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LECTURE SEVEN

325

TWO KINDS OF AWARENESS.

I have yet to bring to light the structural elements inherent in skill and physiognosis which constitute our acceptance of such acts as correct or true. When I do so it will turn out that these elements are inherent also in the right application of a formalism to experience, since they constitute the informal process by which any such application is guided. The description of a logical structure which occurs in a variety of such different instances will necessarily have to be set in very general terms. In order to avoid too much consequent complication I shall make free use of the words 'thing' and 'something' as general designations of whatever we may talk about.¹

At the same time I shall try to facilitate my task by proceeding stepwise towards formulations of increasing generality, as I extend the domain of intellectual activities which I propose to analyse. I shall take first the kind of practical and intellectual arts which I have acknowledged in the last chapter and then proceed to expand them to include the process of applying a formalism to matters of experience and also of validating such a formalism in itself.

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My first topic will actually somewhat amplify this programme, as it will bring up for examination a type of skill that has not yet been distinctly pointed out and the analysis of which seems particularly instructive. I mean the use of a simple tool, such as a cudgel or a hammer, the wielding of which requires a minimum of dexterity. I shall disregard the element of dexterity altogether and consider the act of tool-

1. Whitehead "Nature and Life" Chicago (1934)

using in itself.

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When we use a hammer to drive in a nail, we attend to both but quite differently. We watch the effect of our strokes on the nail and try to wield the hammer so as to hit the nail most effectively. While this goes on the borderline between our body and the external world is bridged by the hammer. When we bring down the hammer we do not feel that its handle has struck our palm but that its head has struck the nail. Yet in a sense we are certainly alert to the feelings in our palms and fingers that hold the hammer. They guide us in handling it effectively, and the degree of attention that we give to the nail is given to the same extent in a different way to these feelings. The difference may be stated by saying that the latter are not, like the nail, objects of our attention, but instruments of it. They are not watched in themselves; we watch something else by keeping intensely aware of them.

The feelings in my palm which guides my wielding of the hammer I notice only on reflection. I can then remember having felt them before without noticing them. Unnoticed feelings have been, not unnaturally, described as unconscious feelings, of which we are unconsciously "aware". But this is inaccurate inasmuch as we do have some consciousness of these feelings though they are not primarily noticed. Moreover, this designation leaves out of account the fact that we rely on these feelings to guide the performance on which our attention is concentrated. I should prefer therefore to speak of my subsidiary awareness of the feelings in the palm of my hand holding the hammer in contrast to my focal awareness of my act of driving in a nail. Later on I shall extend the concept of subsidiary awareness to processes which are quite unnoticeable in themselves, such as the proprioceptive stimuli received

from muscles and joints, and even to neural processes passing through the brain.

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The difference between focal and subsidiary awareness is brought out strikingly by the process of switching our focal attention to the things of which we had previously been aware only in their subsidiary role. Here is an example. I know how to tie a bow-tie round my collar and do it quite automatically merely by touch without a mirror. The other day I wanted to teach my son to tie one round his own collar. I then realised that the tying consisted of four consecutive operations and showed him how I did each, one after the other, stopping for a while between them. After a few demonstrations, however, I began to lose control of the process and could no longer get it right. I could retrieve my knowledge of it only by forcibly forgetting once more its division into parts and casting my mind back to the original purpose of tying the bow. When I could do that again smoothly, I could venture to divide the operation once more into parts, without getting confused by this dismemberment.

Similarly, if a pianist shifts his attention from the piece he is playing to an observation of what he is doing with his fingers in playing, he tends to get confused and may have to stop.¹

The kind of clumsiness which is due to the fact that focal attention is directed to the properly subsidiary elements of an action is commonly known as self-consciousness. A serious and sometimes incurable form of it is "stage-fright", which seems to consist in the anxious riveting of one's attention to the next word - or note or gesture - that you have to find or remember.

1. Comp. e.g. Wallon "De l'acte a la pensee" 1942, p. 223.

This destroys one's sense of the context which alone can smoothly evoke the proper sequence of words, notes, or gestures. Stage fright is eliminated and fluency recovered if we succeed in casting our mind forward and let it operate with a clear view to the comprehensive activity in which we are primarily interested.²

In the preceding lecture I have illustrated at some length the fact that we may often find ourselves quite ignorant of the procedure which we follow in performing certain skills and similarly also of the particulars by which we identify a certain physiognomy. I have now described performances of which we can ascertain the details fairly well but which are paralysed when we focus our attention on these details. In this case the particulars are not unspecifiable in fact but their specification is unwarranted in logic. We may describe such performances as logically unspecifiable, for at least in some cases we can show that the specification of its particulars would be logically self-contradictory.

Take for example the identification of a thing as a tool. It implies that a useful purpose can be achieved by handling the thing as an instrument for that purpose. I cannot identify the thing as a tool if I do not know what it is for or if, knowing its supposed purpose, believe it to be useless for it; or I believe that no occasion is conceivable (in view of the properties of matter) on which the thing could be used for this purpose. In a world made wholly of glass nothing could function as a hammer for driving in nails. Let us denote then by p the affirmations which are implied in qualifying a thing as

2. Some obsessional disturbances, like agoraphobia, have been described as a pathological fixation of attention to the details of a course of action which is paralysed thereby.

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a tool. If I know, understand and at least hypothetically entertain p, the thing is a tool to me; if not, it is something else. It may be an animal, like Alice's croquet hammer which walked away because it was a flamingo. But in most cases, if I come across a tool of which I do not know the use, it will merely strike me as a peculiarly shaped object. To regard it merely as such is to imply that I do not know, or do not understand, or do not even hypothetically entertain p; which of course contradicts the assertion that I know, understand or at least hypothetically entertain p.

However, there are other cases of analogous character to which this interpretation cannot be applied without straining it unduly. I have mentioned in my last lecture as the classic subject matter of Gestalt Psychology that the particulars of a pattern or a tune must be apprehended jointly for if you observe such particulars separately they form no pattern and no tune. I am inclined to regard this also as an instance of logical unspecifiability, though I could not formulate a proposition p implied in the directing of our focal attention to the tune or the pattern as a whole which would be contradicted by switching our focal attention to the single notes of the tune or the fragments of a pattern.

Yet my foregoing analysis of the logical unspecifiability of certain practical performances do seem to justify my saying that here too, in the case of tunes and patterns the particulars of these composite entities are logically unspecifiable, for our attention can have one focus at a time and that it would indeed be contradictory of itself to be both subsidiarily and focally aware of the same particulars at the same time.

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The relation between focal and subsidiary awareness will have their meaning in the subsidiary quality of the attention directed to them in the context of our focal

itself become clearer and will at the same time reveal more effectively the nature and justification of personal knowledge, if we reformulate it in terms of meaning. Suppose that we discredited the usefulness of a tool; its meaning as a tool is gone. It is of the essence of a purpose that there is a person who entertains it, at least as a possibility, and to him only can a thing have an instrumental meaning for the purpose in question. This logical implication is a formalisation of the psychological fact that only a person who wields a hammer effectively as a tool to drive in a nail can feel the nail being hit by the hammer's head instead of feeling the hammer's handle exercising variable pressures on his palm.

There is an easy transition from practical meaning to meaning in the more usual cognitive sense. We could use a hammer merely for exploration as when railwaymen test the axles of a carriage by hammer-strokes. Or we may think of the hammer replaced by a probe, used for exploring the interior of a cavity. A man gone blind will learn to feel his way by use of a stick, which involves transposing the shocks transmitted to his hand and the muscles holding the stick into a sense of the things touched by the point of the stick. Similarly, after adequate training, a patient supplied with an artificial arm and hand will cease to be focally aware of the pressure exercised by it on the stump but feel instead the objects where he touches them with his artificial fingers.

We may go further and include the use of a stick as a pointer, which is clearly subsidiary to our focal attention to something to which our awareness of the stick is subsidiary. A pointing gesture may be accompanied by shouts or words calling attention to the act of pointing and by the naming of the thing pointed at. All these are things of which we are subsidiarily aware and which have their meaning in the subsidiary quality of the attention granted to them in the context of our focal

attention.

Things of which we are subsidiarily aware are transparent in the sense that in attending to their meaning we have no focal awareness of these things as objects. The frequently noted¹ 'transparency' of language was brought home to me as follows. My correspondence arrives at the breakfast table in various languages, but my son understands only English. Having just finished reading a letter I may wish to pass it on to him, but must check myself and look again to see in what language it is. I am vividly aware of the meaning conveyed by the letter yet know nothing whatever of its words. I have attended to them closely but only for what they mean and not for what they are as objects. If my understanding of the text were halting or its expressions or its spelling were faulty its words would arrest my attention. They would become slightly opaque and prevent my thought from passing through them unhindered to the things they signify.

Gestalt psychology has described the transformation of an object into a tool and the accompanying transposition of feeling, as for example from the palm to the tip of a probe, as instances of the absorption of a part in a whole. I have covered the same ground in somewhat modified terms in order to bring out fully the logical structure of a subsidiary awareness experienced in focal terms which is not so clearly apparent in the automatic perceptions of visual and auditory wholes from which Gestalt-psychology has derived its prevailing generalisations. I shall criticise Gestalt psychology on these grounds later on.

Meanwhile, let me bring in the experience of Gestalt psychology more effectively by recasting my foregoing analysis of two kinds of awareness in terms of parts and wholes. When

1. Comp. B. Russell, "Human Knowledge" p. 163.

focussing on a whole, we are subsidiarily aware of its parts, while there is no difference in the intensity of the two kinds of awareness. The more sharply you scrutinize a physiognomy, the more keenly are you alert to its particulars. The tennis player who keeps his eye fixed on the ball, wields his racket with the same intensity of attention. When something is seen as subsidiary to a whole, this implies that it participates in sustaining the whole and we may regard this function as its meaning.

indeed, we now see coming into view two kinds of wholes and two kinds of meaning. The more clear-cut cases of meaning are those when one thing, e.g. a word means another thing, e.g. an object; the corresponding wholes are perhaps not as obvious, but we may easily amalgamate sign and object into a whole. On the other hand while a physiognomy, a tune or a pattern are manifestly a whole, they are somewhat puzzling to the student of meaning, for though they are clearly not meaningless they mean something only in themselves. The distinction between two kinds of awareness allows us readily to identify these two kinds of wholes and two kinds of meaning. We have only to remember the various uses of a stick as for pointing at things, for exploring things or for leaning on it, in order to acknowledge that the stick has a meaning in all these cases according to the part it plays in each context. Anything that functions in an accredited context has a meaning in it.

The conception of two kinds of awareness throws new light also on the manner in which we accept and operate a formalism. I have described earlier the conceptual framework and the scientific formalism, by which a person is separated from the objects observed by him. It is clear that within this setting the formalism itself is not an object under examination and this points out which we make contact with things that we observe as

is usually recognised by saying that it embodies the pre-suppositions for our examination or handling of objects. This designation is apposite insofar as it allows us to distinguish clearly between using a map to find our way by it and looking at the country with a view to verifying or correcting the map. The first manner of attending to a map presupposes its accuracy, while the second questions it. But when it comes to stating our fundamental 'presuppositions' the result is unsatisfactory. We seem never quite to know what our 'presuppositions' are and when we come to formulate some they appear quite unconvincing. Moreover, the idea that our acceptance of a formal framework is anchored in certain anterior presuppositions, seems quite inapplicable to our appreciation of art or our respect for custom, or even our devotion to religious practices.

The proper perspective to which these acceptances should be assimilated is revealed by the manner we attend to external objects by a subsidiary awareness of our body.

The clearest distinction between myself and things that are not myself, presents itself to me in the difference I feel between parts of my own body and things that are not parts of it. There are pathological cases in which the patient loses in respect to parts of his body the sense of their belonging to his body. When stepping out of a bath he might forget to dry those parts. He can observe them through all the sensory paths available to a normal person but he no longer identifies himself with the thing from which these messages originate. And we have seen before that the reverse of this can hold too. The end of an artificial leg which is in itself insensitive, may be felt to be touching the ground and thus a metallic object strapped to a mutilated stump is made to feel part of the body. The blind man's stick, the probe, or any tool may be similarly regarded as an extension of the body. They all tend to shift outwards the points at which we make contact with things that we observe as

objects outside ourselves.

The externality of such objects is well defined only if we can examine them deliberately, and for this they must be localised in space. The physiologist finds that this localisation is based on a slight difference between the two images thrown on our retina, on the accommodation of the eyes, on the convergence of their axis and the state of contraction in the muscles controlling eye motions, supplemented by impulses received from the labyrinth, which vary according to the position of the head in space, and by feelings in the muscles and joints of the neck which indicate the position of the head in relation to the rest of the body. Of all these things we become aware only through our localisation of the things which we are gazing at; and in this sense we may be said to be subsidiarily aware of them, even though some of them (like the pictures on our retina) cannot at all be felt in themselves.

This threefold structure, namely (1) our awareness of our body as something that is not an object; (2) the subsidiary part played by this awareness in focussing our attention on external objects, and (3) our capacity to assimilate tools and other objects so as to make them form part of our subsidiarily noticed selves, suggests the following generalisations. When we accept a certain set of presuppositions and use them as our interpretative framework, we may be said to dwell in them as we do in our own body. Their uncritical acceptance for the time being consists in a process of assimilation by which we identify ourselves with them. They are not asserted, for assertion can be made only within a framework which we have identified with ourselves for the time being; but we are subsidiarily aware of this interiorised framework by the results to which its operations lead us. The word 'results' covers here everything

that makes sense, whether in our action, or our understanding.

I have formulated before the beliefs which are implied in using an object as a tool. In the new scheme which I have just drawn up of the process by which an external thing is given a meaning by being made to form part of ourselves, these beliefs are transposed into more active intentions which draw on our whole person. In this sense I should say that an object is transformed into a tool by a purposive effort envisaging an operational field in respect to which the object guided by our efforts shall function as an extension of our body. My reliance on it for some end makes an object into a tool even though it may not achieve that end. The burning of a man's nail pairings for the purpose of bewitching him, is an instrumental action based on a mistaken integration of supposed means to supposed ends, which however does not destroy its instrumental character. Similarly, to pronounce a magic formula, to utter a curse or give a blessing, are verbal actions into which the speaker, confident in their efficacy, pours meaning. Conversely, where the ends are achieved by means which are not intended to produce that result, these means have no instrumental character. If a rat accidentally depresses a lever which releases a food pellet it has not used it as a tool; only after the rat has learned to use it for that purpose does the lever become its tool. Bujtendijk has described (as others have done in less detail before him) the radical change in the behaviour of a rat when it has learned to run a maze. The animal ceases to explore the details of the walls etc. on its way and attends to these now merely as signposts. It seems to have lost its focal awareness of them and developed instead a subsidiary awareness of them which now forms part of the pursuit of its purpose.

I have said before that a tool is only one example of the merging of a thing in a whole (or Gestalt) in which it is assigned a subsidiary function and a meaning in respect to

something that has our focal attention. I generalised this structural analysis to include the recognition of signs as indications of subsequent events and the process of establishing symbols for things which they shall signify. We may generalise to these cases also what has just been said about a tool. Like the tool, the sign or the symbol can be conceived as such only in the eyes of a person who relies on them to achieve or to signify something. This reliance is a personal commitment which is involved in all acts of intelligence by which we integrate some things subsidiarily to the centre of our focal attention. It corresponds to the act of personal assimilation by which we make a thing, in our subsidiary awareness of it, form an extension of ourselves. This formulation substantiates and generalises what I called in my first lecture the personal mode of meaning.

This intentional context can be amplified further to include the rules according to which we acquire the use of a tool and of other subsidiary things. If as seeing men we are blindfolded we cannot find our way about with a stick as skillfully as a blind man does who has practised it for a long time. We can feel that that the stick hits something from time to time but cannot correlate these events. We can learn to do this only by an intelligent effort at constructing a coherent perception of the things hit by the stick. We then gradually cease to feel a series of jerks in our fingers as such - as we still do in our first clumsy trials - but experience them as the presence of obstacles of certain hardness and shape, placed at a certain distance, at the point of our stick. We may say more generally, that by the effort by which I concentrate on my chosen plane of operation I succeed in absorbing all the elements

of the situation of which I might otherwise be aware in themselves so that I become aware of them only in terms of the operational results achieved through their use.

When this interpretation of the shocks in our fingers is achieved in terms of objects touched by the stick, we may be said to carry out unconsciously the process of interpreting the shocks. And again, in practical terms, as we learn to handle a hammer, a tennis racket or a motorcar in terms of the situation which we are striving to master with it, we become unconscious of the actions by which we achieve this result. This lapse into unconsciousness is accompanied by an increasing consciousness of our experiences in the operational plane. It is misleading, therefore, to describe it merely as the result of repetition; it is a structural change achieved by a repeated mental effort aiming at the instrumentalisation of certain things and actions in the service of some purpose.

We have reached a point here at which the problem of actual unspecifiability raised in the previous lecture may find its solution. If things of which we have retained only a subsidiary awareness may lapse altogether from our consciousness we may eventually forget about them altogether and they may become unspecifiable in the sense that we know nothing about them. However, this seems only a minor reason for this kind of unspecifiability, which is accounted for essentially by a somewhat different if closely related process.

A mental effort has a heuristic effect: it tends to incorporate any available elements of the situation which are helpful for its purpose. Köhler has described this for the case of a practical effort made by an ape in the presence of an object which may serve as a tool. The animal's insight, he says

reorganises its field of vision so that the useful object meets his eye as a tool. We may add that this will hold not only of objects which made use as tools but also of the performer's own muscular actions which may subserve his purpose. If these actions are only experienced subsidiarily, in terms of the achievements to which they contribute, their performance may select from them those which he finds helpful without ever knowing these as they would appear to him when considered in themselves. This is the usual process of unconscious trial and error by which we feel our way to success and may continue to improve on our success without specifically knowing how we do it, for we never meet the causes of our success as identifiable things which can be described in terms of classes of which such things are members. This is how you invent a method of swimming without knowing that it consists in regulating your breath in a particular manner, or discover the principle of cycling without realising that it consists in the adjustment of your momentary direction and velocity so as to counteract continuously your momentary accidental unbalance. Hence the practical discovery of a wide range of not consciously known rules of skill and connoisseurship comprising important technical processes which can never be completely specified, and then only as a result of extensive scientific research work of the kind described in the previous chapter.

The unspecificability of the process by which we thus feel our way forward, accounts for the possession by humanity of an immense mental domain, not only of knowledge but of manners, of laws and of the many different arts which men knows how to use, comply with, enjoy or live by, without specifically knowing their contents. Each single step in acquiring this domain was due to an effort which went beyond the hitherto assured capacity of some person making it, and by his subsequent realisation and

maintenance of his success. It relied on an act of groping which originally passed the understanding of its agent and of which he has ever since remained only subsidiarily aware as part of a complex achievement.

Language is the product of men groping for words. Every day the same English vocabulary of a few thousand words is used in speech and print on millions of new occasions, so that inevitably each time it is given a slightly new connotation. A language is what it has thus become; an embodiment of usage, accredited by authority, and functioning in an entirely unspecifiable manner. This accounts for the fruitfulness of the Socratic enquiry into the meaning of words. A word like 'justice' is of such inexhaustible profundity that an enquiry into its meaning can range as deeply and widely as Plato's Republic. This is my justification for rejecting from the start the ideal of a language having a strictly defined meaning and for having said that we must commit ourselves instead to an unknowable range of meaning and ambiguity in our use of language.

It should also be clearer by now why the dismemberment of a sequence of purposive or otherwise meaningful behaviour into its constituent parts tends to confuse and even paralyse such behaviour. For we had originally gained control over these parts in terms of their contribution to the result, so that they have never been known and still less willed in themselves and consequently, to transpose the operations of a meaningful behaviour pattern into the terms of its constituent elements is to transpose it into terms deprived of any purpose or meaning. we have then to learn afresh the sequence of these part actions and naturally find it difficult to reproduce them in their proper order unhesitatingly, as we did before the dismemberment of the sequence.

Yet motion studies can be beneficial for the learning of

skills by improving and extending the repertoire of part-actions that are available to the performer in the service of his purpose. You may be proficient in two finger typing but can make further progress through accepting a temporary setback while you force yourself to use all ten fingers. Once you have re-integrated this new element into your comprehensive typing effort and you have again forgotten what your fingers are doing, the sacrifice will prove to be of considerable advantage. In a similar way the teaching of every skill can be assisted by the practice of an effective technique. Skiing can be improved by dry practice in a gymnasium. The riding master's interminable fault-finding is the making of good horsemanship. Teaching the piano or the violin, of elocution or painting, all consist in habituating the pupil to the performance of certain part-actions. And similarly, training in any kind of informal appreciation, like cotton grading, medical diagnostic, art criticism or the classing of personnel, relies successfully on imparting a list of characteristics which one has to look for. However, the benefit derived by the pupil from being drilled in the execution of part-motions or in the recognition of significant detail ultimately depends on this for assimilating skilfully the particulars instilled in him to an intelligent comprehensive act.

The difference between this account of personal knowledge and the treatment of the same type of phenomena by the psychologists of the Gestalt school on whose material I have extensively relied, I would define as follows.

Gestalt theory may be summed up in three statements.

- (1) Things may appear quite different in isolation from what they look, sound or feel like when assembled together.
- (2) When such an assembly is seen, heard or felt as a whole we perceive a new thing.
- (3) The new appearance which the particulars

acquire within the whole expresses their functions or meaning in connection to the whole.

By far the greater part of the evidence by which these rules were illustrated was drawn from processes of perception which operate effortlessly and are not even corrigible by deliberate reconsideration. They are responses which in their result may run counter to the considered judgment of the person making the response in which case it is regarded as an illusion, rather than a perception.

Any attempt to describe Gestalt formation in terms of responses which are neither accredited nor discredited, disqualifies it as a process of acquiring knowledge. So long as the psychologist does not analyse his knowledge of wholes in terms which justify this knowledge, he cannot but describe perception of Gestalt as a process by which nobody affirms anything; as something that just happens, impersonally. He cannot distinguish for example between an optical illusion and a true perception, both of which are the result of Gestalt-processes. This defect has been clearly pointed out by D. Katz "I may experience Gestalt (he writes) not only in the same sense that I am possessed by the Gestalt, but also by being conscious of it that it is I who has the Gestalten."¹ He agrees in this respect with W. Stern² and Martin Scheerer³ who criticised Gestalt-psychology for vainly attempting to represent acts of believing and meaning in terms of mere happening. Yet these dissents from the dominant doctrine were fragmentary and remained ineffectual, for the anomalies which they pointed out were inevitable consequences of the objectivism which no scientist could venture to

1. D. Katz "Gestaltpsychologie" Basel (1944) p. 78.

2. W. Stern "Personalistische Psychologie" in "Einführung in die die Neue Psychologie" edited by Saupe, 1927.

3. Martin Scheerer "Die Lehre von der Gestalt" Berlin u Leipzig, 1931.

repudiate.

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Another embodiment of the same error (which according to Katz may be its original form) is the endeavour to represent an intentional act of intelligence by a process of neuralequilibrium. Having denied that such acts are mere aggregates of their parts and thus rescued our conception of them from previously held fallacies, gestaltpsychology has given way in its turn to the demand for a mechanistic explanation, which by its very nature can account only for mere happening. The only way to escape from this consists in my view in candidly acknowledging personal knowledge and then accepting an adequate neural model of such knowledge in which our cerebral processes would no longer be deemed to originate our mental efforts, but would on the contrary be regarded as tools in the service of these efforts. But this suggestion cannot be followed up here.

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This account of the shaping or comprehending of wholes by a subsidiary awareness of particulars pertaining to it, has yet to be supplemented by exhibiting the act of valuation involved in it. The athlete or the craftsman who strives to put forward his best, continues to improve his skill and his efforts thus appear to be guided by a continued criticism of himself in terms of his achievement. The connoisseur's art combines two kinds of critical acts. As he strives to improve his art he too exercises an implied criticism of himself; but at the same time he is engaged in an appraisal of his object. Every physiognomy can be present in a more or less marked form and a specimen characterised by a physiognomy will be regarded therefore as a better or a less good specimen according to the degree to which its physiognomy is marked. The expert grading of raw material by unspecifiable characteristics, like the classing of cotton,

is a critical appraisal forming part of a practical art. When we recognise a pattern or a rhythm we likewise apply a standard of perfection to experience. Crystallographic theory represents the totality of patterns in respect to which the perfection of an individual crystal may be rationally appraised. Probability theory offers an evaluative framework which permits us to assess the likelihood that an observed event has taken place in the assumption of certain hypothesis; or alternatively, to assess the distinctiveness of a configuration established by deliberate choice.

In short, whenever we believe ourselves possessed of personal knowledge we also exercise, and believe ourselves to be justified in exercising, a critical valuation, be it of our own performance, or of a thing that we are using as a tool, or again of a thing that we are identifying or grading in respect to some physiognomic character.

I have not been able to enlarge on our sensual participation in the world, be it of experience or of the imagination. I shall yet return to this as it were at second hand in reflecting on our fellow-feeling for the appetites of other living beings. But even so I hope to have given strong reasons for suggesting that human understanding, even when dealing with inanimate nature, is much more than a confrontation of theory with measured data. It is a process of making sense by shaping or discovering significant entities. And it includes quite massively a search for standards by which we can reasonably appreciate these entities. The logical structure of this process is such, that it can be carried out only by a person committing himself to the result and I believe that it is both justified and indispensable to us as intelligent beings.

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Lecture Eight.

Living Being.

most recent (March 1954.)

Note to page 16.

if 'dog' is merely a name for n dogs hitherto observed,
how can it be expected to apply to the $n+1$ st dog which
differs from all the first n dogs to some extent?

if 'dog' refers to an ideal dog how can we ever come
to know about it?

The text offers a solution for this ancient problem.