

THE COGNITIVE FUNCTIONS OF EMOTION

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1. ANTIPATHY TOWARDS EMOTIONS

A Personalist philosophy is one that attempts to do full justice to the reality, distinctiveness and value of persons. And means doing justice to the whole of the person. Now one aspect of persons that modern philosophy and thought generally has often neglected, or to which it has been overtly hostile, is emotion. It is widely assumed that emotions are inevitably irrational in themselves and their effects. They are ‘mists on our mental windscreens’¹ and can only distort our cognitive and other undertakings. Research, experiments and all investigations should be conducted dispassionately and not corrupted by the emotional involvement of the enquirer. Knowledge is genuine only insofar as it is a function of the object and can only be distorted by the influence of the knower’s emotions. Emotions are subjective colourings of experience which interfere with our apprehensions of the world.

In opposition to these assumptions I shall argue that, although some emotional experiences are irrational in themselves and their effects and do distort our knowing and our action, nevertheless emotional involvement is necessary to knowing and action, just as fuel and steering are to motor vehicles. Dirty fuel and defective steering upset the performances of motor vehicles, but that fact does not mean that clean fuel and correct steering are unnecessary. Consequently, I shall take the facts of failures and distortions for granted and shall focus on the constructive and necessary roles of emotions with respect to knowing².

I have elsewhere shown how certain emotional experiences are required for the governance of action³. In brief, experiences of felt attraction or aversion issue in motivating emotions which initiate and guide courses of action by forming and then modifying, as and when necessary, the specific intentions embodied in them. A course of action is terminated either by a felt experience of satisfaction, which shows that it has succeeded, or by one of dissatisfaction, which shows that it has failed, along with either one of despair regarding the possibility of success, which shows that a second attempt is also likely to fail, or one of hope of success in a second attempt. Without these experiences, action would not be initiated, sustained, terminated nor renewed. I now propose to survey the functions which emotions constructively fulfil in the gaining and holding of knowledge.

2. EMOTION AND SCIENTIFIC KNOWLEDGE.

I shall begin with what may seem to be the most unpromising form of knowledge—that of the natural sciences—which has often been supposed to be wholly impersonal and ‘objective’. In his *Personal Knowledge*, Michael Polanyi effectively demolished that assumption and showed that there is a necessarily passionate involvement of the person in his knowing. In Chapter 6 of that book, Polanyi showed how scientific discovery manifests a pattern of governance by emotion very similar to that later worked out by Strasser with regard to action generally. I shall now summarise Polanyi’s argument.

Polanyi aimed to show that ‘scientific passions are no mere psychological by-product, but have a logical function which contributes an indispensable element to science’⁴. They have three functions in discovery: selective, heuristic and persuasive.

The selective function has two aspects: to signal that a discovery is intellectually precious and that it is precious to science. The former aspect is, in effect, the primary experience which gives rise to all intellectual enquiries—the felt conviction of their value which selects them as worthy of pursuit. It is this which is Polanyi’s over-all concern. Science along with the other great articulate systems of civilisation, such as religion and law, evokes and imposes and claims to be right those emotions which sustain and appraise it and appraise its theories for their intellectual beauty as a token of contact with reality⁵. Presented, we may say, as a mere body of objective fact, all that science can evoke is a ‘So what?’ or a ‘justification’ in terms of its technological utility, which would crimp and stunt it.

The second aspect of the selective function corresponds to the notion of a motivating emotion, for it gives the underlying desire to discover the truth about nature a specific direction. Out of all the facts which are known or knowable, only a few are of scientific interest. The appreciation of this interest, which relies on a sense of intellectual beauty, cannot be dispassionately defined, as neither can the beauty of works of art nor the excellence of noble actions⁶. Without selection and guidance by emotional appraisal of the scientific value of what is known or appears likely to be discovered, enquiry would ‘inevitably spread out into a desert of trivialities’. What is needed is a general vision of reality which yields a scale of interest and plausibility, so that important conceptions can be upheld as intrinsically plausible even when there is evidence against them at the moment, and others can be rejected as specious even though there may be some evidence for them⁷. A scientist, in selecting a problem to be pursued, requires a sense, a feeling, for problems which are likely to be soluble, soluble by him with the resources and time available, and to be of some wider value and significance for science⁸. There is no set of formulae or rules for this. Only what is routine and thus easily anticipatable and of low interest, we may add, can be attained by the scientist without emotional involvement in what he is doing. As for what constitutes scientific value, Polanyi suggests three joint factors, unevenly distributed over the natural sciences: certainty or accuracy, systematic relevance

or profundity, and intrinsic interest⁹. Sensitivity to such values, and their presence, absence and degree in problems, theories and results, is necessary to their scientific evaluation as worth investigating further and to deciding if results are acceptable or unacceptable. It is required to terminate or provoke to further enquiry, as well as to turn a general interest in scientific research into a specific intention to take up and prosecute a particular problem or line of enquiry.

The heuristic function is that of sustaining the effort to discover by intimating specific discoveries, yet to be made, and sustaining the pursuit of them over a long period. Major discoveries which change the interpretative framework of science cannot be made by the routine use of the existing framework. Those who make them have to cross a logical gap between present conceptions and new ones, the problem and its solution, which involves a change in their whole way of seeing things, and they can do this only

by relying on the unspecifiable impulse of our heuristic passion ... Like all ventures in which we comprehensively dispose of ourselves, such intentional change of our personality requires a passionate motive to accomplish it. Originality must be passionate¹⁰.

Citing the example of Kepler, who expressed such passion in respect of both genuine discoveries and mistaken ideas, Polanyi points out that it is not infallible. All the same, it is necessary.

This heuristic function, I suggest, corresponds also to the notion of the motivating emotion. It, too, intimates something specific to be done and sustains through difficulties the effort to do it. It therefore also acts, not as a terminating emotion in the specific sense, but as a provoking one which evokes further efforts after disappointing results have been encountered at particular stages on the way.

Polanyi's third function is the persuasive one¹¹. Having satisfied himself that he has made a genuine and significant discovery, the scientist must communicate it to his colleagues, and so have it confirmed. It is not made true by consensus, but all serious utterances about the world are put forth with what Polanyi calls 'universal intent', as true sayings and worthy of all men to be believed. Though it is possible to be *Athanasius contra mundum* and later to be confirmed to have been right all along, the agreement of one's colleagues gives added assurance that one is correct. Thus the scientific community, or those specialising in one's own corner, have to be convinced. Again it is the major discovery, creating a wide logical gap, which demands persuasive passion, on the one side, and, on the other, sympathy with what one initially cannot comprehend¹². The other scientists have, as it were, to learn a new language, for the great discovery cannot be expressed in terms of existing conceptions and terminology. One cannot argue for a new framework of thought in terms of an old one. A process of conversion is required to bring the others to follow the pioneer in crossing the logical gap that he has bridged. Thus arises the phenomenon of unseemly scientific controversies, some of them long lasting such

as those concerning the status of psycho-analysis, in which persuasive emotions get out of hand. At the limit these concern what it is for something to be science or scientific in the first place, the one party claiming that its theory, practice or branch of study is science or scientific, the other denying it. In terms of our scheme of governance by emotion, this persuasive passion is the motivating emotion of a second course of action—gaining the agreement of one's colleagues—which follows upon the successful outcome of a previous one, the original line of research.

Polanyi has an interesting comment to make at the end of his discussion of the constitutive emotions of science:

Some people may listen to these illustrations of continuing and sometimes violently conducting controversies with impatience, for they believe that science provides a procedure for deciding any such issues by systematic and dispassionate empirical investigations. However, if that were clearly the case, there would be no reason to be annoyed with me. My argument would have no persuasive force, and could be ignored without anger¹³.

3. SATISFACTION AND STANDARDS IN KNOWING

'A scientist seeks to discover a satisfying theory, and when he has found it, he can enjoy its excellence permanently'¹⁴. Without experiences of satisfaction, we would not know when to stop, for we would have no idea of whether we had succeeded or not. Therefore we need to enquire into the nature of cognitive satisfaction and thus of the standards which we use in deciding if we are satisfied or not in the course of enquiry.

What makes scientific theories satisfying is primarily their truth. Polanyi suggested that, secondarily, there are three further forms of scientific value which distinguish more important and valuable truths from the mass of trivial ones. One suspects that, in vain attempts to ape the mathematization of physics and chemistry in subject-matters which do not permit of it, the allegedly human, social or 'behaviourial' sciences often produce precise trivialities, or downright distortions of the truth. Whether that is so or not, one can see that there is a real question as to the satisfactions sought and the standards used. They do not come revealed on tablets of stone, but have to be themselves discovered, confirmed and established in a tradition. Intellectual enquiry is an intelligent and intentional activity: it aims at a goal and seeks an imagined satisfaction in attaining it. It seeks to satisfy the desire to know, and to know more thoroughly and more profoundly. It implicitly projects a conception of what will satisfy that desire. Such a conception may be vague, both in general and in specific terms. Generally, we may not yet know what sort of knowledge, understanding and insight we are seeking, only that we seek something which we feel ourselves not yet to have. Such is necessarily the

case during the birth and infancy of any branch of disciplined enquiry, or during a profound revision of it, such as happened to historical studies at the end of the eighteenth century, when they turned from reliance only upon secondary sources to the use of primary ones—literary ones such as records in archives, letters and diaries, and material ones recovered by archaeology. The story of the rise of modern natural science from the later Middle Ages through the Renaissance and into the seventeenth century shows how it was mixed up with other interests, which we now recognise to be non-scientific, such as magic in the chemistry of Paracelsus and the Pythagorean number mysticism of Kepler, but which were not, and perhaps could not, be distinguished from it at the time. It required, on the part of the pioneers, intense effort and profound belief in a vision that could not be verified for some time in actual accomplishments. Newton's wider historical significance is his demonstration to the educated world of what the new science could do, and so he raised hopes, often much too grandiose, for many more such achievements. None of this could have been done with an attitude of indifference and by the mechanical following of established rules.

A similar general ignorance of what it is that he seeks affects the new recruit to a developed discipline, for he has yet to become familiar with the ways in which it operates and what sorts of things it accepts as valid and what it rejects as invalid. Insofar as he intends to practise the discipline, rather than just to acquire knowledge of its discoveries, the student has to have a desire to know and to discover, has to acquire a sensitivity to intellectual values generally and those of his discipline in particular, and thereby has to learn what sorts of thing in general will appropriately satisfy his desire. These are the emotions which, as Polanyi says, every branch of study teaches its recruits.

Specifically, in any particular enquiry we do not yet know what we seek, otherwise we would have already found it. We seek an X, or a set of unknowns, that will account for, or fill gaps in, what we already know. We have some vague conception of what it is, based upon what we already know. It is a relatively indeterminate something that will satisfy our desire to explain these data, to link up these currently separate fields or theories, to fill in the blanks of this story, to account for this person's sudden change of course. It is like a blank space on a map, unknown in itself but known to some extent as being here and not there, beyond this and north of that. If it were wholly indeterminate, we would never know where to look nor how to recognise it if we found it, and if it were wholly determinate, we would already know and possess it.

Seeking something more or less indeterminate at the outset, whose nature is progressively revealed as we go along, is a familiar occurrence in daily life with regard to other desires and satisfactions, when we experience states of restlessness, seek something to satisfy our felt but vague unease, and yet do not know what it will be¹⁵. We try this and then that, and as we feel disappointment, more uneasy, less uneasy, partially satisfied—'colder' and 'warmer' in the terms of children's guessing games—so we know we are moving away, towards or past what we seek. This is

what C.S. Lewis referred to as the dialectic of desire, in the case of the ‘Sweet Desire’ or Joy, which cannot be satisfied with any mundane object¹⁶. Following it through experience of what does not satisfy it, and without pretending to oneself that it is satisfied when it isn’t, it will lead to what will satisfy it. That, I suggest, is true of all desires, intellectual ones included. Lines of research are often suggested by a felt unease with an existing theory, set of data, wide-ranging conception or received account. An accepted explanation may be felt to be superficial or to leave out facts which are felt to go beyond random variations in observations and experimental results. I stress the word ‘felt’ here for two reasons: it suggests both the ‘niggle’, the worry or itch which will not go away, a working of intellectual conscience and sensitivity, and also the tentative groping for something not yet in focus, still largely indeterminate, and yet to be found and seen as what it really is. One has to feel this worry or perhaps intellectual cramp in order to realise that there is a problem at all in what is already known.

The imagined but often as yet largely indeterminate satisfactions of intellectual desire thereby set the standards for intellectual work and success and failure at it: what we shall take to be a true representation of reality, a good explanation, a cogent argument, a valid proof, a proper way to conduct experiments or to carry out surveys. Standards, as in accountancy and medicine, have to be achieved or refined by pioneers and then established through a growing consensus. They are obviously historical phenomena: they come gradually into existence, become established through teaching and thus in traditions, become more exactly defined and more exacting, and perhaps also decline. Professional and academic bodies emerge to endorse, codify, further refine, monitor and perhaps enforce such standards. For example, it is now almost impossible to get any article accepted by a scholarly journal or book by a scholarly publisher unless it has complete set of foot-notes, but such was not the case forty or so years ago. Likewise within the last twenty or so years even undergraduate essays in British universities and colleges have had to fit the same format. Sometimes one may think this to be irrelevant pedantry diverting teacher and pupil from the real questions of content, but the insistence upon the appearance is a fact of contemporary academic life, and most teachers and institutions are not satisfied unless one conforms to these requirements. And they make their dissatisfaction and displeasure felt.

The intellectual life, now almost the same as the academic one since only in biography and history are there now independent scholars, is distinguished by an attitude of detachment, a bracketing of other concerns and interests. It is the *disinterested* pursuit of knowledge, or it is that primarily although it can be joined with some types of other concern provided they remain subordinate and do not lead to the distortion of the truth. But it is not the *uninterested* pursuit of knowledge. It is detachment from those other interests out of commitment to intellectual and academic ones and attachment to their distinctive values.

So far we have considered natural science in particular and intellectual disciplines

in general. We have not considered the emotional governance of cognitive activity in everyday life. I do not wish to deny that there are often important differences, especially between the apprehension and understanding of concrete reality in 'the life-world' as against the generalising theorising and hence abstract understanding of natural and human sciences, if there really are any of the latter in the narrower sense of 'science'. Cognitive activity in daily life is usually 'interested' and undertaken for specific purposes, such as entertainment. This is shown in the preference given by ordinary readers to history and biography over books from other intellectual disciplines. Except when some particular demand is made, as in wanting to know all the defects of a second-hand car which one thinks of buying, we have more relaxed standards in daily life, as witness gossip, anecdotes and much journalism. We take more things on trust and we are not so interested in truth and accuracy. Nevertheless, though in daily life we seek to satisfy other desires as well, and usually seek the truth only as a means to or as but one constituent in the satisfaction of those other desires, insofar as we do seek it the same relationships with emotion and standards apply. I overhear a piece of gossip. 'Surely that can't be true', I feel. But I may not be provoked to confirm my disbelief.

4. EMOTION AND THE APPREHENSION OF VALUE

Knowing involves standards which cannot be neutrally and unemotionally defined, but are essentially a matter of what we find to be satisfactory or unsatisfactory. This does not make knowing 'subjective' since fidelity to reality is, or should be, the fundamental standard we set for ourselves and satisfaction that we seek. 'Subjectivism' consists in the preference for other satisfactions over strictly cognitive ones, and not in the seeking of satisfactions per se. Someone without sensitivity to such matters, without an active desire to know which can be satisfied or dissatisfied, cannot seriously or for long pursue any intellectual enquiry. At the most, like students on courses which they have to take and in which they are not interested, he can engage only in routine and low-level work, go mechanically through the motions, and so find little meaning—intrinsic meaning—in what he does. Even if he finds its meaning to lie elsewhere, then he still has to have some active desire to know what is relevant to and what will thus be satisfactory as a means to or component in his ulterior purpose. Given the housewife's lack of interest in pure mathematics, she is not going to succeed in effective housekeeping if she is not at all sensitive to relative prices and the correctness of bills and change.

But can we apprehend values and standards, and guide ourselves by them, unemotionally? For example, I have no interest in golf, do not get excited at all by it, and am bored by it. Yet I could nevertheless be taught to tell a good golfer from a bad one. I could then rightly judge Smith to be better than Jones yet feel nothing about them and their achievements. I would be prepared to say that even now

I could tell in a rough and ready way the better from the worse, though I would miss the finer points. Likewise a Philistine, while remaining a Philistine, could come to appraise some genuine merits and demerits in art. In these examples, we would evaluate performers, performances and products without valuing the activity. In fundamentally the same way, one can see another in danger—that is, to evaluate as harmful what is likely to happen to him—yet not care about him or it.

Two questions now arise: Under what conditions is this possible? and, Can there be unemotional valuation?

Firstly, unemotional evaluation is the attitude of the detached observer, not of the participant. It is thus parasitic upon the latter. Without sensitivity to the values involved, we cannot either properly or for long engage in an activity but can go only through the motions of a routine. Those who find no satisfaction in their work can be given only mentally undemanding tasks and need attentive supervision.

Secondly, valuation is nothing if not felt—not felt all the time, but most of the time. For example the love of one's neighbour is essentially a practical love, an attitude to be shown in deeds, whatever we happen to feel about any particular neighbour in need. But it could be not shown if on every occasion we helped him with gritted teeth—if we were misanthropes and acting totally against our feelings. Somewhere at sometime there has to be some fellow-feeling for someone. Values, I would say with Ricoeur and Polanyi¹⁷, can be known only in serving them or in at least feeling their attraction and 'command'. Unless you feel the respect due to truth or the 'command' within justice, you do not know what you are talking about for you are not valuing them. One cannot simply register, as if it were a neutral fact, that justice is admirable and to be cherished. Emotions and desires engage us in the world and project around us what Ricoeur calls 'an affective perspective' in which objects appear interesting, attractive, repulsive, lovely, hateful and so on¹⁸.

Emotivists were correct in seeing a close relation between emotions and values, and a frequent identity of terminology. But they themselves adopted the standpoint of the detached and disengaged observer, merely noting neutral facts about other people. Thus they took values to be projections of feelings and failed to appreciate the felt response to, attraction to and repulsion from the values and disvalues found to be already in or borne by objects. Undoubtedly some things are made valuable to us by our feelings for them, and this we can both recognise or fail to recognise. I can be aware that a rather ordinary painting has a sentimental value for me, as portraying the place where I was born or as bequeathed by my parents, quite apart from its meagre aesthetic merits. And I may not be aware that I am giving too much credit to the work of a pretty student. Equally I can fail to recognise that I am over-sensitive to some things (for example, my own comfort) and insensitive to others (for example, the needs of my neighbour). But then we have defects and make errors with all our faculties. And there could be no possibility of errors if there were no truth or correctness. If the world really were a totality of merely neutral facts, then it would not be the case, as is often supposed, that all our valuations

and evaluations are erroneous projections of subjective colourings onto it. For, *ex hypothesi*, they themselves would be neutral facts and no more. If all is neutral fact, then nothing can be right or wrong.

Emotion, then, opens up the world of value and disvalue to us. Without emotion we would indeed be faced by a grey and meaningless world. Or, rather, since emotion is necessary to the governance of knowing, we would not be able to recognise that world in the first place. Indeed, there is evidence to show that it is first given in perception as bearing values—that colours are primarily ‘warm’ or ‘cold’ before being colour-tones¹⁹ Thus, as the fundamental answer to Sartre’s question, ‘What must consciousness be, that emotion should be possible, perhaps that it even should be necessary?’²⁰, there could be no consciousness—at least no finite consciousness born into a world which about which it has to learn—without emotion and the capacity to be moved.

From these considerations we see the truth of John Macmurray’s definition of reason as the capacity to behave in terms of the object. It follows, he rightly says, that reason is primarily an affair of emotion while the rationality of thought is derivative and secondary. For it is

emotion that stands directly behind activity determining its substance and direction, while thought is related to action indirectly and through emotion, determining only its form and that partially²¹.

This is not to be taken in any Humean sense of emotion as a blind and merely initial push whereas reason is merely a matter of calculation—of means to ends given by that push. No, for as Macmurray states and as studies of the intentionality of emotion have shown, emotion itself contains thought and has its inherent rationality. Thought, as mere and disengaged thinking, is a secondary and derived activity, but one which philosophers are only too liable to take as primary by reflecting upon their own habitually disengaged thinking and not upon our primordial engagement in and with the world. And even that disengaged thinking is directed by interest in and sensitivity towards the truth of things and it seeks that particular satisfaction.

5. LOVE AND KNOWLEDGE

Emotion, said Macmurray, determines the substance and direction of activity. As objective, it is not a reaction to a stimulus but ‘an immediate appreciation of the value and significance of real things’, our capacity to apprehend objective values. That also we have concluded. And therefore, he goes on to argue, love is ‘the fundamental positive emotion’ characteristic of human beings, and can be subjective and irrational, as when we enjoy our own feelings, or objective and rational, as when we love the reality of the other person himself. It then follows that

the capacity to love objectively is the capacity which makes us persons. It is the ultimate source of our capacity to behave in terms of the object. It is the core of rationality²².

I propose to consider this claim in relation to knowledge and shall suggest that what is true of that can be generalised to all forms of activity.

Negative emotions and attitudes certainly tend to shut one off from the world: one does not get to know better those for whom one feels hatred, scorn, contempt, anger or resentment; and moods of misery and depression close one up in oneself. But is love needed in order to know? That is precisely what Max Scheler argued in his 'Liebe und Erkenntnis'.

He begins by quoting two opposing statements:

One can only get to know that which one loves and the deeper and fuller the knowledge is to become, the stronger, more forceful and livelier must be the love (Goethe).

Every great love is the daughter of a great cognition (Leonardo da Vinci).²³

Both of these he opposes to modern 'bourgeois' (and Objectivist and Positivist) opinion that love can only blind and that genuine apprehension requires emotional restraint. Scheler argues for Goethe's position rather than Leonardo's, which he sees as representing Greek and Indian views of the matter.

Despite their great differences, both the Greek and Indian views assert that love follows cognition. The Indian view, he states, is that love arises from a transition from not-knowing to knowing which in turn results from a dematerialisation of the object, the recognition that the world is maya or 'illusion'. The Greek view, most fully articulated by Plato, sees love as the passage from lower to higher cognition, of the 'not-being' of matter, to the higher cognition of the 'real being' of the Forms. It is a striving which is completed and so terminated in perfect knowledge²⁴.

In contrast, says Scheler, Goethe expresses the Christian view, which begins with God's love for unlovely since fallen man (rather with God's overflowing love which creates the world out of nothing). Love is thus a condescension from God to man, and not a passage from lower to higher. Scheler thinks that the Christian revolution in world-view has not been fully carried through in this respect, save only by St Augustine and some of his followers such as Malebranche and Pascal, and that St Thomas Aquinas followed Aristotle too much in regarding love as a striving which must be preceded by an intellectual act, desire as requiring a prior perception, and wishing as requiring a prior conceptual grasp of the object. This, he states, has serious theological consequences for Thomism.²⁵ St Augustine, in contrast, began a new epistemology and psychology in which intellectual acts arise, not from the object and its attractiveness, but from a prior act of taking-an-interest and thus from the love or hate which motivates it. Without these, there can be no perception, memory or thought of an object; no selection from all possible objects of those which we in

fact perceive and think about; no direction of our suppositions and perceptions; nor any intensification of our cognition of an object²⁶.

At first sight it seems obvious that we can love only what we already know, and so that love follows and does not precede knowledge: boy meets girl and then falls in love with her. Love is a response to its object. How can it possibly exist in advance? This is what Brentano codified in his doctrine that emotions, along with judgments, are necessarily founded upon 'presentations'²⁷. But consider again the vague moods of restlessness and stirring in which we want something but as yet do not know what it is. While love, for a person already met, can strike out of the blue or gradually grow, it can also exist first as vague yearning for someone else and then be focused upon a particular person. More generally, modern studies which emphasise the activity of the mind and its projection of a 'field' of awareness prior to particular objects, tend to support Scheler's view. For example, the perceptual processes of animals are highly selective and geared to what is significant for their lives. The world is first perceived in terms of emotional significance and thus motor responses towards or away from things²⁸. It is not the objective loudness but the meaning of the utterance of one's name or of the crying of one's child which catches our attention. We do not simply register a mass of equal stimuli, but respond differentially to them and distinguish 'messages' from 'noise'. We may assume therefore that there operates in knowing a prior taking-an-interest (in certain sorts of thing and particular things). But is that taking-an-interest to be called 'love'? Scheler sees taking-an-interest as dependent upon prior movements of love or hate. Having a love or liking for a certain sort of thing, one is likely to wish to know more about an example of it, and, conversely, having a disliking for some other sort of thing, one is likely not to want to become more familiar with any examples. But over and above specific loves and likings, we have an essential openness to the world, and are able to take an interest in anything. Though not love in its fullest form, for we are not born as complete persons nor ever become complete in this life, nevertheless it is itself a general love of reality. Without it, we would be stuck in a merely animal mode of existence.

Since, then, knowledge flows from love, it would surely follow that ignorance is the result of apathy and error the result of hatred. Here we are speaking of what moral theologians call 'culpable' and 'invincible' ignorance and error, that which, we could have overcome either at the time or earlier could have had the foresight to overcome. Obviously, we do not have the time, opportunities and intellectual and practical abilities to know many things that we might know, and likewise to avoid and correct errors, and many things that we could know are trivial. But systematic ignorance and error in matters of importance are definitely the results of a death of love or of hatred. Consider the many reductionisms in the modern world. Why are their proponents so wedded to denying and distorting manifestly genuine spheres of reality? It can be only because they hate them, out of what, out-voegeling Voegelin, we may call an inverted Gnosticism. Whereas the Gnostics of old hated physical reality and sought to escape from it back to the Pure Light from which they believed

themselves to have fallen, modern Gnostics hate one or all of personal and emntal existence, value, responsibility, freedom, life at all levels, the rich variety of the world, but, because of the secularism, have no escape from it except in self-deception to deny its existence or to pretend that it is really something else. How this has come about is worthy of a deep and extended study that has yet to be made.

6. SENSITIVITY

Routine and habit can govern life, for some of the time. Complex skills can be deployed in routine ways, and thus without much involvement on the part of the self. Hence the experience, usually on a familiar route, of suddenly realising that one has driven quite a distance while thinking about something else. At any moment, unless one were half asleep, a non-routine event would have immediately caused one to focus attention wholly upon one's driving and that particular event. What that sort of reaction reveals is a latent sensitivity to certain things, in particular those bearing upon the task in hand. This sensitivity is presupposed by the governance by emotion which we have already considered. Were we not sensitive to what impinges upon what we are doing, we could not be satisfied or dissatisfied with its results or its results so far, and so terminate, redirect or restart our courses of action. It is to be noted that sensitivity is not simply a passive reaction. Indeed, there is nothing simply active or passive in human life. Sensitivity is the reactive reverse to the obverse of the active taking-an-interest-in. The latter motivates the former and the former directs and focuses the latter. We shall now consider further the nature and need for sensitivity in human life generally.

There are certain things to which we are always sensitive, whatever our state of mind. For example, our names, sudden noises close to us, sudden events which we glimpse out of the corners of our eyes, the crying of our children if we are parents. Such things have a great importance for us, and we always respond to them. No one can ever train himself not to be caught off guard at all by the unexpected calling of his name or by a sudden noise just behind him. One may be able to inhibit most of the physical expression or consequences of one's response, but not the inner and felt grasping of attention and apprehension. Let us now think away all forms of this sensitivity, this liability to be brought up sharp. What then would happen?

The merely routine performance of a task is likely to result in the overlooking of significant items and events. If I file papers in a merely routine way, I am likely simply to scan them. Some unusual items will catch my eye and cause me to look more closely at the papers which contain them, and so probably not to put some where otherwise I would have put them. Yet less obvious differences, ones to which I am less sensitive, may well escape me and so may result in my misfiling those papers. If we now subtract that sensitivity entirely, we are left only with established routines and items for which we explicitly look. Now we can explicitly look for or

bear in mind, not just particular things, but sorts of thing. Thus as well as looking for certain obvious words, in scanning pages in search of a specific topic, I also look, perhaps without explicitly realising it, for other words connected with that topic, and shall be brought up by them as well as the others if and when I see them. This does not happen when scanning pages written in a language in which I am not fluent. But without a sensitivity to the unanticipated, I shall spot only what I have explicitly thought of in advance, as now I have to do with foreign languages. We could, I conclude, perform without sensitivity only those tasks which can be reduced to routine and explicit anticipations.

But how can we establish routines and form explicit anticipations in the first place? Only by being involved, making a personal effort, and being sensitive to what we do and what happens, so that we learn what generally to do and not to do, what generally to notice and to look out for and what to disregard, and how to respond to it. Personal involvement and sensitivity can be reduced by routines and habits. But unless the latter are not to be inflexible and blind to what is unexpected, they can never replace the former, and require the former in order to become established in the first place.

Let us now consider some further applications of sensitivity. I suggest that generally it has an essentially bodily element or aspect. Obvious examples are a doctor feeling a pulse, a mechanic tightening a nut, a taster sampling tea. It is especially associated with touch, or smell and taste which themselves include an element of touch which hearing and sight do not, unless what we hear is especially loud or penetrating or what we see is especially bright or glaring, so that we feel it in our ears or eyes. We speak, literally or metaphorically, of the skilled person's 'touch' in the practice of his art. One insensitive to criticism and abuse is 'thick skinned'. Those insensitive to the feelings of others, and to their effects upon others, are 'callous'. The physical feeling of touch is the paradigm of sensitivity. And there is an echo, at least, of this basis and origin of sensitivity in all its forms. The mechanic is not as physically sensitive to the lumpy or smooth running of an engine as he is to the nut which he is tightening. Nevertheless he is attuned to the engine; he projects himself imaginatively into it; and feels its lumpiness and smoothness. The proper performance of his task requires that sensitivity and personal involvement.²⁹ Less physically based, yet still not without some echo of it, is the sensitivity of the fluent and alert user of a language to errors and abuses³⁰. He immediately feels that there is a mistake in something he hears or reads, before he can analyse just what it is. Without such sensitivity, he would not spot the error, or would spot it less quickly. The inexpert user of the language does not notice it and, if he has explicit knowledge of the rules (insofar as there is a rule for the particular case), has explicitly to scrutinise the sentence or passage for possible errors. It is a heightened sensitivity, through training, practice and experience, on which the skilled practitioner relies and which distinguishes him, that sure 'touch' beyond calculation and explicit formulation. A woodman feeling the weight and balance of an axe, a doctor listening to a patient's heart, a lawyer

examining a contract or listening to evidence in court, a scholar studying a text, a scientist scrutinising experimental data—all these display and require a trained sensitivity in order to come to know what concerns them in their specific work.

Without the capacity for feeling, physical and non-physical, many tasks could not be properly performed and perhaps could not be performed at all. Sensitivity, as the reactive side of taking-an-interest-in, is a part of the foundation of all practical and theoretical knowledge.

7. EMOTIONS AND FURTHER KNOWLEDGE

I now propose to contest a statement made by A. Kenny, that whereas one can infer from seeing a flash of blue that there was a policeman at hand, one cannot infer the same conclusion from feeling a wave of hatred³¹. Emotions, he concludes, can tell us nothing about the world.

As we have just seen, taking-an-interest-in and sensitivity alert us to things in the world which otherwise we would miss. Not only is sensitivity necessary to the recognition of the values and disvalues in things, their quality or lack of quality, but via sensitivity to those values and disvalues we become aware of their factual basis. It is this function of sensitivity which we shall now consider in more detail in order to show that emotional responses can and do lead us to, even if they do not exactly tell us about, particular things and events in the world.

We often feel that something is wrong before we know just what it is, and our feeling causes us to be aware of it and then to investigate it. Let us note that there is an interesting asymmetry here between negative emotions and disvalues, on the one hand, and positive ones and values on the other. We take the latter for granted more often than not. If something feels right, then we usually we accept it without troubling to find out what makes it right. There are good practical reasons for this. For, if something feels right, we can get one with enjoying or using it, but if it feels wrong then we are likely to have to stop and do something about it.

But this familiar experience of feeling that something is right or wrong before we know what it is, is perhaps hidden from some philosophers because of their assumption that values are logically and ontologically supervenient upon the other properties of things and that therefore the latter have to be apprehended first. Accordingly, one has to find out what something is and how it is constituted before one can determine what value or disvalue it has. Surely, they will say, we first have to see the painting and read the book before we can decide whether it is good or bad. True, but we can be immediately struck by seeing the painting or as we begin the book, and find it confirmed as we finish, that this is good or bad, without any analysis of its separate qualities. It is the whole painting or book that strikes us as good, and we attend to that from its parts which, at first, we know only subsidiarily and thus tacitly. Likewise the whole sentence strikes us as grammatically or logically

mistaken, as we attend to it and only from the individual words. (Hence the familiar experience of remembering the meaning but forgetting the actual words.) We then have to attend to the individual parts or aspects in themselves to find out where the merits or errors lie. In knowing, as in classical epics, we always begin *in media res*, and never at some logical or ontological ground floor of atomic units. We can then move either downwards into analysis of lower levels and subsidiary parts or upwards into the integration of what we already know into a yet more comprehensive entity or complex state of affairs.

Sensitivity thus makes possible a type of fore-knowing beyond explicit awareness. I could not give a complete inventory of what I have left on my desk or bench—I can cite some things straightaway and then some others with an effort—but on returning I feel that something is missing before I can identify it. Again I may not be explicitly aware of the rule of usage or logical principle in question, nor never have explicitly known that there is such a rule, but I immediately feel that there is something wrong in a particular sentence which I hear or read. I then have to consider the sentence, its structure, its words and their meanings in themselves, and so work out if there really is something wrong with its grammar, expression or logic, and therein just what it is. In doing that I may for the first time come to be explicitly aware of the rule. Another familiar example of this experience is that of entering a room where the people are standing silent and rather rigid. Immediately one feels, via emotional infection in catching the ‘atmosphere’ of the room, that someone has said or done something wrong or embarrassing, but, of course, one has yet to find out who has said or done what. Again, there is the feeling that, despite another person’s friendly manner, there is something wrong or false about him. One cannot put one’s finger on just why one feels that, for we are usually focally unaware of the details of expression, and only of their meaning, since we attend from them and to it. Thus we are aware, but only subsidiarily and tacitly, of the details which have betrayed the other person and his real nature and intentions, and cause us to be suspicious and on our guard.

I am not suggesting that, on the basis of a Romantic invocation of feeling against intellect, such fore-knowing is infallible—none of is infallible in any respect—and clearly it can also be a fore-mistaking. Moreover, such fore-knowing via feeling is itself an intellectual operation. But I do assert that there are many things in life which we come to know only through a felt apprehension of their value or disvalue in advance of the things themselves.

8. THE FUNCTIONS OF WONDER

Taking-an-interest-in is primarily that general openness to the world which is distinctive of human nature. It is something which some adults lose as their interests become fixed in a particular and exclusive pattern. Too often we go around

overlooking rather than looking at the things about us. For example, in towns we hardly ever look up above the ground floors of buildings or down to the end of a road. Thereby we miss a lot in life. One of the personal values of emotion is that it gives zest, flavour and colour to our lives, or, rather, the experience of the flavour and colour of the things around us. (Of course it also yields worry and suffering.) This is what Macmurray emphasised in his notion of 'living in the senses'³². By that he meant a fuller immersion in our perceptions of the things we meet and thus greater sensitivity to their qualities. To say that it is an aesthetic attitude can be misleading, if that is taken to imply a more a passive contemplation of things than living the perceptual life to the full. It certainly is a mode of openness to things, specifically to their perceptual qualities.

There are times when, without our deliberate going to look at something, it strikes us and causes us to stop and stare. This is the function and significance of wonder—the emotional response to the sheer existence and qualities of things. As Ricoeur says³³, it can interrupt habits and bring us to perceive something new, or, indeed, really to perceive something for the first time. Wonder is important and valuable in itself in the way which Macmurray had in mind, and to that we shall return in a moment. But it has a more specific value in our cognitive activities.

Firstly it is a motive for exploration and for simple curiosity, wondering what something unknown is like and feeling like finding out. It is also the origin of branches of organised enquiry, that which causes the pioneers to begin physics or history. It is perhaps often lost as the discipline becomes established, academic, somewhat routine and partly a matter of technique. Within intellectual enquiries, lines of research are often suggested by problems with what is already known—data without explanations, discrepancies felt to be significant, tensions and perhaps contradictions in explanatory conceptions. Motivation for pursuing them rather than others thus comes from immersion in the present state of knowledge and so also from awareness of its gaps, limits and defects. But, I suggest, there is another source, at times definitely distinct: sheer wonder at something either taken for granted or never yet thought of. 'Why is this as it is?' or 'What would happen if . . .?' are two characteristic ways in which it arises. Perhaps Newton speculating on falling apples and the movements of planets and Einstein speculating on travelling at the speed of light are, respectively, examples of them. It is wonder as questioning, a more radical questioning than is usual, since it questions what has not yet been questioned or has become unquestioned.

Therefore it is not quite the same as the contemplative wonder of 'living in the senses'. That is one motive and source of value in art. One important task which the literary and visual arts fulfil is to present to us that which we overlook. By representing it in paint or stone or words, by putting it in a frame, on a plinth or in a book, the artist or writer draws our attention to it and to its perceptual qualities. Hence the otherwise inexplicable practice of painting pictures of everyday objects, such as pair of peasant's clogs, or of writing poems about suburban scenes. Art and

literature thus bring out, by selection and heightening, the emotional qualities or impact of things. They thus reawaken that openness which we have allowed to become dormant³⁴.

9. CONCLUSION

I have not exhaustively surveyed the cognitive functions of emotion. But enough has been presented to show that emotion necessarily initiates, guides, sustains and terminates our efforts to know things, and some examples have been given of those specific functions and of specific emotions that fulfil them. It follows that there can be no unemotional knowing, save in a secondary and temporary manner when it is a matter of mere routine. It also follows that all dichotomies of 'objective fact' and 'subjective emotion', of 'reason' and 'emotion', of 'knowledge' and 'feeling', and the like, are to be abandoned and the conceptions involved to be radically rethought in the light of their fundamental unity. It also follows that those epistemologies which regard emotion as irrelevant to, or essentially disruptive of, knowledge need radical revision.

One final point: some would object that my argument, and the examples quoted in support of it, are themselves irrelevant. For they adduce merely 'psychological' facts of no philosophical importance. What matters for philosophy is not the subjective accompaniments of knowing—feelings of interest, dissatisfaction, anxiety, delight and satisfaction—but the logical questions of the nature of truth and validity, of correct and incorrect methods for research, of appropriate and inappropriate criteria for judging the results of research. Upon these genuinely epistemological questions, the quoted facts have no bearing. At the most, what has been shown are the subjective requirements for the proper implementation of epistemological standards and criteria, but nothing has been said about what they themselves are.

Even if that were true, then it would also have been shown that emotional involvement is not essentially disruptive of cognition and that a totally unemotional knowledge is impossible. Consequently, from the alleged logical irrelevance of emotion, it cannot be inferred that emotion is functionally irrelevant to, still less that it is necessarily disruptive of, our cognitive operations, as many philosophers and other persons have assumed.

But in any case the logical and the psychological cannot be so easily distinguished and separated. Throughout every phase of the above, as well those parts where it was explicitly treated, we were concerned with the roles of values, standards and criteria in knowing, and we saw on more than one occasion that they cannot be rigidly defined and reduced wholly to a codified system which could be mechanically and routinely applied³⁵. There is no algorithm of truth, though many philosophers have sought it, nor exhaustive casuistry for accepting and rejecting claims to knowledge. These are essentially matters of personal judgment, whether individual or corporate,

according to the standards which I set for myself or take over from the traditions of scholarship and research within which I have been trained. The ‘logical’ question of defining cognitive standards and criteria cannot be exhaustively answered in terms of explicit and exact definitions, but inevitably appeals to our tacit grasp of the standards and criteria which we in fact apply in our necessarily felt responses of satisfaction and dissatisfaction to claims to truth, coherence, consistency, cogency and validity. Mathematics itself, as Gödel’s theorem demonstrates, cannot be proved to be free from inconsistency and therefore not to need the personal judgment and emotional involvement of mathematicians.

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NOTES

1. R.S. Peters, ‘Emotions and the category of passivity’, (*Proc. Aristotelian Soc.*, Vol. 62, 1961-2, p. 119). A somewhat less negative attitude was shown in his later papers on emotion, reprinted in his *Psychology and Ethical Development* (London, Allen and Unwin, 1974).
2. For examples of this attitude and criticism of them, see R.W. Leeper, ‘A motivational theory of emotion to replace “Emotion as disorganised response”’, in (ed.) M. Arnold, *The Nature of Emotion* (Harmondsworth, Penguin, 1968).
3. ‘The governance of action by emotion’ (*The Journal of the British Society for Phenomenology*, Vol. 22, No. 2, May 1991) which follows and revises the scheme of S. Strasser in his *The Phenomenology of Feeling* (trans. Wood, Pittsburg, Duquesne University Press, 1977), which in turn uses and revises that of Aquinas.
4. *Personal Knowledge* (London, Routledge, 1958; hereafter ‘PK’) p. 134.
5. PK pp. 133-4. See also pp. 171-4 on science as the fulfilment of intellectual emotions and interests. Contrast J. Macmurray on science and enquiry in general as technical transformation and art as purely contemplative and evaluative, in *The Self As Agent* (London, Faber, 1961), pp. 193ff, 198, and *Persons in Relation* (London, Faber, 1957), pp. 176-7.
6. See below, §4.
7. PKChap. 6, on p. 138 and in §5, and elsewhere (e.g. the experiments of D.C. Miller, pp. 12-3, and the observations of Lord Rayleigh, p. 276) Polanyi gives examples of each of these.
8. *ibid.* pp. 123-4.
9. *ibid.* pp. 135-6.
10. *ibid.* p. 143.
11. *ibid.* pp. 150ff.
12. See also *ibid.* p. 101, where Polanyi, drawing on his own experience as a medical student, shows that such sympathy is needed in the learning of anything radically unfamiliar, otherwise one will take it to be nonsense at the start.
13. *ibid.* p. 159.
14. *ibid.* p. 173.

15. See Strasser, op. cit., pp. 191-23
16. *The Pilgrim's Regress*, Preface to 3rd ed. (London, Collins, 1977).
17. Ricoeur, *Freedom and Nature*, p. 75f; Polanyi, PK, pp. 302-3: 'You cannot speak without self-contradiction of knowledge you do not believe, or of a reality which does not exist [this should be 'of a reality which you do not believe to exist']. I may deny validity to some particular knowledge, or some particular facts, but then to me these are only allegations of knowledge or facts and should be described as "knowledge" and as "facts", to which I am not committed. Commitment is in this sense the only path for approaching the universally valid'.
18. *Fallible Man* (trans. Kelbley, Chicago, Henry Regnery, 1967), p. 78.
19. *Reason and Emotion* (London, Faber, 1935), p. 24.
20. *Sketch of a Theory of the Emotions* (trans. Mairet, London, Methuen, 1971).
21. *Reason and Emotion*, p. 19.
22. *ibid.* pp. 31-2.
23. *Gesammelte Werke* (Bern, Franke, 1954-), Bd 6, p. 77. Eng. trans. in *Max Scheler. On Feeling, Knowing and Valuing*, ed.H. J. Bershad, Chicago, Chicago UP., 1992.
24. But see J. Rist, *Eros and Psyche* (Toronto, University of Toronto Press, 1964), for another strand in Plato, not so prominent and more implied than stated, which does envisage a fruition and so a continuation of love for the Forms, and also an overflowing love on the part of God towards the world.
25. But see Strasser, op. cit., p. 234, on Aquinas and the cognitive role of *amor*.
26. op. cit. pp. 94-6.
27. *The Origin of Our Knowledge of Right and Wrong* (trans. Chisholm and Schneewind, London, Routledge, 1969).
28. 'The world offers itself to a child physiognomically and expressively, laden with feelings'; 'Physiognomical not cognitive, attributes of the environment are primary. The principle applies as much to the comprehension of inanimate objects as it does to the understanding of living organisms. As Wertheimer states, "An object is just as sinister as it is black; in fact it is sinister first of all": D. Katz, *Gestalt Psychology* (trans. Tyson, London, Methuen, 1951), pp. 154, 82. Colours are perceived primarily in terms of their emotional and motor significance rather than because of their colour qualities: see Merleau-Ponty, *The Phenomenology of Perception* (trans. C. Smith, London, Routledge, 1962), Pt II, 1, and the studies cited therein.
29. Hence Strasser (op. cit. pp. 183-4) is somewhat mistaken in stating that technical and scientific work require a 'quiet and sure being-in-a-mood' which has with no sudden shifts of emotion and is mostly neutral yet not the 'grey everyday disposition'. Contrast R. Pirsig, *Zen and the Art of Motor-cycle Maintenance* (London, Bodley Head, 1974).
30. See further Rudolf Haller, 'On the feeling for language and its epistemic value' in *Practical Knowledge: Outlines of a Theory of Traditions and Skills*, ed. J.C. Nyiri and B. Smith (London, Croom Helm, 1988).
31. *Action, Emotion and Will* (London, Routledge, 1963), p. 56.
32. *Reason and Emotion*, p. 42ff.
33. *Freedom and Nature*, pp. 312ff.
34. Wonder has a special function in philosophy: see Plato, *Theaetatus* 174; Aristotle *Metaphysics*

982b; Aquinas, *Commentary on the Metaphysics*, I, 3; J. Pieper, 'The Philosophical Act' in *Leisure the Basis of Culture* (trans. Dru, London, Faber, 1952) especially p. 109f; and M. Merleau-Ponty, *The Phenomenology of Perception*, pp. xiii-xiv, where he quotes Eugen Fink and Husserl on its role. Most versions of modern philosophy have no place for wonder: Critical, because it starts with doubt; Idealist, because it absorbs the world into consciousness; Positivist, because it denies any conception of the world and any questions about anything other than particular facts; and Analytic to the extent that it follows Positivism and seeks to be a mere 'undergardener' for the special sciences especially natural science.

35. The desire for a wholly 'objective', and thus routine and mechanical, system of appraisal and marking within education, has resulted in the production of allegedly 'objective tests', i.e. multiple-choice question papers which can be marked either by means of templates, which reveal only the required answers, or by computer programs. But these tests are not 'objective' and result in a distortion of knowledge and education, and the marking of them is not wholly an impersonal routine. See further my 'Reductionism in education', *Paideusis* (Canada), Vol. 5, No. 1, Autumn 1991, pp. 20-35.