

Emotion — The State of the Various Sciences

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Our present understanding of emotion results from two traditions — the biological and the social. Examples of recent ideas within these traditions are described, contrasting an evolutionary, structural approach with an approach based on learning and experience. Examples are also given of current thought about emotion in the domains of sociology, anthropology, history and social philosophy. The major conclusion drawn from a consideration of these literatures is either that the study of emotion should proceed interdisciplinarily or, more forcefully, that traditional divisions between disciplines should be ignored entirely. The more general implications of this suggested liberalisation of science are discussed.

During the past three decades, there has been a burgeoning in the literature on emotion. In the early 1960s there was nothing more than a few antiquated oddities, some subcortical dabbling in the nervous system, a few unconvincing behavioural models, and a hint at the "cognitive revolution". Now, in the 1990s, there is considerably more material published on emotion than it is possible for one person to embrace. Theory and research in emotion has developed and continues to develop in a way which might well be reflected in psychology more generally. The divisions, in some cases, almost the schisms which are represented, are highlighting general issues and questions that it is timely to address.

The major divisions are between the biological and the social, between nature and nurture, and to some extent between science and art. They are also between psychology and the many disciplines to which it relates.

Our present understanding of emotion is predicated on two parallel developments. The first, which might broadly be called the biological, is based firmly on the scientific tradi-

tion, often, but not always, conceived of in the narrow empiricist sense. The emphasis has been on a tough-minded approach with what used to be termed crucial experiments, devised within tight methodologies. Of course, emotion is so difficult of definition that for this reason, if no other, theory is inescapable. Thus, even within the extremes of the empiricist, biological approach to emotion, there has been a good interweaving of data and theory. Essentially, such theory has rested on the assumption that basic emotions are mediated by genetically determined structures which are themselves the result of a long evolutionary history. So, from this standpoint, emotions are both primitive and atavistic.

The approach that has developed alongside the biological has viewed emotion as a social phenomenon. Its impetus appears to have come from a number of sources. First, some emotion theorists have felt a lack of ease with the biological viewpoint because it has very little room for the subjective or experiential aspects of emotion. And putting aside for the moment all considerations of the sort of science that requires operational definitions, and turning to everyday considerations, the core of emotion seems to be subjective experience.

There has formed then a recent tradition of research which is concerned with concepts such as mood and even somewhat old-fashioned sounding constructs such as sentiment, temper-

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ament, and passion. Moreover, it is mainly humans who have been studied and the investigations have mainly taken the form of observing them in real-life settings, or even asking them questions about their experiences. In the extreme, the social approach has resulted in a high ratio of theoretical speculation to data, these data definitely being of the sort that the biological theorists would not describe as "hard".

Either overtly or covertly, the social approach views emotions as largely a product of nurture rather than nature. In particular, the most careful apologists of this persuasion see emotions as both constructed and regulated by social events. Whilst the science involved in this approach is every bit as good as the biological, *in its way*, it is also sufficiently different from it as to suggest a broadening of the concept of science. Theory, it should be said, is equally sophisticated on both sides.

The other major development in the study of emotion in recent years is that the subject is no longer merely within the domain of psychology. Or, to express this more exactly, psychologists have begun to realise that emotion is not "theirs", as it were, but has also been considered within other disciplines. Furthermore, theorists within these disciplines actually have something useful to contribute. This is particularly the case with the social approach to emotion in which important links are being forged between psychology and sociology, anthropology, history and social philosophy.

The aim of the present paper is firstly to illustrate the biological and the social approaches to emotion with a discussion of recent theoretical and empirical advances. Secondly, consideration will be given to some recent contributions from other disciplines. Finally, an attempt will be made to draw some conclusions and to consider future developments. It should be noted that the aim is not to attempt to give a complete overview of current research and thinking on emotion. The field is now so large that any such attempt would fail, within the time or space available.

The Biological Approach

The best known example of the biological approach to emotion comes from the work of Plutchik, who, for more than 20 years, has been developing a psychoevolutionary theory of emotion (e.g. 1989, 1991). During this time, his

theory has itself gone through a sort of psychoevolution, but throughout it has rested on the assumption that emotions are modes of adaptation to significant events. Emotions arose, and have developed, because, in the biological sense, they are useful both for communication and survival.

Plutchik's theory embraces three models, each of which provides a useful perspective on emotion. The most widely discussed of these is the structural model, which likens emotions to colours, variations in which can be most easily portrayed in a cone, which is of course a three-dimensional object. Conically arranged emotions are seen as varying in intensity, in degree of similarity to one another and in polarity. Also, some emotions are primary and others are blends of these.

The implication of this structural model is that, following a Darwinian approach, emotions are seen as having a genetic basis. Plutchik makes the claim strongly, but does not suggest that the behaviours involved in emotion are directly inherited. Rather, he argues that we inherit more structural elements such as the thresholds of sensitivity and basic biochemistry and that these act as filters of the information that impinges on us. This then determines the form of our emotional reactions.

The second model espoused by Plutchik is sequential, in which emotions are portrayed as complex chains of events with a number of feedback loops. These loops act to bring the organism back to a state of behavioural homeostasis. So, from this standpoint, emotions have both physiological and feeling aspects which result in actions and have outcomes which return the organism to a state of balance.

Plutchik terms the third distinct model in his theory as derivative. Here, the emphasis is on some emotions being primary and others as derived from these. This relationship suggests that emotions are linked to several conceptual domains. For example, mixed emotions and personality traits are seen as having a similar language, which also happens to be the language of diagnosis.

During its development, Plutchik's theory has provided a precise guide for a great deal of research, has made links between various domains and has led to many predictions that have been confirmed. Emotions are seen as having a clear genetic basis and are evident at all levels of phylogeny. Useful insights are

generated into the relationships between emotions, motivation, cognition, imagery, temperament, empathy, and the like.

Panksepp (e.g. 1988, 1989a, 1989b, 1991) takes an even more committed view of emotion than Plutchik within the biological tradition. He regards psychology as the study of brain-behaviour relationships and emotions as primal brain processes. Even more extremely, he believes that it will not be possible to understand the functional organisation of the brain until emotions are understood neurologically.

Like Plutchik, Panksepp assumes that the neurological structures for the primary emotions were, in the evolutionary sense, a solution to life-threatening circumstances. Over time and throughout phylogeny, these structures have been conserved although the actual expressions of emotion might have changed. He assumes further that the emotional structures and neurological circuits are similar in all mammals, including humans, so we may gain a good understanding of human emotion from the study of infra-human mammals. This, then, is a truly reductionist approach.

Although Panksepp constructs a very sophisticated neurological theory of emotion, he also urges that empirically the understanding of emotion can best be pursued by using unconditional behaviour as indicator variables of the neural aspects of emotional systems. This analysis leads to a consideration of the brain circuits which are assumed to underpin emotion.

Panksepp might be studying behaviour, but in the proper biological tradition, he views the basic brain circuits of emotion as neuroanatomically and neurochemically based and genetically determined. He has become convinced that there are at least five emotional brain systems. These are: separation distress or panic as indicated by isolation; fear indicated by flight or freezing; rage as indicated by non-consummatory biting or striking; curiosity or anticipation or expectancy as indicated by sniffing and approaching; and a ludic or joy system as indicated by various types of playful behaviour.

Panksepp, then, exemplifies the extreme of the biological approach to emotion. He views emotions as theoretically useful constructs, not because they explain or account for anything, but because they are of some help in finding the right questions to ask about the brain and also suggest possible brain systems. From this

perspective, much of the existing theorising about emotion is seen as pseudoscience. Panksepp pushes hard for a theoretical, neurobiological and behavioural approach, with behaviour not as an end in itself, but as an index of brain processes.

In summary, as evidenced by the work of Plutchik and Panksepp, the biological approach to emotion takes an evolutionary perspective, sees emotions as primitive reactions to threatening circumstances, believes that they are genetically determined and structurally represented within the brain. Researchers within this tradition have moved beyond what might be termed a naive empiricism and closely interweave theory and research. However, this approach is based squarely on a tough-minded, analytic, "scientific" style within the tradition of methodological behaviourism.

The Social Approach

Whilst accepting that some aspects of emotion might have a structural basis and no doubt agreeing that any aspect of psychological functioning must have its neurological and neurochemical substrates, those who take a social approach to emotion conceive of matters very differently to the biologically oriented. Whatever the links between animal and human emotion might be, those who take the social approach concentrate on phenomena which can only be studied in humans, and they do so in ways which would be hard to follow in species without language. They ask people questions about their emotional experiences and they analyse descriptions of these experiences. There are many emotion theorists who have taken this approach in recent years and naturally they have chosen to stress their particular concerns. As a counterpart to the brief account of the biological approach, what follows are two examples of the social approach chosen because they are particularly innovative and influential.

Frijda's research stretches over several years (e.g. 1953, 1986) but his latest suggestions exemplify recent developments in the social perspective particularly well (e.g. Frijda, Mesquita, Sonnemans & Van Goosen, 1991). This work addresses the deceptively simple question — what is the duration of emotions? — and seeks an answer through a close analysis of individual descriptions of emotional experiences. Frijda and his co-workers find that

people refer to a vast range of durations for their experiences of the same emotion word. In the extreme, there is no time limit at all, for example with a statement such as "I hate hypocrisy" or "Sexism really irritates me."

A detailed examination of these mentions of duration led Frijda to a description of five classes of affect.

- 1) Emotions are characterised as states of feeling which are concerned with a particular object. They are occurrent, tend to embrace many components, have specific appraisals and readiness for action, and tend to last for hours.
- 2) Emotional episodes are states of emotional involvement to do with one event but which may involve a multiplicity of emotions. They also involve appraisal and some readiness for action, and last for days or weeks.
- 3) Sentiments are emotional dispositions which turn particular objects from the innocuous into the emotionally laden. They involve seeking things out or avoiding them and are structured around beliefs. They might involve emotional attitudes towards issues rather than more concrete objects; for example, the holding of grudges and the exercise of preventative jealousy. The time course of sentiments can be indefinite.
- 4) Passions are long term goals that predispose a person to emotional action. Strong examples would be obsessive love or hate, for instance, Ghandi's love of India and of peace and Hitler's persecution of the Jews. Again, their duration can be indefinite.
- 5) Finally, moods are continuous states of feeling or types of appraisal which have no object. They might be appraisals of the whole world or a continuous readiness for action of a particular sort towards anything and everything, such as a constant anger. Or they might take the form of lowered thresholds for particular emotions. Moods can last up to months.

Frijda goes on to examine the structure of these five types of phenomena through a comparison of the similarities and relationships between them. He finds that they share appraisals and aims of action readiness. However, for present purposes what is important about Frijda's work is that it leads to a clear way of analysing self-reports of emotion. Moreover, it brings back interesting terms such as sentiment and passion into consideration. These are terms

which perhaps only fell into disuse in psychology to begin with for the rather paltry reason that they do not smack of the right degree of conventional science — they *seemed* hard to operationalise.

Averill (e.g. 1982; Averill and Thomas-Knowles, 1991) rests his studies of emotion firmly on a bed of social constructionism. Writers such as Frijda would presumably also do this, but do not aver it in as direct a way as Averill. His analyses are both conceptual and empirical, particularly psychometric, and his most recent work is concerned with creative aspects of emotion, having this culminate in a description of the emotionally creative person.

Averill is clearly against the view that emotions reflect biological potentials usually regulated by social rules. He adopts the much stronger position that emotions, or emotional syndromes (including emotional feelings) are *determined* by social rules. He describes three types of social rule pertinent to emotion, for example, in his thoughtful analysis of anger (1982): constitutive, regulative and procedural.

These rules have to be adhered to for the emotion to be regarded as appropriate. If a constitutive rule is broken, the behaviour is seen as not reflecting true anger, say, but may be seen as envy or even neurosis. If a regulative rule is broken, in an angry reaction, the reaction may be viewed as inappropriate or illegitimate. And if a procedural rule is broken, then the behaviour may be seen as clumsy or the expression of emotion as inept.

Although theorists such as Averill stress the social and learned rather than the biological and innate, like those who take the biological approach, they are often concerned to describe levels of emotional syndrome. The difference is that they use quite distinct types of evidence to support their descriptions and are not concerned to consider possible brain structures.

For example, in his analysis of emotional creativity, Averill argues for five levels of organisation of emotional syndromes. 1) Those with biological and social potential, the origins of behaviour; 2) Fundamental capacities or tendencies, for example, personality traits and intelligence; 3) The ability to respond, which needs the acquisition of rules and skills (this, by the way, is the level at which emotional creativity occurs — change the social rules and the emotion changes); 4) Emotional states, which are short term, reversible, dispositions to

respond; 5) Finally, there is emotion as a component response in a particular state, although within situational constraints.

In summary, as suggested by the work of Frijda and Averill, the social approach to emotion rarely considers possible innate components, but is concerned with emotions as learned through experience, particularly social experience. As with the biological approach, there is great emphasis on theory, although the type of research which is interwoven with it is of a very different order, adopting a different methodological framework.

Those who take the social approach tend to be unashamedly unphylogenetic in their analyses, dealing entirely with human subjects and the meaning of their reported experiences. As such, they tend towards more phenomenological accounts, even though this tendency might be tempered by a desire to undertake "acceptable" empirical testing. Few psychologists can entirely throw off the shackles of empiricism and a concern with methodological respectability.

Other Disciplines

Although necessary, the conventions of a single discipline, whether they are in the tradition of science or not, can be constricting. It is all too easy to become enclosed within a perceptual box through the walls of which only the dimmest images can be seen. This is unfortunate because it acts as a brake on the momentum of knowledge. For present purposes, the obvious example of this is emotion. To psychologists, emotions *are* psychological phenomena. They might be innately laid down or learned through social experience, but either way they remain essentially psychological. Emotions though are also the domain of sociologists, anthropologists, historians and social philosophers. The insights into emotion provided by those who work in these disciplines add a richness to our understanding of emotion which could not come from psychology alone.

The aim of the present section is to provide some examples of how emotion is viewed from disciplines with conventions a little different from those of psychology. As will become clear, in their various ways, they take the social approach to emotion and, broadly speaking, see emotion (and, doubtless, other aspects of human functioning) from a social constructionist perspective.

Sociology

The clearest exponent, from a psychologist's standpoint, of the sociology of the emotions is Kemper (e.g. 1978, 1991). Sociologically, emotions should be studied in people who are products of, or reflect, their time, culture, social structure, race, gender, and so on. Emotion is seen as a collective property rather than a state, or set of conditions, reactions or phenomena that resides within the individual. From the sociological perspective, emotions cannot simply be internal phenomena; they occur within a social context from which they cannot be free.

So, the main assumption made by modern sociologists is that emotions are socially constituted. This suggests that the study of emotion be guided by a consideration of prior social interactions, that emotions are regulated socially and, most important of all, that emotions and their social foundations are not fixed, they change.

Within this type of framework, there are two relevant sociological approaches. Stemming from Marx, the social structural approach has it that emotions (and everything else human) stem from relations between people in particular social situations. By contrast, the cultural approach is concerned with the social regulation of emotions and the way in which the culture manages this. It is not that structural causes are denied, but rather that regulation is emphasised.

Within the context of emotion, perhaps the most interesting of the modern sociologists are the symbolic interactionists. The core of their beliefs is that stimuli are cognitively constructed by individuals and their meaning is then interpreted in readiness for action. As far as emotions are concerned, this process occurs through social constructionism.

The idea that emotions result from symbolic interactionism takes a number of forms. For example, Hochschild (1983) argues that acting results from discrepancies between feeling and the rules of feeling. Any discrepancies between what is perceived and what was expected leads to emotion. Alternatively, Thoits (1990) views emotions as situational cues, physiological reactions, expressions and labels, all of which are connected symbolically. So, any one of these dimensions of emotion can change the others.

Finally, before leaving this brief description

of the sociology of emotions, it is worth noting that some sociologists, although social constructionists, also take a biosocial approach. Kemper (1978) for example, stresses emotions as they derive from the guiding social principles of power and status, but attempts to relate these to biological structures and processes.

Anthropology

Lutz and White (1986) mildly castigate psychologists for emphasising inner bodily experiences in their accounts of emotion, neglecting (although not totally) its phenomenological and communicative aspects. They argue, not surprisingly, that emotion should be studied within a cultural framework, particularly through ethnographic descriptions of the emotional lives of people in their social contexts.

The anthropological approach to emotion goes further than the sociological. No assumptions are made about universal biological or psychological structures or states. Instead, they begin with various problems of social relationships or existential meaning. For example, anthropologists of emotion would study the emotional effects of the violation of cultural codes by other people or by oneself, danger to others or oneself, the loss of significant social relationships, the receipt of resources, or rewarding bonds with other people.

Within such matters, consideration is given to how people make sense of life events; what is their cultural meaning within the social structure? The study of this across different cultures shows, for example, that each culture emphasises a different aspect of any social problem. For instance, a personal error may be seen as a personal challenge to overcome, or as an event which says something about the person's character. Or cultures may define problems quite differently, for example, having many children may be seen as a social resource or as a drain on the economy. More especially within the present context, different cultures link emotions in different ways. For example, in some cultures anger is linked to fear, in others to shame and in others to admiration.

According to Lutz and White (1986), the anthropological approach to emotion points to relationships between emotion and thought, rather than dichotomising them. Ideas are regarded as being laden with emotion and feelings are used to understand social events. They also portray this approach to emotion as being of

help to anthropology. To take emotion into account imbues individual economic decision-makers with life. From this perspective, questions of money, work, health and so forth, are all about people experiencing emotions, even though, from this same perspective, these emotions are culturally determined.

History

Stearns (1986) provides a very interesting summary of the approach to emotion which has been taken in recent years by some historians. Much as with sociology and anthropology, the historian is concerned with social change. With respect to emotion, this concern takes two forms. First, there is the study of continuities in emotion throughout contextual changes. Second, and perhaps of more significance, is consideration of changes in emotional standards and their possible causes.

As an example, Stearns cites the fundamental emotional change that took place in western society during the 150 year period beginning in the second half of the seventeenth century. Beforehand, there was little in the way of reciprocal affection between parents and children, romance was discouraged as a basis for families, particularly amongst the upper classes, anger was freely expressed socially and particularly in families, and shame was the main means of discipline within the community. By the end of this period, children were regarded as both givers and receivers of affection, love was seen as providing a good basis for marriage (and its absence a good reason for the dissolution of marriage), anger had become re-proved and shame had given way to guilt as the major means of community discipline.

To take a further example of an historical approach to emotion, it is clear that in recent times in western society new romantic standards have developed. For instance, there have been changes in the perception and intensity of jealousy. Moreover, as families have become smaller, so different emotional relationships have developed between children. In the context of recent societal changes, it is interesting to speculate if phenomena such as the feminist movement and the open discussion of previously taboo subjects such as incest have had an influence of emotional experience.

Clearly, the key cultural variable for an historical analysis of emotion is change. To pursue a previous example, the evaluation of anger as negative is relatively recent. It used to be re-

garded as Homerically "sweet". So, historically, emotions are seen as part of an ongoing social process, much as they are sociologically and anthropologically. An historical perspective on emotion points to the importance of studying the effects of possible sources of influence such as religion, economics, literacy and demography. Also, of course, there is the interesting matter of changes in what is regarded as the appropriate public display of emotion. It is well documented that this varies between cultures, but does it also vary over time within a culture? *Social philosophy*

In many ways, the guiding principles behind the type of analysis of emotion which has begun to emerge in some quarters of psychology and in related disciplines, stem from social philosophy. Harré (e.g. 1986) has done more than anyone else to gather these views together. His starting point is the argument that the definition of a word or concept such as emotion comes from the examination of commonsense assumptions which are made in the relevant culture. This means that there is an analysis of how particular emotion words are actually used within the culture. To do this, Harré argues that it is necessary to study the local system of rights and obligations, in other words, to study the moral order as it exists within the cognitive repertoire of the people. In one sense, this way of looking at things suggests that a theory of emotions comes from the conditions of how words are used.

Harré stresses emotions as having three important aspects. There is bodily agitation, which can be similar in very different emotions. There is the fact that emotions are about something; they are intentional. And there is the way they are influenced by, or are part of, the local moral order. Harré argues that sometimes the moral order aspect of things is all that is necessary for an emotion to occur, citing the example of loneliness, which appears to involve no bodily agitation and not to have an obvious object of intention.

Tying in this analysis very much with social anthropology and with history, Harré also emphasises the cultural relativity of emotion, supporting this with various lines of evidence. For example, in most western cultures, fear is seen as an emotional reaction to threat or danger. However, in some cultures, to be submissive when faced with threat or danger is approved and to be aggressive is condemned.

Moreover, some cultures encourage what others discourage. So, for example, western society tends to applaud independence in adults, whereas in Japan there exists what Harré terms *amae*, a sort of sweet dependence.

Harré mentions three other lines of evidence supporting the idea of the cultural relativity of emotions. Emotions can be given different weights in different cultures. For instance, the Spanish become far more upset at public foolishness or rudeness than the English or the Americans. Also, there are what he terms quasi-emotions, such as "feeling cosy" which simply do not exist in Mediterranean languages. Finally, he draws attention to historical changes in emotion, much as described by Stearns (1986).

All of this, according to Harré, points to emotions as being strategic, as playing roles in actions which occur in actual situations. So, from this perspective, in order to account for emotions, it is necessary to investigate:— 1) the repertoire of language games within a culture, 2) the moral order of the culture and the appraisals which control emotion words and their meanings, 3) the social functions of displays of emotion and of emotional talk, 4) the narrative form that is taken by all this, and 5) the systems of rules by which this is constructed.

Conclusions

There are a number of conclusions which can be drawn from this rather idiosyncratic overview of some recent thought on emotion. The first is that emotion, like many of what we like to think of as psychological processes, is changing. It makes little sense to study emotions as static entities, via cross-sectional slices of psychological functioning. Emotions are dynamic, not fixed, even though there may be some genetic foundation to the most primitive of them. And they are influenced in their changes by many social and cultural variables.

Secondly, it would seem reasonable to conclude from the present analysis, that many of the distinctions and divisions which seem very familiar to us and which from time to time have been defended furiously, are both artificial and obstructive. It is perhaps foolish to insist that emotions, for example, be studied solely using the methods of science as it was defined 20, 30, or even 50 years ago, or just as constrictively the particular methods of science used by

those who take the biological approach, for example. To so insist is to cut off considerable sources of knowledge and understanding.

One of the main traditions within the discipline of psychology, indeed almost (but not quite) the defining characteristic of the subject, is the study of the individual and structures and processes that might be said to lie within the individual. When considering emotion, it is the biological approach which reflects this tradition more than the social. Although the biological approach has reasonable breadth, particularly in the evolutionary sense, it does not have the sweep of the social approach. Here, although emotions might still be regarded as a matter of individual experience, they are viewed as social phenomena, changing constantly under the influence of society and culture through their structures and institutions. Through social constructionism, links are then forged between psychology and other disciplines, thus bringing very different perspectives, theoretical approaches and even data into the emotional reckoning. This adds considerably to the richness of understanding.

The weak form of what has emerged as the present argument is that the study of emotion might better proceed interdisciplinarily, it even being important to break down sub-disciplinary boundaries within psychology. However, the strong form of the argument, and the preferred form here, is that it would be better to ignore traditional disciplines altogether. Emotions exist, and they do not "belong" to any one discipline, even psychology. They can be and should be studied from every possible perspective, from the biochemical to the anthropological, from the historical to the poetic. In this way will come a breadth of understanding which is simply not possible within the constrictions of a single discipline or single approach.

The general theme which has been developed in this paper is not merely of what some people term academic interest to those concerned with understanding emotion. It has much wider implications. For example, to allow the study of emotion to progress as broadly as is suggested here has many practical applications as well as theoretical import. Such a breadth of approach immediately suggests other ways of controlling emotion, if that is the aim, which of course it is in many areas of applied psychology.

However, even more importantly, the

argument developed here with respect to the study of emotion, can be applied to many other psychological concepts or processes. *General* knowledge or understanding might well develop more fruitfully and certainly more interestingly, by the breaking down of traditional boundaries between subjects, disciplines, approaches, methodologies and even styles. In other words, I am arguing strongly for the liberalisation of science.

To bring the theme directly back to emotion and to give one final example of the benefits to understanding which come from a multifaceted, interdisciplinary approach, one of the most *psychologically* illuminating recent insights into emotion comes from a sociologist. Rosenberg (1990) provides a penetrating account of the links between reflexivity and emotion. His argument is that it is reflexivity that sets us apart from other animals and part of this taking of self as the object of its own processes is a reflection on personal emotional states. "Reflexivity is thus a central feature of emotional identification, emotional display and emotional experience." I agree and also suggest that any psychologist of emotion should take this into account. Yet, to date, no psychologist has even addressed the question of emotional reflexivity, a matter which is surely as much psychological as it is sociological, philosophical or biological.

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