, there is an odd sense of something wrong, a disappointed effort to combine, joined, as I think I have noticed, with a tendency to hasten one of the series, so as to make it agree with the other. Another case where attention alters the quality of total impressions, and not merely the intensity of any part, appears in certain psychological laboratory experiments, described by Wundt in his *Physiologische Psychologie*. Here, for the sake of determining the actual

time taken by an act of attention, an observer is to make an electric signal as soon as he becomes conscious of a certain impression, while the impression itself is produced by an assistant at a time exactly determined. The source of the impression is the ringing of a bell, the flash of an electric spark, or something of the kind, agreed upon at the outset. To distinguish from one another the various causes of the delay of the signal, the conditions of experiment are variously modified. In one set of experiments, the observer does not know beforehand whether he is to experience a flash of light, or a sound, or some sensation of touch, nor how intense the sensation will be, nor when it will come; but he knows that he is to be on the lookout for one of the three kinds of sensation. He waits, with attention all aroused. In this case, it always takes him longer to signal than if he knew beforehand the kind and the strength of the coming sensation. Moreover, his attention now makes him uneasy; the coming sensation is expected, with signs of excitement, and is often received with a start. Here the feeling of effort that accompanies attention affects by its strength the character of the impression received.

Moreover, in many of these experiments there appear phenomena that show that attention alters our perception of time, not merely as to length, but also as to sequence; so that, under circumstances, an impression that really precedes another can appear in consciousness as succeeding it. Yet more: attention sometimes serves to combine two sets of simultaneous impressions, and to make them seem as if proceeding from one source. So much for the influence of attention alone. But what is attention? We reply, evidently an active process. When impressions are modified by attention, they are actively modified. And if you ask about the nature of this active process, the reply is, attention, in its most elementary forms, is the same activity that, in a more developed shape, we commonly call will. We attend to one thing rather than to another, because we will to do so, and our will is here the

elementary impulse to know. Our attention leads us at times into error. But this error is merely an accompaniment, the result of our will activity. We want to intensify an impression, to bring it within the sphere of knowledge. But in carrying out our impulse, we do more than we meant. We not only bring something into clearer consciousness that was before out of clear consciousness, but we qualitatively modify this thing in attending to it. I want to observe a series of beats, and in observing it, I make one beat in three or four seem heavier than the others, or I even alter the apparent length of one interval in three or four, by making it seem longer than the others. I observe a series of visual impressions, and at the same time a series of auditory impressions; if there is a certain agreement between them, I irresistibly unite these two series by my act of attention into one series, and refer them to a common cause. In this way, for example, part of the laughable illusion in the sport known as dumb orator is produced, where the two series of impressions must have some sort of agreement in order to produce the illusion. And so in the other cases. Attention seems to defeat, in part, its own object. Bringing something into the field of knowledge seems to be a modifying, if not a transforming, process.

We all know how this same law works on a higher plane. Giving our whole attention for a time to a particular subject seems necessary for the growth of our knowledge. Yet such attention, if long kept up, always modifies our power to know, affects our whole mental condition, and thus injures our power to appreciate the relations between the subject of our study and the other things in the world. Constant attention to one thing narrows our minds, until we fail to see the very thing we are looking at. Our lives are thus really passed in a constant flitting from one more or less partial and distorted view of things to another, from this one-sided judgment to that. Change the book you are reading, and your whole notion of the universe suffers some momentary change also. Think this week in the fashion of Carlyle, attending to things

as he brings them to your attention, and human life—in fact, the whole world of being as you thought of it last week, when you were following some other guide—becomes momentarily clouded. This truth seems out of relation to that. Your change of attention qualitatively alters your apprehension of truth. Attending now even to the same things, you view them in new lights. The alteration of mental attitude becomes confusing to yourself. But refuse to make any such changes, settle down steadfastly to some one way of regarding all things, and your world becomes yet more misty. You see only a few things, and those in such a bad light that you are in danger of utter darkness. Frequent change of mental view (I of course do not mean constant change of creed or of occupation, but only frequent alteration of the direction of our thought) is essential to mental health. Yet this alteration implies at least some temporary change in our knowing powers, and so some change in our appreciation of truth.

Before going on to speak of the effect of our own activity upon our knowledge, when attention is combined with active recognition of impressions, I want to formulate the law that governs this action upon sense-impressions of attention when viewed alone. This law seems pretty well established by experience, and is, at all events, quite simple. It is this: Any act of attention tends, first, to strengthen the particular set of impressions to which it is at the moment adapted; and secondly, to modify those impressions in such a way as shall make the total impression derived from them all as simple an impression as possible. These two statements could be reduced to one, thus: Attention constantly tends to make our consciousness more definite and less complex; that is, less confused and more united. More definite, less confused, attention tends to make consciousness; since, out of many vague impressions, attention fixes upon one or a few, and helps them to crowd out the others. Less complex and more united or integrated attention makes the impressions attended to; as when, for the indefinite multiplicity of the

successive even beats of a watch or of an engine, attention substitutes the simpler form of a rising and falling rhythm of more and less emphatic beats; or, as when two parallel series of impressions are reduced to one, by combination. If impressions are so complex and so imperative in their demands as to impede greatly the simplifying and clarifying efforts of attention, the result is a disagreeable feeling of confusion, that may increase to violent pain.

This law, that our consciousness constantly tends to the minimum of complexity and to the maximum of definiteness, is of great importance for all our knowledge. Here we have a limitation that cannot be overleaped. Whatever we come to know, whatever opinions we come to hold, our attention it is that makes all our knowing and all our believing possible; and the laws followed by this, our own activity of attention will thus determine what we are to know and what we are to believe. If things have more than a certain complexity, not only will our limited powers of attention forbid us to unravel this complexity, but we shall strongly desire to believe the things actually much simpler than they are. For our thoughts about them will have a constant tendency to become as simple and definite as possible. Put a man into a perfect chaos of phenomena, sights, sounds, feelings; and if the man continued to exist, and to be rational at all, his attention would doubtless soon find for him a way to make up some kind of rhythmic regularity, which he would impute to the things about him, so as to imagine that he had discovered some law of sequence in this mad new world. And thus, in every case where we fancy ourselves sure of a simple law of Nature, we must remember that a good deal of the fancied simplicity may be due, not to Nature, but to the ineradicable prejudice of our own minds in favor of regularity and simplicity. All our thought is determined, in great measure, by this law of least effort, as it is found exemplified in our activity of attention.

But attention is not the only influence that goes to transform sense-impressions into

knowledge. Attention never works alone, but always in company with the active process of recognizing the present as in some way familiar, and of constructing in the present ideas of what is not present. At these two other active processes we must very briefly glance.

Recognition is involved in all knowledge. Recognition does not always mean a definite memory of a particular past experience that resembles a present one. On the contrary, recognition is essentially only a sense of familiarity with something now present, coupled with a more or less distinct applying of some predicate to this present thing. I recognize a horse, a landscape, a star, a friend, a piece of music, a book, when I feel more or less familiar with the impression of the object in question, and when, at the same time, I predicate more or less distinctly something of it. This, I say, is my friend, or the north star, or Webster's Dictionary, or Smith's horse. Or, perhaps, in recognizing, I recognize, not merely the whole object, but one of its qualities, or of its relation to other things. Then I say, this is large or small, good or bad, equal or unequal to another thing, and so on. In all these cases, recognition involves a lively reaction of my mind upon external impressions. Recognition is not found apart from attention, though attention may exist more or less completely without recognition. Recognition completes what attention begins. The attentive man wants to know, the recognizing man knows, or thinks he knows. Recognition implies accompanying attention. Attention without recognition implies wonder, curiosity, perplexity, perhaps terror. But what is the law of this process of recognition? Does the process affect the impressions themselves that are the basis of the recognition? The answer is: Very distinctly, recognition does affect the impressions. The activity involved in recognition alters the data of sense, and that in almost every case. Two of the ways in which this alteration occurs are these: (1) In recognizing, we complete present data by remembered past data, and so seem to experience more than is actually given to our

senses. Thus, then, in reading, we read over misprints (even against our own will), thinking that we see words when we do not see them, or when we see only parts of them. Again: in listening to an indistinct speaker we often supply what is lacking in the sounds he makes, and seem to hear whole words when we really hear but fragments of words. Or, merely whistling a few notes, we recall to ourselves, and seem to have present, the complex instrumental harmony of some music that we have heard played. Or, in dim twilight, we imagine the form of a man, and seem to see it plainly in detail, when, in fact, a mass of shrubbery, or a coat on a chair, is the one source of our impressions. In all these cases, the activity of recognition alters the data of sense, by adding to them, by filling out the sketch made by them. (2) However, even the qualities of sense-impressions are altered according to the way in which we recognize their objects. The colors of a landscape are dimmer, and less significant as colors, so long as we recognize the objects in the landscape. Look under your arm, with head inverted, and the colors flash out with unwonted brilliancy. For when you so look, you lose sight of the objects as such, and give your attention solely to the colors. Mistake a few brown leaves in some dark corner of a garden for some little animal, and the leaves take on for the moment the distinctive familiar color of the animal; and when you discover your blunder, you can catch the colors in the very act of fading into their dull, dry-leaf insignificance. Many facts of this sort are recorded by psychologists and by artists, and can be observed by any of us if we choose. To separate a sensation from its modifications that are produced by recognition is not a little difficult.

Now, in both these kinds of alteration a law is observed, very similar to the one previously noted. The alteration of the data of sense in the moment of recognition are alterations in the direction of simplicity and definiteness of consciousness. The present is assimilated to the past; the new is made to seem as familiar as possible. This reaction of the mind upon new impressions is easily

seen in our thoughts and words in the first moment of great surprise or fright. When Macbeth turns from his door to the table, and sees the ghost of Banquo in his chair, his first words are not the "*Avaunt, and quit my sight!*" wherewith he greets the second appearance of the ghost, nor yet even the "*Which of you have done this?*" that he utters as soon as he recovers himself. No: his first conscious reaction, in presence of the horrible impression, is a quiet remark, "*The table's full.*" And when they tell him that there is a place reserved, he persists with a "*Where?*" In this scene, Shakspere's instinct is perfectly accurate. Our effort always is to make the new as familiar as possible, even when this new is inconceivably strange. It takes us some time to realize, as we say, a great change of any sort. Recognition, however, is yet further modified by the interest with which we at any moment attend to things. But when we speak of interest, we are led to the third kind of active modification by which our minds determine for us what we know.

At every moment we are not merely receiving, attending, and recognizing, but we are constructing. Out of what from moment to moment comes to us, we are building up our ideas of past and future, and of the world of reality. Mere dead impressions are given. We turn them by our own act into symbols of a real universe. We thus constantly react upon what is given, and not only modify it, but even give it whatever significance it comes to possess. Now this reaction takes a multitude of forms, and cannot be fully discussed without far more than our present space. But we can name one or two prominent modes of reaction of mind upon sense-data in this province of mental life.

1. Definite memory is possible only through present active construction from the data of feeling. Nothing can come to us certifying for itself that it formed a part of our previous experience. When we know a thing as past, we actively project our idea of it into a conceived past time. Without this active interference of our own minds, everything would be but a present, and

there would be no time for us, only fleeting life from moment to moment.

2. Definite belief in external reality is possible only through this active addition of something of our own to the impressions that are actually given to us. No external reality is given to us in the mere sense-impressions. What is outside of us cannot be at the same time within us. But out of what is in us, we construct an idea of an external world; and we ourselves give to this idea all the validity that for us it can ever have.

3. All abstract ideas, all general truths, all knowledge of necessary laws, all acceptance of doctrines, is, in like fashion, an active process coming from within. Change the fashions of our mental activity, and nobody can tell how radically you would change our whole conception of the universe.

4. All this active construction from sense-impressions expresses certain fundamental interests that our human spirit takes in reality. We want to have a world of a particular character; and so, from sense-impressions, we are constantly trying to build up such a world. We are prejudiced in favor of regularity, necessity, and simplicity in the world; and so we continually manipulate the data of sense for the sake of building up a notion of a regular, necessary, and simple universe. And so, though it is true that our knowledge of the world is determined by what is given to our senses, it is equally true that our idea of the world is determined quite as much by our own active combination, completion, anticipation of sense experience. Thus all knowing is, in a very deep sense, acting: it is, in fact, reacting and creation. The most insignificant knowledge is in some sense an original product of the man who knows. In it is expressed his disposition, his power of attention, his skill in recognition, his interest in reality, his creative might. Exact knowledge is, in fact, only possible in cases where we ourselves make what we know. So only is mathematical knowledge possible; for

mathematical ideas are all products of a constructive imagination. And so it is in all other thought-life. Mentally produce, and thou shalt know thy product. But remember, for what we produce, we are in some sense morally responsible; and thus, as we said at the outset, in discussing the nature of knowledge, we are trespassing on the borderland of ethics.

We said, at the beginning of our study, that our purpose is a practical one. We wish to point out the importance of the active personal factor in the formation of belief, and to draw from the facts a moral lesson. And what is this lesson? Plainly, since active inner processes are forever modifying and building our ideas; since our interest in what we wish to find does so much to determine what we do find; since we could not if we would reduce ourselves to mere registering machines, but remain always builders of our own little worlds—it becomes us to consider well, and to choose the spirit in which we shall examine our experience. Every one is certain to be prejudiced, simply because he does not merely receive experience, but himself acts, himself makes experience. The great question for every truth-seeker is, In what sense, to what degree, with what motive, for what end, may I and should I be prejudiced? Most of us get our prejudices wholly from the fashions of other men. This is cowardly. We are responsible for our own creed, and must make it by our own hard work. Therefore, the deepest and most important of all questions is the one, "*For what art thou at work?*" It is useless to reply, "*I am merely noting down what I find in the world. I am not responsible for the facts.*" The answer is, "A mere note-book thou art not, but a man. These are never simply notes; thy thoughts are always transformed reality, never mere copies of reality. For thy transforming activity, as well as for thy skill in copying, thou art answerable."

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