

Human Ethology Newsletter

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Newsletter Submissions

Anything which might be of interest to ISHE members is welcome: society matters, suggestions for Forum topics, Growing Points, Mini Communications, Current literature and films, and material for the Bulletin Board such as announcements of meetings, sabbatical opportunities, employment opportunities, etc., should be sent to the Editor.

Suggestions for books to review, or reviews, should be sent to the nearest Book Review Editor dealing with the language concerned. A list of the book review editors is printed in the column inside the backpage.

Submissions in any legible format are acceptable as long as these are in English. Floppy disks containing Wordperfect files produced on an IBM-PC (compatible), or ASCII files can be processed as well and are in fact preferred, because they lower the production costs.

Submission deadlines are as follows: the material should have reached the editor in Amsterdam before February 15, May 15, August 15, or November 15 for inclusion in the next issue of March, June, September, or December, respectively.

10th INTERNATIONAL CONGRESS OF HUMAN ETHOLOGY

Organised by the International Society for Human Ethology

Dates: Monday 31st. July to Friday 4th. August.

Place: Pollock Halls,
University of Edinburgh,
Holyrood Park Rd.,
Edinburgh EH16 5AY,
Scotland.

PLEASE NOTE: would each individual requesting a place at the Congress please fill in a SEPARATE form (photocopied if necessary). The accommodation registration form and an application form for academic contributions are printed in the back of this newsletter issue.

Programme: the programme will consist of a mixture of morning plenary sessions and afternoon workshops. The following workshops are envisaged. Papers will be accepted for these, or other topics may be nominated, and if there is sufficient demand single-subject sessions and workshops will run. There will also be sessions for independent papers, and for posters. The boards available for posters are 6 feet wide and 3 feet high (2 x 1 metres).

Comparative mother-infant behaviour.
Social intelligence.
Social fabrics of the mind.
Early difficulties in relationships.
Psychoanalysis and sociobiology.

Please indicate below the title of any contribution, whether it will be a paper or a poster, and what visual aids will be needed.

Films or videos are also requested for a film evening. Videos need to be VHS format, PAL, 50 Hz.

Requests for further information and booking forms should be sent to:

Dr. I. Vine, Department of Interdisciplinary Human Studies, University of Bradford, Bradford BD7 1DP, ENGLAND.

or via email: I.Vine@uk.ac.bradford.central.cyber2

International email tends to be unreliable, so if you have had no reply after a week, send a letter, with a note of your original email date. This applies to communication with any of the organisers.

MINI COMMUNICATIONS

The objective of this section is short empirical or theoretical papers which inform and would benefit from the input of peers. If readers wish to comment, write directly to the author(s).

Temporal Structures of Behaviour Patterns

by Margret Schleidt, Forschungsstelle für Humanethologie in der Max-Planck-Gesellschaft, 8138 Andechs, Fed. Rep. Germany.

With the use of film material of unstaged social interactions in diverse cultures cross-cultural comparison of human behaviour became possible. In the Human Ethology film Archives of the Max-Planck-Gesellschaft a vast amount of such material, most of which was filmed by I. Eibl-Eibesfeldt, is stored. During the past years we have used this film material for a number of studies in which the temporal structuring of microsequences of behaviour was the central theme. Some of our findings will be summarized here.

1. Time constant in actions.

That our perceptions and actions are structured by time is evident in our biorhythms like the circadian rhythm. But there are also temporal structures of much shorter periods which we are not generally aware of.

In speech (free speaking and reciting poems) Pöppel (1978) and Turner and Pöppel (1983) have shown that a time span of about three seconds exists which structures utterances. Furthermore the outcome of psychophysiological experiments suggest that events which last up to three seconds were handled by the persons as totalities, and the information included in these

events was perceived as one unit. This time span corresponds to our feeling of 'nowness' and represents the 'subjective present' (Pöppel, 1978, 1985).

From the analysis of short units of human behaviour, it could be shown that here too temporal structures of a few seconds prevail.

The study was carried out in two stages:

In the first stage rhythmically repeated behaviour patterns were analysed such as 'waving goodbye', 'handshaking', 'nodding confirmingly with the head', 'caressing a child on the hair', 'stamping angrily on the ground' etc. The sample of repetitive behaviour patterns was randomly drawn from four cultures (Europeans — Germans, Italians, French; Trobrianders — Polynesian horticulturalists living on coral islands of Papua New Guinea; Yanomami — hunters/horticulturalists living in the jungles of Venezuela; Kalahari Bushmen — hunter/gatherers of Botswana). The people of these different cultures live far apart around the world in very different ecological habitats and under different social, economical and political conditions. They are thus representatives of people living in a wide variety of different lifestyles.

The analysis of 255 units of rhythmically repetitive behaviour patterns, equally distributed over the four cultures, revealed that independent of culture, gender, age and movement pattern, a time span of approximately two to three seconds was used by the actors (Fig. 1). After this time span, either the whole repetitive behaviour pattern ceased or the movement patterns of the sub-units were altered. The data from the Kalahari Bushmen were analysed by students of the University of Munich, who were not aware of the underlying hypothesis.

In cases where the entire repetitive unit was not built up of simple short movements like stroking, hitting, stamping etc., but consisted out of more complex and longer movement sequences like 'bending down to a baby and kissing it' or 'throwing a ball and picking it up again', not the entire repetitive unit but the subunit had a duration of approximately two to three

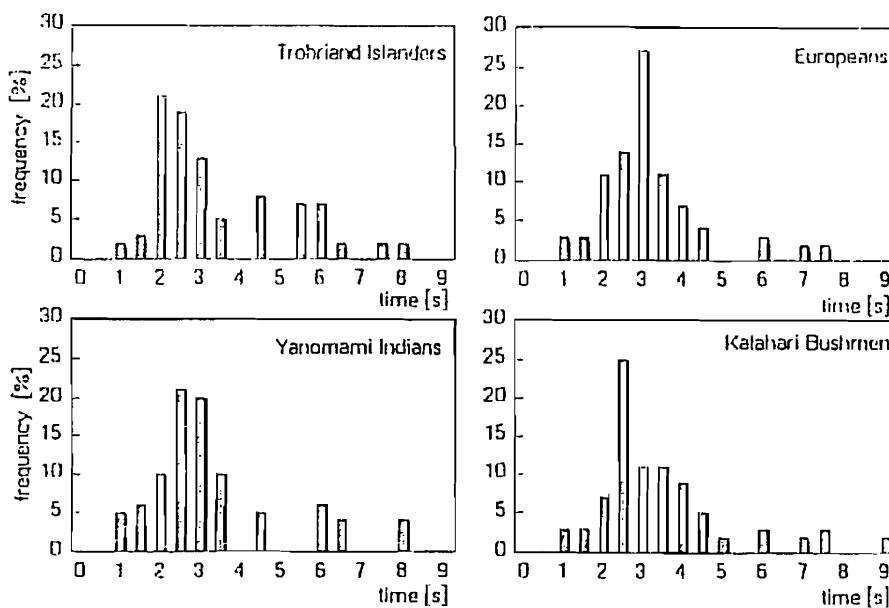


Fig. 1: Histograms for the duration of repetitive behaviour units from four different cultures

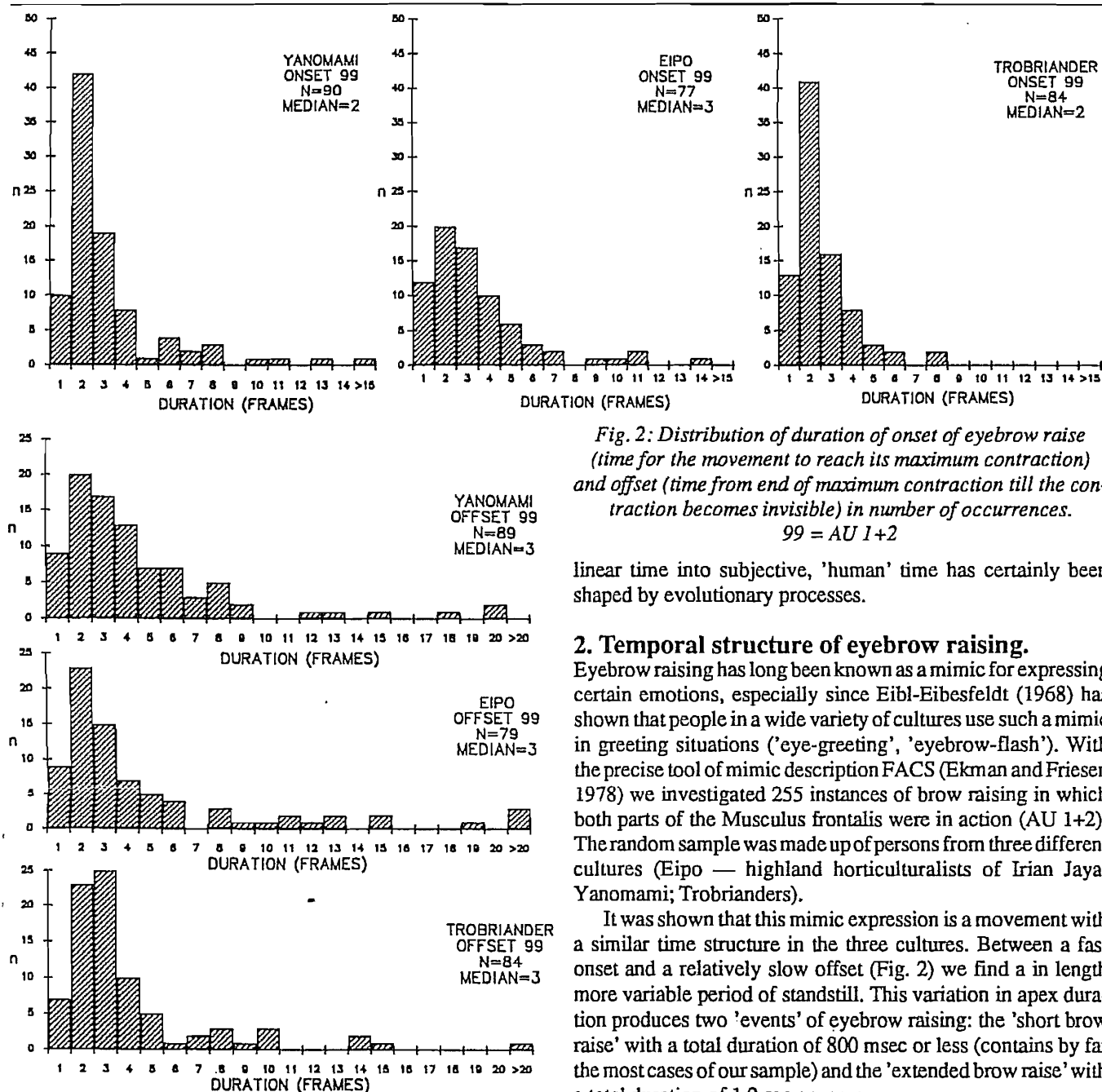


Fig. 2: Distribution of duration of onset of eyebrow raise (time for the movement to reach its maximum contraction) and offset (time from end of maximum contraction till the contraction becomes invisible) in number of occurrences. 99 = AU 1+2

linear time into subjective, 'human' time has certainly been shaped by evolutionary processes.

2. Temporal structure of eyebrow raising.

Eyebrow raising has long been known as a mimic for expressing certain emotions, especially since Eibl-Eibesfeldt (1968) has shown that people in a wide variety of cultures use such a mimic in greeting situations ('eye-greeting', 'eyebrow-flash'). With the precise tool of mimic description FACS (Ekman and Friesen 1978) we investigated 255 instances of brow raising in which both parts of the *Musculus frontalis* were in action (AU 1+2). The random sample was made up of persons from three different cultures (Eipo — highland horticulturalists of Irian Jaya; Yanomami; Trobrianders).

It was shown that this mimic expression is a movement with a similar time structure in the three cultures. Between a fast onset and a relatively slow offset (Fig. 2) we find a in length more variable period of standstill. This variation in apex duration produces two 'events' of eyebrow raising: the 'short brow raise' with a total duration of 800 msec or less (contains by far the most cases of our sample) and the 'extended brow raise' with a total duration of 1.2 sec or more.

The analysis also revealed that brow raise creates distinct facial patterns: other mimic movements are either particularly frequently or particularly rarely seen together with brow raising. Thus the contraction of *Musculus corrugator supercilii* (AU4), which draws the brows together and gives a closed off and rejecting expression occurs very rarely at the same time as brow raising, but rather often just before the onset. In contrast the action of the *Musculi zygomatici* (AU 12) which gives the expression of smiling is very often to be seen together with brow raising. The brow raise can be observed in situations where the motivation of the acting person can be described as 'yes to a social contact'. Thus we find besides the typical temporal structure which forms a typical movement configuration responsible for the term 'eyebrow flash', a unity of motivation. The eyebrow flash therewith is a culture independent mimic signal, a fixed action pattern as described by Konrad Lorenz, which is clearly under the control of a program in the central nervous system (Grammer, Schiefenhövel, Schleidt, Lorenz and Eibl-Eibesfeldt 1988).

seconds. In such cases of course, the entire units were much longer (Schleidt, Eibl-Eibesfeldt and Pöppel 1987; Schleidt 1988).

In the second stage of the study, certain categories of behaviour were analyzed: working activities (working with a tool or with materials) and hand-body-contact (scratching, touching one's own body etc.). This investigation was done in three cultures (Trobrianders, Yanomami and Himba — pastoralists of Namibia). Also in these categories of behaviour, most of the clearly distinguishable action units, which were in 20% built up by repetitive movements, lasted between two to three seconds (Feldhütter 1989).

Thus it is clear that human action and perception are structured in intervals of two to three seconds. The mechanisms in our central nervous system that govern these temporal constants in behaviour, their purpose and their consequences await further study (as well as the investigation of possible temporal constants in animals). We think that the transformation of objective,

This mimic signal is, of course, part of a longer 'event': the person looks up, makes eye contact, signals with raised brows, often nods with the head and shifts the eyes away again. Such an entire sequence is (this being only preliminary results) between two and three seconds long, again in the range of Pöppel's temporal unit which represents 'nowness' or the 'subjective present'.

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Sociobiology and the definition of altruism

by: Ian Vine, Interdisciplinary Human Studies, University of Bradford, England.

Richards (1987) has recently reiterated the claim that the supposed paradox about the evolution of altruism — around solutions to which the seeds of sociobiology were sown (Hamilton, 1964; Trivers, 1971) — is actually a myth based upon conceptual confusions. While I am convinced that it is the critics who are primarily confused, it is certainly the case that our now well-established terminology here does invite misunderstandings, because it departs radically from ordinary usage of concepts like 'altruism' and indeed 'selfishness'.

Taking a lead from Voorzanger (1984), I have proposed that we should use the prefix 'bio-' whenever we are considering such terms in a technical, biological sense (Vine, 1985, 1987). However, since that led one critic to think that I erroneously "equate individual survival with fitness" (Losco, 1988, p. 115), the proposed change in usage evidently needs spelling out more fully. I proposed that we define a trait, or indeed a single act, as *bio-altruistic* "if it enhances or tends to enhance the personal

survival prospects or general biological viability of the recipient of a social response, while reducing these for the actor (Vine, 1987, p. 61). Conversely, *bio-selfish* action benefits the actor at another's similar expense.

The 'classical' definition of altruism (Trivers, 1971, p. 35) is very different, being "behaviour that benefits another organism not closely related, while being apparently detrimental to the organism performing the behaviour, benefit and detriment being defined in terms of contribution to inclusive fitness". This does of course imply that real altruism *actually* opposing inclusive fitness would probably never evolve. Perhaps this is why now Trivers (1985, p. 456) refers instead to behaviour "that benefits another organism at a cost to the actor, where cost and benefit are defined in terms of reproductive success" — i.e. individual fitness (although strictly speaking reproductive success is not identical to genotypic fitness, as Dunbar, 1982, insists). Now we can at least say that behaviour with altruistic consequences may evolve up to limits set by inclusive fitness constraints.

Yet the second definition is still problematic, as aiding offspring would still *not* qualify as altruistic. Much of the rationale for defining bio-altruism simply in terms of direct personal costs is to bring it closer to ordinary language, and our moral concepts which hinge upon that. Without in any way challenging sociobiological theory, it can now be said that genes facilitating bio-altruism towards offspring can readily evolve because this is in many species a prerequisite of individual fitness. Bio-altruism towards other kin can evolve, even if it harms individual fitness, within the constraints of inclusive fitness as identified by Hamilton. Likewise, the reciprocity which Trivers (1971) called 'reciprocal altruism' can be said to involve immediate costs — and thus be bio-altruistic in the short term — even though strict reciprocity involves no longer term decrement in individual fitness, and so can evolve where conditions ensure the reliability of reciprocation.

The definitions proposed here make bio-altruism *compatible* with ordinary language, so long as we refer to consequences of behaviour. The difference still exists at the *motivational* level, though. Dictionary usage restricts altruism to behaviour that is purposefully directed to another's well-being. That is why moral evaluation of apparently altruistic behaviour can devalue its moral worth in cases where it was motivated by desires for social approval, attempts to induce guilt in the recipient, and so on. Thus a behaviourally bio-altruistic act may be judged *not* to be altruistically motivated at all. Conversely, a mother's sacrifices for her own child can be quite genuinely altruistic at the motivational level, while clearly being non-altruistic in even the weaker sense defined by Trivers. It would minimize confusion if, as recommended here, one could still call the behaviour itself bio-altruistic. The proposed definition also means that in the case where a parent makes *grudging* sacrifices for a child, simply out of concern to perpetuate the family name and genotype, we can accept that the acts — while being bio-altruistic — are not so in the moral sense.

Although I have defined 'bio-altruism' differently from Voorzanger (1984), I accept his conclusion that it is essentially irrelevant to the everyday, purposive, moral sense of 'altruism'. Too many sociobiologists, as well as critics, have forgotten or not even grasped this. However, others, like Richards (1987), have seen the difference and then objected that the sociobiologist *should* consider motivation, as it is what supposedly mediates between genes and behaviour. He goes on to question whether rare acts of deliberate, knowing *lethal* self-sacrifice

could ever figure in evolutionary selection at all significantly. He then suggests that what selection would work upon is actually risk-taking, in cases where others benefit but the actor does not expect to make a serious sacrifice in fact. Evolution would be then "biased towards the least skilled, not the most altruistic" (p. 238), with respect to what it penalizes. Perhaps so, but here and elsewhere in his discussion Richards plays down the modest and quite certain costs involved in everyday helping activities. He can do this because, particularly with temporally extended reciprocity, it is so hard to know whether inclusive fitness is much affected at all. In that respect the usual definitions do make it very difficult to ascertain which acts or traits do count as altruistic, and so are in need of special adaptive explanations.

Richards concludes that sociobiological accounts make very dubious sense of extreme self-sacrifice, and are not needed for the modest varieties because these can derive from attachment, socialization into normative social networks of mutual obligation within groups, and so on — which require no postulation of specific altruistic genes. Here the obvious riposte is that he is forgetting just those non-human species whose bio-altruism Hamilton and others saw as initially paradoxical, and in need of special explanation. Yet it does remain true that discussion of the bases of human altruism within the sociobiological framework has often been naive — and unnecessarily confused by the original usages of the term. And so far, shifting from crudely deterministic notion of 'innate' altruistic dispositions to notions of epigenetic constraints on development has only raised more doubts, about what explanatory work hypotheses about genetic selection and fitness really do for the psychology of altruistic behaviour and motivation.

Changing definitions will not directly resolve these issues, of course. Puzzles about how people sometimes come to incur high personal costs or risks on behalf of strangers, quite voluntarily, would be appreciable even if they did not thereby damage their inclusive fitness. But if we are to claim that motivations of the kinds that culture and moral reasoning can develop to such extremes *do* nonetheless first come into being because of specifically selected features of the human genotype, we still have much theoretical work to do. Perhaps it has been premature to focus directly upon overall fitness considerations, when their identification is often largely speculative to varying degrees. What might well be appropriate now is to look far more closely at ways of assessing just what the material costs typically are for varying types and degrees of helping behaviour, as well as who their likely recipients are. Then we must tackle the relationships between these real costs and perceived ones, as well as 'immaterial' costs and benefits associated with status, guilt, self-esteem, and the like. A focus upon the overall biological well-being of both altruists and those they help would only be another starting point for eventual adaptive explanations. But it would be encouraged by a shift of our definitions.

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On the Origin of Crying and Tears

by: F.L. Roes, Sociological Institute, University of Amsterdam, Oude Hoogstraat 24, 1012 CE Amsterdam, The Netherlands.

Summary

Crying and tears may be favored by natural selection because they bring about helping behaviour by the spectator. This helping behaviour is explained by the assumption that crying and tears "imitate" some of the perceivable characteristics of a baby that has just been born (e.g., wet face, facial expressions, respiratory sounds). If human parents and people in general are "programmed" by evolution to feel the need to help and protect when they see (and hear) newborns, then, when nonneonates are in need, the appearance and the behaviour that together show resemblance to the neonate may have survival value at some essential points during phylogeny and, thus, may spread in the human species.

In ontogeny, the fact that the shedding of tears usually occurs for the first time not until weeks or months after birth is not an argument against this view but, rather, supports it.

Some Theories Regarding the Function of Emotional Tears

In *The Expression of Emotions in Man and Animals*, Charles Darwin listed three reasons for the secretion of tears: "The primary function of the secretion of tears, together with some mucus, is to lubricate the surface of the eye; and a secondary one, as some believe, is to keep the nostrils damp, so that the inhaled air may be moist, and likewise to favour the power of smelling. But another, and at least equally important function of tears is to wash out particles of dust or other minute objects which may get into the eyes" (Darwin, 1872:169). In Darwin's view, the excretion of emotional tears was related to the first function.

In more recent years, A. Montagu (1959) offered another explanation of emotional tears: The intake and expulsion of air that occurs in sobbing would cause the sensitive mucous membranes of the nasopharynx to dry out quickly if tears did not

keep them moist, and as a result, the risk of infection would increase. This explanation was criticized by W.H. Frey (1982:9), who wrote: "Humans do not excrete tears while running or performing other exercise where breathing is increased." He hypothesized that, like urinating, defecating, and exhaling, emotional tearing may be involved in the removing of waste products or toxic substances from the body. Perhaps people feel better after crying because as they shed tears, they also shed, in those tears, chemicals that build up during emotional stress.

These explanations are essentially physiological, and Darwin made explicit that he assumed no other, more fundamental reasons for weeping. He wrote: "... we must look at weeping as an incidental result, as purposeless as the secretion of tears from a blow outside the eye, or as a sneeze from the retina being affected by a bright light, . . ." (Darwin, 1872:176-177). In his view, the sole effect of weeping or crying is to give relief to individuals who are experiencing the agony of pain.

In contrast to Darwin's point of view, the explanation that follows directly links crying and the secretion of tears to evolutionary theory. Crying and the emotional secretion of tears are considered here to be messages that contain a request for help, and humans have the ability to cry and to shed tears because these messages have proven to be effective.

An Evolutionary Explanation of Crying and Tears

This explanation is based on three assumptions.

A. In many species of animals, the stimuli emitted by newborns bring about parental care. In fact, the newborns of many species require parental care. Because a newborn has little else to offer than its own appearance and behaviour, it is logical that it often is exactly these factors that elicit the parental care. Parents who do not react in the appropriate way to the appearance and behaviour of newborns reduce the fitness of their offspring and, therefore, the likelihood of the occurrence of behaviour resembling their own in the next generation. Consequently, parental behaviour that responds to the stimuli emitted by newborns is favored by natural selection in the species in which newborns need such parental care.

B. Behaviour of older offspring that "copies" some of the newborn's stimuli also may be favored by natural selection. As can be observed in many species of birds, juvenile offspring sometimes behave like helpless newborns. For instance, a young hungry sparrow that is perfectly capable of flying will, in the presence of a parent, helplessly shake its wings, thus "begging" for food. By "imitating" the first, awkward wing movements of a newly hatched bird, the juvenile induces the parent to behave like a parent and give food. If juveniles that behave in such a manner are better fed than juveniles that do not show such behaviour, then the behaviour that imitates newly hatched birds could become a mechanism that increases the fitness of individuals and, thus, could become common in a species as a result of natural selection.

C. The crying behaviour of humans is favored by natural selection because the behaviour resembles or causes resemblance to some of the stimuli emitted by newborns and, therefore, induces helping behaviour.

Some aspects of this resemblance are as follows:

1. The wetting of the face with tears — compared to the face of the newborn, which is wet with amniotic fluid.
2. The jerking, almost spasmodic respiration of a crying per-

son — compared to the first respiratory efforts of a newborn.

3. The screaming of a crying person — compared to the first screams of a newborn.
4. The closed eyes, the wrinkled skin around the eyes, the spotted coloration of the facial skin, and the open mouth — all are very much alike in a newborn and in a nonneonate who cries.

These similarities between the appearance and behaviour of crying persons and the appearance and behaviour of newborns suggest the explanation mentioned in assumption C. That is, the crying behaviour of humans is favored by natural selection because it resembles or causes resemblance to some of the stimuli emitted by newborns, stimuli that induce the spectator to help the crying person.

This explanation is not contradicted by the fact that the shedding of tears usually takes place for the first time weeks or months after birth. It is not a wild speculation to assume that in the evolution of the shedding of tears, the distribution of scarce food was a major selective factor. However, the influence of the receiving of food on the phylogeny of crying would apply to nonneonates only. The reason is that young babies were nourished solely by means of breast-feeding, and mothers, it is assumed, normatively would attempt to feed their newborns. Either a mother was able to provide milk, or, perhaps as a result of severe food shortages, she was not able to do so. In neither case would the shedding of tears make a difference with regard to the baby's access to milk. Therefore, in the first weeks or months after birth, natural selection would not have favored the shedding of tears.

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(This article is based on a section in Roes, 1985. I am indebted to Leendert Blom for helping me with literature and for providing suggestions.)

Mental illnesses from an evolutionary perspective

by Romano Fiumara, Dipartimento di Sanità Pubblica e Biologia cellulare, II Università degli Studi di Roma, Via Orazio Raimondo, 00173 Roma, Italy.

Susan Weiss edited the English translation of this article.

"There is by no means all of man in the animal, but there is all of the animal in man," Konrad Lorenz recently affirmed (1).

Nevertheless, this basic proposition almost never is adopted in the interpretation of normal and pathological human behaviour.

There are various reasons for this stubborn resistance to considering the human as being an evolved primate. Kemali (2), for instance, has drawn attention to some of these reasons in what he has defined as extrascientific factors, such as the religious or political beliefs or the cultural background of the individual scientist.

It might be simpler, however, to blame the defensive mechanism "repression," a mechanism that is intended to make a clear distinction between *Homo sapiens* and the species that preceded it, as well as to lend dignity to its behavioural characteristics.

It is not my intention to go deeply into this question here. Instead, I prefer to stress the advantages that would be derived from a more rigorous evolutionary perspective, to consider Man as though he were nothing more than a product of evolution.

From this perspective, the brain necessarily acquires the characteristics of a "Darwinian machine," intended, in terms of teleonomy, to satisfy evolutionary laws, that is, to ensure both the survival of the individual and his or her genetic success — the success, in other words, of the species. Furthermore, even if the evolution of Man is considered to be a cultural process, whether in addition to or rather than being a physical process, the laws of survival and genetic success appear to be valid nonetheless.

The reason for this apparent validity is the existence of identifiable genes and mutations that are psychological rather than physical. These particular engines of evolution are ideas, and they are controlled by the same teleonomic principles of survival and diffusion. In this context, the "semantic" theory of evolution recently proposed by Barbieri (3) appears to be more applicable than ever; the term "semantic" has been adopted in order to make it clear that evolution is not controlled solely by adaptation to the environment, a process in which selective pressures stabilise the "best adapted" casual mutations. Evolution also is influenced by adaptation to natural cycles, in the sense of "circuits that allow organisms and ecological niches to communicate with one another, even when they have no physical contact in space or time."

The cultural circuits that bind human beings to one another and, in particular, the newborn child to his or her microsocial environment — the family — clearly have characteristics that would allow them to be defined as natural cycles.

Adaptation to these cycles no longer is controlled by selective mechanisms. Rather, the process is directed by "semantic conventions," which are provided with significative qualities and defined as "semantic" because they are created in the same way as are linguistic conventions that "form the unitary and pluralist system of a language in evolution" through grammar and syntax.

Those same laws that are geared toward survival and genetic success are valid, as I have just said, in relation to cultural processes.

It is clear that differentiated and flexible strategies can be adopted in order to satisfy these fixed laws. I believe that in interactive human circuits, such strategies can be divided into three basic categories, concerned, respectively, with the establishing of secure attachment bonds, the realising of a better "dominance," or environmental, situation, and the promoting of a satisfactory inclusive fitness. Through the use of the last mentioned adaptive strategy, identified by Hamilton (4), it is possible, in fact, to obtain reproductive success in spite of the initial loss of a certain part of the genetic heritage. This kind of loss is compensated for by the survival of genes of the same type, to which the sacrificed gene is closely related.

The adoption of a rigorous evolutionary perspective in the study of mental illnesses, a perspective based on physical and cultural mechanisms, would finally introduce into psychiatry that unitary model of reference that already has been demanded by more than one author (5). This approach would place in a common biological matrix all of the models that have been adopted up to now, models that, because of their apparently contradictory nature and their failure to provide convincing explanations, have forced academics back into a neo-Kraepelinian descriptive formulation.

Ethology as a discipline has merit. It is well known that the discipline — the evolutionist *par excellence* — attempts to answer the "four whys" when observing animal behaviour (6). That is, when examining behaviour, ethology studies its immediate causality, its function, its ontogenesis, and its relationship with phylogenesis.

Psychiatric studies, on the other hand, appear to be interested in answering a single "why." The medical model, for instance, which is concerned with the discovery of anomalies in neurotransmitters, appears to be interested solely in the immediate causality of these anomalies, even if they can be related back to genetic factors. The psychodynamic, or relational, model, on the other hand, might be concerned primarily with clarifying function or with ontogenetic development. In addition, it seems that none of these models considers the fixed laws of evolution and the correlated strategies that exist for their realisation.

As far as these strategies are concerned, I believe that it is possible to affirm that their correct and *contemporary* conceptual use in psychiatry would allow at last for the clarification of a large number of theoretical formulations that, when taken *individually*, regardless of their validity, are no longer able to supply convincing, all-inclusive explanations.

The strategy of secure attachment bonds, for example, immediately takes us back to Bowlby's "attachment theory" (7); in the same way, the thrust for "dominance" reminds us of Kohut's psychology of the self (8), with its transference of the grandiose, or idealising, self; and finally, the inclusive fitness strategy might be pertinent in the explaining of the choice of a specific patient as scapegoat (9).

In order to reach a genuinely satisfactory understanding and explanation upon which to base preventive, curative, and rehabilitative measures, it does seem that all four "whys" are needed if we are to find a reciprocally correlated answer.

Above all, it is essential to bear in mind the fixed laws of evolution, since any obstacle to these laws produces illness.

Psychiatry, in short, must be regarded in the same way as human ethology is regarded (10).

The scientific adoption of "Occam's razor" — which, as we may recall, states, "*Entia non sunt multiplicanda praeter necessitatem*" — would allow us to remove taboos and to de-mystify and, above all, simplify many details of our understanding.

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BOOK REVIEWS

Individuals, relationships and culture: Links between ethology and the social sciences

Cambridge: Cambridge University Press, 1987. ISBN 0-521-34359-3 (hardback) £17.50 or ISBN 0-521-34844-7 (paperback) £5.95 (\$8.95). Pp.x + 207. By Robert Hinde.

Reviewed by Ian Vine.

Interdisciplinary Human Studies, University of Bradford, Bradford BD7 1DP, England.

For anyone teaching human ethology to social scientists Hinde's most recent contribution is a wide-ranging but concise and admirably clear text that will be hard to beat. For researchers it contains few surprises and breaks little completely new ground, yet still has appreciable value in drawing together and emphasizing themes which we often need to be reminded of. It summarizes both how and why relevant disciplines must converge towards a truly biosocial science of persons, and

points to both the advances already made and the considerable tasks ahead. In broad terms it provides a secure framework for appreciating how naturally selected genotypes predispose us for actively learning through experience — most particularly under social guidance — and acquiring phenotypic traits which are partly, but by no means simply, reflections of the cultural environment to which we must most directly adapt.

Most of us have long paid lip-service to an interactionist or dialectical view of development which must transcend crude divides between nature and nurture, or the passive infant and the active socializing agent. It is a measure of Hinde's stature, as a scientist who sees both the significance and limitations of every body of data and theorizing about human behaviour, that he seems almost effortlessly to embrace and integrate a variety of findings and viewpoints into a fairly neat synthesis that seems almost obvious — once he has spelled it out. Superficially, his framework is of the "everything influences everything" variety. Social behaviour is organized at several levels of complexity — each with distinctive properties — which range from individuals and their attributes, through specific dyadic or multi-person interactions and enduring interpersonal relationships, to social networks and group structure. There are mutual influences both within and between each level, as well as with the environment on the one hand, and on the other the 'sociocultural structure' of institutions, myths, normative beliefs, etc. shared by the whole group.

Hinde sees the relevance of animal ethology as largely only heuristic for our own species, since greater intelligence, linguistic and reflective skills, as well as our developmental plasticity, contribute to a far greater complexity in the dynamic relations amongst factors shaping behaviour. Yet his book is a model for how to deploy animal examples to highlight biological principles and suggest hypotheses for human behaviour. And with appropriate caution he is ready to approach the task of identifying more-or-less humanly universal traits at the level of individual 'propensities' which appear to be genetically predisposed or constrained because of their ancestral contributions to inclusive fitness. However, he is at constant pains to deny simplistic biological determinisms, and to emphasize how active social learning from experience of interactions, relationships, and group processes contributes to the channelling of propensities into appropriate alternative strategies and developmental pathways, in the shaping of our idiosyncratic and culturally distinctive mature traits.

This book treads a careful path between a basic commitment to fundamental functional principles in the evolutionary explanation of our natural propensities and a healthy skepticism about over-enthusiastic sociobiologizing. Hinde reminds us that if traits are universal we cannot prove their adaptedness, however plausible such an assumption appears, nor assume that any present contribution to reproductive success in some given context indicates that this was the basis on which the propensity was originally selected for. But conversely, acting against one's fitness interests in some circumstances — as when major sacrifices are made for unrelated strangers — does not prove that the underlying propensity was not adaptively selected for under typical ancestral conditions. Where Hinde's caution and alertness to analytic difficulties will provoke most dispute is in the explanation of attributes most readily assigned to the cultural level, whether quasi-universally like incest taboos, or as culture-specific normative practices. He sees little prospect of showing that all or even most features of cultures are generally

conducive to members' fitness, or that selection has acted through them to shape individuals' propensities.

Hinde's skepticism about premature attempts to offer adaptive explanations for cultural practices is partly based upon our very limited grasp of the complex determinants of sociocultural structure — which is influenced by our basic propensities, but not isomorphic with them. That structure must reflect also the distinctive dialectical products at each level of social complexity above the individual, as well as a group's history, dynamic relations with the environment and with other groups. Conversely, for any individual:

some human behaviour is primarily influenced by basic propensities of one sort or another, virtually all is influenced by social forces, and some is primarily determined by the values and norms, or by the rights and duties attendant upon roles in institutions, of the sociocultural structure. (p. 172)

The dialectical complexity underlying the causation and functions of even most individual-level human attributes is well brought out in Hinde's substantive discussions of familiar topics like mother-infant relations, mate-choice, and sex differences. He brings a masterly grasp of the ethological and often anthropological and psychological literatures into play, and shows how far we often are from settling evolutionary-functional questions with any confidence.

But it must not be thought that this slim yet substantial and significant volume is any kind of disclaimer of the relevance of inclusive fitness reasoning in understanding human behaviour. (Even if Hinde may be unduly cautious about the extent to which cultural norms tend to reflect what is adaptive for group members — or at least an elite class — and to which individuals selectively internalize practices and decision-making criteria according to experienced needs which at least tend to enhance their fitness.) The author is quite forthright and persuasive in insisting that we can and should seek to identify evolved propensities at the root of our social and cultural learning, even where these may be at variance with our ideals and can be regarded as politically dangerous findings. Thus, in discussing sex differences, Hinde does not hesitate to suggest that there may be a grain of biological truth in differential gender-role stereotypes, even if these exaggerate and distort natural differences, and in turn feed back culturally to affect males' and females' phenotypic development by selectively amplifying some propensities at the expense of others.

Surely it is here, and in analogous cases, that the claims of human ethology for a vital role in human understanding must lie. We are now in a position to see the value of an evolutionary perspective, not as a crude biological determinism, but simply as a counter to equally false assumptions that social scientists often make involving variants of cultural or environmental determinism. The evidence is now clear that we are preadapted from birth as social beings and as active seekers of understanding and competence. That is what makes development within society a multi-level dialectical process of mutual influence. As Hinde shows, it is only through an interdisciplinary endeavour which takes our biology seriously that we shall be effective in moulding relationships and structures to make progressive human ideals more attainable.

CURRENT LITERATURE AND FILMS

Material for this section of the newsletter should be sent directly to the editor. A sentence or two of summary would increase the value to readers.

Articles, chapters

- Gaulin, S.J.C., & Fitzgerald, R.W. (1989). Sexual selection for spatial-learning ability. *Animal Behaviour*, 37, 322-331. ("Sex differences in spatial learning have been thought to be universal among mammals, but their adaptive significance has been neglected." This research with species of voles suggests the differences may be based on sexual selection).
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- Lynn, M. (1989). Race differences in sexual behaviour: A critique of Rushton and Bogaert's evolutionary hypothesis. *Journal of Research in Personality*, 23, 1-6. (Department of Marketing, University of Missouri, Columbia, Missouri 65211, USA).
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- Rapoport, J.L. (1989). The biology of obsessions and compulsions. *Scientific American*, 260(3), 82-89. (Examines ethological basis of obsessive-compulsive and other psychiatric disorders in terms of Lorenz fixed action patterns).
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For a fee and reimbursement of expenses, Susan Weiss, a professional technical editor, will edit translated articles by members of the ISHE or their colleagues to improve the use of English in these texts. Address questions about this service to P.O. Box 1192, Corrales, NM 87048-1192, U.S.A.

Pre and Perinatal Psychology

The Fourth International Congress on Pre and perinatal Psychology will convene on the campus of the University of Massachusetts at Amherst, August 3, 4, 5, 6, 1989. Internationally renowned experts from around the world will focus on a broad spectrum of topics including the controversial issues of neonatal pain, bioethics, third party conception, innovative birthing techniques, in-utero learning and memory.

A distinguished faculty from Asia, Australia, Europe, Africa, the Middle East, South America, the U.S. and Canada will present reports of current research and will also lead 4 days of pre and post Congress workshops. Keynote Speakers are Dr. Lee Salk, pioneer in infant development research and Joseph Chilton Pearce, author of *Magical Child* and *The Crack in the Cosmic Egg*. Other distinguished presenters include Dr. Thomas Verney, Founder and President of the Pre and perinatal Psychology Association of North America (PPPANA), as well as Budd Hopkins, expert on reproductive abuse, Dr. Marion

Diamond, prominent neurophysiology researcher on aging and cognitive development and eminent Tufts University psychologist Dr. David Elkind.

The Fourth International Congress on Pre and perinatal Psychology will feature debate sessions on highly controversial issues such as Reproductive Rights and the Sentient Fetus and The Pros and Cons of Fetal Education. Scientific sessions will focus on the psychological, physiological and social impact of pre and perinatal experience on the developing person. Obstetricians, nurses, pediatricians, midwives, psychologists, psychiatrists, childbirth educators, early childhood educators, anthropologists, historians, physical therapists, public health planners and medical researchers will present their findings. These scientific sessions will address such themes as Adoption, Cross Cultural perspectives, Labor and Delivery, Pain and the perinate, Parenting and Bonding, Pre and Perinatal Memory, Reproductive Loss, Social and Ethical Issues, Stress, Stimulation and Development, Perinatal Trauma and numerous others.

Special events will include the World Premier of "Birth-dance", a multimedia dance work commissioned especially for the Congress, a children's Congress (K-12) supervised by nationally known recreation leader Don Boklage, exhibits and daily screening of films and videotapes. Continuing education credit will be available through the University of Massachusetts Medical School. In addition, half-tuition work/scholarships are available. Complete program and registration information will be forwarded on request. For further information contact Rima E. Laibow, M.D., Congress Chair, 13 Summit Terrace, Dobbs' Ferry, NY, 10522, (914) 693-8827.

21st International Ethological Congress

in Utrecht, the Netherlands, 9th - 17th August 1989. For registration contact: XXIst International Ethological Congress, c/o QLT Convention Services, Keizersgracht 792, 1017 EC Amsterdam, The Netherlands.

ESCPB Conference

An International Conference on **Hormones, Brain and Behaviour** will be held at the University of Liege, Belgium, from August 18th to 22nd, 1989, under the auspices of the European Society for Comparative Physiology and Biochemistry (ESCPB). The program will include about 40 invited lectures but also free communications in the form of posters or oral presentations.

The invited speakers will develop themes such as: sexual differentiation of brain and behaviour, hormonal activation of behaviour mechanisms in males and females, brain mechanisms of steroid action, interactions of steroids, neurotransmitters and neuropeptides in relation to behaviour or effects of social interactions on reproductive endocrinology. The main focus will be on vertebrate studies but will be no means be restricted to mammals. Free communications on all these and related topics can be presented during the meeting. It is planned to gather the invited lectures in a volume. The abstracts of posters and free communications (2 pages for each communication, including figures and tables) will be printed and published by ESCPB.

For additional information about the conference or submission of communications, please contact:

Dr. Jacques Balthazart, Laboratoire de Biochimie Generale et Comparee (Bat L1), Université de Liege, 17 place Delcour, B-4020 Liege, Belgique. (Tel.:32-41-43 44 41; BITNET: U411301@BLIULG11).

3rd International Conference of Behavioural Ecology

The Third International Conference of Behavioural Ecology, including a meeting of the Foraging Behaviour Group, will take place in Uppsala, Sweden, from August 22nd to 26th, 1990.

For further information, contact the local host:

Professor Staffan Ulfstrand, Uppsala University, Department of Zoology, Box 561, S-751 22 Uppsala, Sweden.

HBES first annual meeting

The Human Behaviour and Evolution Society first annual meeting will be held at Northwestern University, Evanston, Illinois, U.S.A., August 25-27, 1989.

Registration fee is \$50.

Please send registration fees to:

The Human Behaviour & Evolution Society
Northwestern University
1810 Hinman St.
Evanston, IL 60208-1310
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The Association for Politics and the Life Sciences

In recent years, the growth of new knowledge in the life sciences has been rapid and spectacular. Almost as quickly as it has been produced, this knowledge has had immediate theoretical and public policy influence — raising important political, philosophical, legal, and social questions.

For the past decade and a half, social scientists have been attentive to these developments. Especially in the discipline of political science, social scientists realized that they cannot remain insensitive to this explosion of knowledge in the life sciences if they are to continue contributing accurately and incisively to knowledge about human nature, political behaviour, and public policy.

The Association for Politics and the Life Sciences (APLS) represents a serious and continuing commitment to a life science orientation within political science. Founded in 1980, APLS was invited in 1981 to establish its international headquarters at Northern Illinois University.

In 1982, the association began publication of its news journal, *Politics and the Life Sciences*, devoted to developments in bio-social science. Since its inception, readership of the journal has grown to include scholars in virtually every U.S. state and in 20 countries worldwide. These readers represent many disciplines, including political science, biology, law, medicine, psychology, anthropology, sociology, nursing, and business.

Address all correspondence about the association to the executive director.

The executive director and the editorial staff are located at the Association for Politics and the Life Sciences, Northern Illinois University, DeKalb, Illinois 60115-2854. Phone (815) 753-9675.

Membership Renewals

If the date on your mailing label is earlier than the current year, it is time to renew your membership. Renewal notices are not sent for economic reasons. No more than two warnings are given on the mailing label. Thereafter you are removed from the membership list.

Membership dues are U.S. \$10.00 (f25,00 guilders) per year (students U.S. \$5.00) and U.S. \$25.00 (f60,00 guilders) per 3 years. The library rate is twice these amounts.

Directions for payment are given on the last page of this newsletter. Payment reaching the treasurer before February 1, May 1, August 1 or November 1, will be processed in time for indication on the mailing label of the next newsletter issue.

Please, report any errors, changes of address, etc. to the editor.

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