

**Affiliation, Agency and Emotions**

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**Abstract:** I argue in this paper that emotions should be seen as salient point of a mechanism of social coordination among conspecifics rather than as short term discrete events or as long term dispositions. In section two I present some biological evidence from affiliation that supports this hypothesis. Section three suggests its relevance for studies on the expression of emotion. In section four I rapidly sketch the mechanism underlying this coordination. Finally section five draws some of its consequences for our concept of agency.

## 1. Affiliation and the category of emotions

Over the last twenty or thirty years many philosophers, psychologists as well as anthropological and sociological students of emotions have expressed doubts concerning the category of emotions. The heart of the matter was the suggestion that emotions do not form a homogenous category of objects. Strangely, in spite of widespread agreement on this difficulty, to my knowledge, very few people have taken into account its methodological consequences for the study of emotions. Yet if ‘emotions’ do not form a homogenous category of objects it follows that generalizations concerning emotions are strictly impossible. It is likely that many will find this conclusion excessively pessimistic and skeptical.

That is an impression, I want to argue that rests on the confusion between a category and the objects it categorizes. What we find in nature and in the social world are affective phenomena. These we categorize. We divide them into emotions, anger, fear, love, disgust, into occurrent emotions and long term emotional dispositions, into feeling, into sentiments, even into traits of character. Among these different ways in which we divide and classify affective phenomena the category of emotion plays a central role in our common sense and in many of our scientific inquiries. Such a central role that we often forget that it is a category, a particular way of cutting up and of ordering affective phenomena. To say that this category regroups a heterogeneous collection of objects is not to assert that affective phenomena resist scientific generalizations, but to suggest that the category of emotion is perhaps not a very good tool to achieve that goal.

In this paper I will take as a given that emotions do not form homogenous categories. A claim which I understand in a strong sense, meaning that not only the category of emotion, but also that each individual emotion concept such as ‘love’, ‘fear’ or ‘anxiety’ does not refer to a homogenous class of objects.

the way most biologist understand affiliation, but I believe that the primacy of affiliation over both conflict

Methodologically the most important consequence we can derive from this is that we should not feel limited by the spontaneous conceptualization of affective phenomena determined by the category of emotion. This means that interesting generalizations concerning affective phenomena are not bound to explain everything that falls within the province of emotion, nor are they forced to remain within the limits of that domain only. Furthermore, we should consider that the conceptualization of affects as emotions constitutes a problem or a question and it should be viewed as a plus for an hypothesis concerning the nature of affective phenomena if it could also explain why so many of them appear to us as discrete emotions.

I want to defend a naturalistic, biologically informed hypothesis concerning the role of social relations in human affective phenomena. My starting point is what biologist call ‘affiliation’ in order to show the biological importance of conspecific relations in social species. I then go on to argue that this suggests that the biological function of affective expression is social. This is a hypothesis which helps resolve some difficulties associated with Paul Ekman’s studies on the “expression of emotion”. Finally I show how this expression should be conceived once we remove the category of emotion and the consequences this has on the relationship between affect and agency.

To begin then a few words about the concept of affiliation. Here is how recent book defines the term:

“Affiliation refers to social behaviors that bring individuals closer together. This includes such forms of positive association as attachment, parent-offspring interactions, pair-bonding and coalitions. Affiliations provide a social matrix within which other behaviors, including reproduction and aggression may occur. Reproductive and aggressive behaviors also reduce the distance between individuals, but a positive social fabric based on affiliations regulates their expression, in part.” (Carter & al., 1999, ix).

According to this definition affiliation is social behavior that brings individuals closely together. It does not include reproduction or aggression, yet in a way it underlies both them, since it regulates their expression. This last point is important. Affiliation, I believe, should not be seen as positive behavior only, but as referring to a form of coordination which underlies cooperation as much as competition, altruism as well as conflict. In this I depart from

and cooperation is implicit in the above definition. For the most part affiliation is intra-specific behavior but,

inasmuch as one can encounter social groupings, which include multiple species, it is not necessarily intra-specific behavior. Clearly in humans and in many animals affiliation intersects with the set of behavior we spontaneously describe as emotional or affective behavior. Nonetheless, much of what we call emotion, at first sight at least, has very little to do with affiliation. As suggested earlier there are two reasons at least why this should not trouble us excessively. First, if emotions do not constitute a homogenous category of object we should expect scientific hypotheses concerning affective phenomena to break up that domain and possibly add to it elements that we might judge irrelevant in view of our spontaneous categorization in terms of emotions. Second, what I claim is that the phenomena studied by biologists under the heading of affiliation play a fundamental role in human affective behavior and must be taken into account in order to understand that behavior, not that this is all there is to it.

Finally, we should also note that affiliation is a functionally defined category. It “refers to behaviors that bring individuals closer together”. That is to say, affiliation is recognized on the basis of the goal or purpose it serves: proximity between individuals. But there is no a priori indication that these behaviors either in themselves or in term of the mechanism which allows their performance, what may be taken as their physical or mental substrate, have anything more in common than the goal which they promote. In other words, nothing excludes that many different systems or capacities may be recruited in order to achieve or sustain affiliation. My guess is that the same is true of emotions, or rather of affective behavior. The unity of affective phenomena, inasmuch as it exists, is functional, and one of the reasons why this is so, I suspect, is because there is a strong genealogical relationship between affiliation and much of what we term emotion or affect.

## **2. Social interactions and evolution**

One of the main results of recent studies on affiliation is what they reveal concerning the value of social interactions for the biological fitness of individuals. For example, in a wide range of species affiliative interaction during development are critical for acquiring communication skills (Snowdon, 1999). More generally it has been shown that the development of the cognitive and emotional systems regulating social interaction depend on infant-caregiver attachment (Kraemer, 1999). Or again, among marmoset monkeys dominant females through sustained harassment prevent subordinate females from ovulating (Abbott & al., 1999). In mandrill and macaques though the reproductive success of males is not perfectly correlated with the social position of an individual, there is a clear positive relation between social status and number of offspring (Dixon,

1999). In other words within many social species, the biological fitness of an individual is to a large extent a function his or her social interactions, rather than simply dependant on direct - that is not socially mediated - relation to the non-social environment.

Two further remarks are worth considering. The first is that if social interactions sometimes only contribute opportunities and rewards to individuals, they can also modify the characteristics or traits of an organism and change its phenotypic fitness. Take as an example the correlation between social status and reproductive success. It shows that social interactions determine many of the biologically relevant opportunities that are given to an individual. In this case, the individual's characteristics remain the same; its original endowment, which to a large extent may be deemed responsible for its dominant status, is not changed when the individual's status is modified. In consequence, though the advantages which accrue to this individual result from his or her social situation and circumstances, it may be argued that in the last analysis they rest on the his or her genetic heritage. But failure to develop the systems responsible for diverse cognitive or communicative skill in the absence of proper infant-caregiver relation indicates a different type of phenomena. Given those developmental pathways often are time dependent, such failures are generally irreversible. They therefore result in the modification of an organism's characteristics and phenotypic fitness. In other words, a modified social interaction, the lack of proper affective contact between child and caregiver, can change an individual's features, its endowment for life. One important point is that such modified social interactions may have purely ecological rather than genetic causes. In a somewhat different way, by harassing a subordinate female a dominant one induces the production of a stress related hormone which inhibit ovulation in her victim. Such an effect is usually reversible and modification of social status later on will generally allow ovulation anew. These two last examples indicate that through social interactions organisms can act upon each other in very important ways even in the absence of overt physical consequences, even when these interactions are at a distance and when there is little physical contact. In other words, biologically social interactions can be quite costly. They determine many important opportunities or disadvantages and they can irreversibly change an organism's phenotypic fitness. Given that there is so much to lose or to gain from them, we should expect natural selection would have favored the evolution of mechanisms to manage such interactions. Affiliation and affective behavior I want now want to argue constitute such mechanisms.

A second, more theoretical point needs to be stressed: it is that many times, the systems which are damaged

through lack of attachment or caregiver attention during early childhood are the cognitive or emotional systems responsible for social behavior. In other words, an organism that did not receive sufficient early attachment is in turn deprived of the ability to offer the same to its offspring. In consequence, this second generation individual will likely also fail to express towards its own offspring the proper attachment necessary for the 'normal' development of the cognitive and emotional systems responsible for social behavior and they in turn will pass on this 'mutation' to their descendants (Kaemer, 1999). This means that affiliation, or at least that some specific affiliative behaviors, constitute non-genetically inheritable traits. Just as in the case of embryo development where the cytoplasmic environment controls ontogeny, here it is the social environment that ensures the presence or absence of certain traits. In both cases, the characteristics have a genetic basis. Nonetheless, in the absence of a specific cytoplasmic or social environment in which the genes are expressed, it is not sufficient to ensure that the characteristics will be inherited. In consequence, lineage of organisms with different traits with regards to affiliation can arise within populations that are genetically homogeneous (Jablonska & Lamb, 1995). These aspects of affiliation could in consequence constitute an independent level of selection given that selection for or against them does not imply selection at another lower level, for example genetic selection. Furthermore if, as the information suggests, exists a feedback loop that makes the affiliative characteristics of one individual dependant upon those of another, then the evolution of affiliation could result from changes within affiliative behavior or within social interactions only, rather than from genetic changes. In consequence, as long as some genetic parameters are kept within certain values, there can be an evolution of affiliative behavior that does not have a strict genetic basis, in the sense that it does not imply any change in gene frequency. In this case the mutations would stem from affiliative behavior itself. These behavioral mutations would be passed from one individual to another through social interactions (i.e. imitation or infant-caregiver relation). To some extent then, affiliation can give rise to a process of selection and evolution that is independent, within certain limits, from non-social selection pressures.

### **3. The expression of emotions and its universality**

An important research project, whose best-known representative is probably Paul Ekman, has inquired into the universality of affective expression. In the spirit of Darwin's book on the expression of emotion in man and animals, Ekman and his collaborators have done systematic cross-cultural studies of the expression and recognition of emotions. They showed for example, to

subjects from one culture photographs of individuals from another culture that clearly expressed (according to the experimenter) one given emotion. They then asked the subjects to match the pictures with a limited set of emotion labels, or in the case of non-literate cultures with narratives or scenario taken to suggest one emotion only. Uniformity in the expression of emotions between cultures and in the capacity to associate the same expression with the same emotion proved to be quite high. Depending on the populations tested, on the methodology used and on the emotion the level of uniformity in response varies, but its value always remains high, between 67 and 98%. These results have often been interpreted to demonstrate the universality of emotion, on what has been called 'the output side'. That is to say, we all express the same emotions and, to some extent, we express them in the same way. They also constitute strong *prima facie* evidence against the cultural relativity of emotions. Finally, Ekman himself has taken these results to indicate the existence of what he has named "affect programs". These programs according to him are coordinated sets of changes that define different emotional responses. They include expressive facial movements, musculo-skeletal responses, and vocal alteration, endocrine and hormonal transformations and changes within the autonomic nervous system. These changes are coordinated, in the sense that they occur together or sequentially in recognizable patterns and take place without the intervention of consciousness. Ekman argues that these coordinated sets of changes are real programs, that is: centrally implemented automatic responses to certain eliciting situations. According to him there are six different affect programs corresponding to six basic emotions: anger, fear, disgust, surprise, happiness and sadness. Ekman wants to associate each affective expression with one emotion label, but the critical discussion surrounding his results suggest a somewhat weaker conclusion. We are able to express and distinguish more or less clearly, and independently of cultural variations, between six affective states, most of which have a negative valence, only one, happiness, being clearly positive (Ekman & Friesen, 1986).

Paul Griffiths in *What Emotions Really Are* (1997) draws attention to the discrepancy between this limited but real universality of emotions on the output side and their lack of universality on what he calls the input side. As we all know many different situations can trigger many different emotions. We speak of irrational fears, of unjustified anger, of blind love. It is part and parcel of our everyday experience that emotional reactions are often inadequate in relation to the situation that elicits them. This judgement suggest the existence of a norm, or of a set of prototypical situations in which an emotional response is deemed adequate, yet our experience that this "norm" is by far not always met indicates the diversity of

situations that can trigger a given emotion. Thus on the input side, the universality is clearly missing. Different persons are afraid of or attracted by different things. Highly different objects can trigger even a basic emotion that seems as domain specific as disgust. What is a delicacy in one culture is often disgusting in another. Many North Americans are disgusted at the idea of eating raw lamb liver or live insects and few Japanese relish at the thought of swallowing a large piece of rotten milk with green mould, even when it goes under the name of 'Roquefort'.

This discrepancy between the input and output sides of emotion raises a difficulty. Affect programs, according to Ekman are centrally implemented automatic responses to certain eliciting situations. But if these programs are the result of natural selection we should expect them to be triggered by sets of biologically significant situations and this implies at least a limited form of universality on the input side.

#### **4. Affective coordination**

One possible explanation for this discrepancy, it is that affective expressions are not associated with any predetermined set of stimuli, though the system responsible for their onset may be geared or biased towards certain domains of events. Let me explain. Take the set of all situations that can elicit one emotion, call this the set of triggers for that emotion. ('Emotion' being defined here as one of the six or seven basic affective expressions recognized by Ekman.) Within this first set, select the subset of all situations that can precipitate the same emotion in every agent. Call this the set of universal triggers for that emotion. Within the set of universal triggers take the subset of situations which ALWAYS trigger the same emotion in every agent, call this the set of strong universal triggers. My guess is that for each emotion the set of universal triggers is small compared to the set of triggers and that the set of strong universal triggers is small compared to the set of universal triggers, perhaps is it the null set. In the context of Ekman's theory the problem of the discrepancy between the output and the input side of emotions is the problem of explaining the relative size of these different sets of triggers. Even if there were a sizable set of strong universal triggers for each emotion, something that I doubt, the question would remain of why there are many other triggering situations. What this way of presenting the difficulty put in evidence is the difference between the large number of eliciting situations and the few expressed emotions. Ekman's theory requires that these innumerable triggers be disciplined into biologically significant classes of events. These biologically significant classes of events, if they existed, could then help to define or determine the biological function of the different emotions.

Now the only biologically relevant class of events there is for the expression of emotion I submit is that of the expressed emotions themselves. What these universal outputs do is to compress immense sets of etiologies into a limited number of significant events: anger, fear, disgust, happiness, sadness and surprise. They transform innumerable situations and circumstances into a limited quantity of event-types that are relevant to conspecifics.

In order to understand this one need only remember that what constitutes an output for the agent who expresses the emotion constitutes input for other individuals and this input can be processed in at least two different ways. First, cognitively, as in the recognition task involved in Ekman's experiments. It then leads to a cognitive output, for example a judgement or a belief: "this is an expression of anger". This cognitive output, as we have seen, is relatively stable over the whole human population suggesting that it is important for members of our species to be able to correctly identify these affective tonalities. The input that the emotional expression of one individual constitutes for other individuals can, and generally is, also processed in another way. The emotional expression of one agent is treated by the affective systems of other individuals, and then leads to an output in the form of an affective expression. One interesting aspect of this emotional or affective processing is that, contrary to cognitive processing, it does not yield a uniform or universal answer. Expression of anger in one person can evoke many different affective reactions in other individuals, for example fear or shame or anger again or even laughter or spite, and at times, indifference. In other words, identical affective expressions in conspecific, notwithstanding the fact that they are (or can be) cognitively recognized as identical do not elicit one type of emotional response only.

The evidence concerning affiliation reviewed in the second section of this paper suggests some reasons why this may be the case. In the context of social coordination the six basic emotions distinguished by Ekman can be viewed as carrying important information concerning the intentions of different individuals towards each other. This information is fundamental in order to allow coordination between individual agents. Fear, anger, disgust, happiness, surprise, and sadness function as indicators or signals concerning the probability an individual will act towards other agents in one way rather than another. More importantly, within social interactions, but not in relation to the natural environment, emotional expressions immediately constitute forms of 'actions'. To be angry against a conspecific is to threaten him or her, to be angry against a tree is not to threaten. For another conspecific to manifest fear in response is to offer submission, trees do

not respond. To kick or to strike a tree out of anger because one cannot reach a banana or because it will not fall may be a way to summon more energy in order to jump higher and it could augment the probability that the banana will become loose. But it is not to threaten the tree, subjective impressions notwithstanding. Such a behavior is not a threat and could not have been selected for that reason, but in the context of social interactions affective expressions can function as threats, as promises, as rejection or acceptance, as demands and can be selected as such.

## 5. Affective coordination and agency

According to de Waal & Aureli (1999, p. 122) “if two individuals compete over a particular resource, they need to take into account not only the value of the resource and the risk of bodily harm, but also the value of their relationship”. This creates a somewhat paradoxical situation of a kind philosophers are particularly fond of. For given that each has to take into account the value the other individual gives to the relationship, it follows that the value of the relationship for each organism is not independent of the value which the other gives to it. That is to say, it may be worth it for me to give up some advantage in order to preserve our relationship, but only if our relationship is worth enough for you not to give it up at the first occasion, or temptation. The same reasoning of course applies to you. This difficulty is perfectly general, and the relationship in need to be evaluated should not be conceived of only as a past relationship continuing to the present. What has to be measured is the importance for me of my relationship with you. That is to say its worth to me as a item of value, distinct from the value which I give to the goal of our relationship, when such a goal exists, as for example is the case in mutual grooming or in reproduction. In order to determine this I need to know what your relationship with me is worth to you. You, of course, stand in exactly the same situation relative to me. There results from this circularity a form of uncertainty.

Continuous exchange of low level affective expression, for example in facial motion or bodily posture, could serve the purpose of reducing this uncertainty, by informing agents of each other’s intentions towards each other, or, rather than by ‘informing’, by determining each agent’s intention towards the other. In view of the original uncertainty and circularity none of the agents involved actually knows (that is to say can compute the optimal value of) what should be his intention towards the other agent. Given this, it would be better for each one not to consider his own original affective expression as a definitive statement of intention, but as an essay. To this attempt, the other should react at first by a similarly non-committal still inexpensive, but nonetheless perhaps slightly more definitive response than the original

expression. The reason why this is so is because each individual’s response should also be seen as partially determining the other organism’s intentions. To express affect is in a way to act upon another organism. It is to do something to him or her, to prevent the development of various cognitive or communicative skills, to induce the production of a stress hormone or of an opioid. It is to bring the other individual to one or another decision concerning his attitude towards us. And, it should be remembered that the other individual does exactly the same thing to us. Until that affective exchange reaches some fixed point of expression and some relatively stable intention, not only would there be little interest in the cognitive system delivering a verdict of the type “Joey is angry”, but there is no way in which it could reliably do so. It is at this stable point in the affective exchange, I suspect, that we generally become aware of our own emotion and able to reliably identify those of our conspecific. All that comes before is usually unconscious.

This suggests an explanation of why we generally conceive of emotions either as discrete events or as long term dispositions. It is that we very often use the names and the category of emotions to designate salient moments within this continuum of affective coordination. These salient moments also correspond to fixed points of coordination, when one agent’s intention towards another becomes determined. Given this it is not surprising that emotions should many times appear to us as discrete events or as dispositions for action. Yet this subjective categorization of affective life proposes a radically inadequate understanding of emotion for at least two reasons. First, because it represents them more or less as atoms of affect and as on/off states which suddenly strike an agent rather than as moments within a continuum of affective coordination. Thus the phenomenological characteristics of these salient moments should not be seen as intrinsic qualities of internal states, rather they are to be analyzed in relation to the role they play within the process of coordination. Second, construing emotions as discrete events and as internal states misrepresents the role of affect inasmuch as it presents something that is essentially social and relational as an individual agent’s competence or lack thereof. In affective coordination both agents act upon each other, but the final outcome of their interaction, for example anger in one, shame in the other usually escapes the control of either one of them. Nonetheless it helps determine each agent to action and creates expectations about the other. Affective coordination offers the image of agents who are neither autonomous, nor in a sense individual. Through affective coordination agents act upon each other in that each one helps determine the other to action. To use a modern medical metaphor: affect is an invasive technology. This should not surprise us excessively if as suggested by the data

concerning affiliation, affect, biologically, indicates our profound dependence upon each other. When such is the case, as brilliantly documented by Richard Dawkins in *The Extended Phenotype* (1984) we should expect selection to have favored the evolution of mechanisms through which one individual acts directly upon another.

“Affiliative Processes and Vocal Development” in (Carter, Lederhendler & Kirkpatrick, 1999), pp. 141-152.

## BIBLIOGRAPHY

D. H. Abbott, W. Saltzman, N. J. Schult-Darken & T. E. Smith (1999)

“Specific Neuroendocrine Mechanisms Not Involving Generalized Stress Mediate Social Regulation of Female Reproduction in Cooperatively Breeding Marmoset Monkeys” in (Carter, Lederhendler & Kirkpatrick, 1999), pp. 199-218

C. S. Carter, I. I. Lederhendler & B. Kirkpatrick (1999)

*The Intergrative Neurobiology of Affiliation* (Carter, Lederhendler & Kirkpatrick, eds.), MIT Press, p. 418.

Dawkins, R. (1982)

*The Extended Phenotype*, Oxford, Oxford University Press, 1982, p. 307..

Dixson, A. F. (1999)

“Evolutionary Perspectives on Primate Mating Systems and Behavior” in (Carter, Lederhendler & Kirkpatrick, 1999), pp. 45-64.

de Waal, F. B. M. & F. Aureli (1999)

“Conflict Resolution and Distress Alleviation in Monkeys and Apes” in (Carter, Lederhendler & Kirkpatrick, 1999), pp. 119-130.

P. Ekman & W. V. Friesen (1986)

“A new pan-cultural facial expression of emotion”  
*Motivation and Emotion* 10:159-168.

Griffiths, P. (1997)

*What Emotions Really Are*, The University of Chicago Press, p. 286.

E. Jablonka & M. J. Lamb (1995)

*Epigenetic Inheritance and Evolution*, Oxford, Oxford University Press, 1995, p. 346

Kraemer, G. W. (1999)

“Psychobiology of Early Social Attachment in Rhesus Monkeys: Clinical Applications” in (Carter, Lederhendler & Kirkpatrick, 1999), pp. 373-390.

Snowdon, C. T. (1999)