

ASCAP NEWSLETTER

Across-Species Comparisons And Psychiatry Newsletter
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Out learning biases and emotional responses ... are the products of the unbroken process of evolution that extends across the whole of history, into our prehuman past, and millions of years before that.
Alexander [1]

(c/o Russell Gardner, 1.200 Graves Building (D29), University of Texas Medical Branch, Galveston, TX 77550)

For the philosophy guiding this newsletter, see footnote on p. 9 [2].
Newsletter aims: 1. A free exchange of letters, notes, articles, essays or ideas in whatever brief format.

2. Elaboration of others' ideas.
3. Keeping up with productions, events, and other news.
4. Proposals for new initiatives, joint research endeavors, etc.

Feature: 1) The Birminghamers respond to Kalman Glantz.
2) Randolph Nesse responds to Christopher Badcock on orality and nursing with an idea on babies spitting up.

Notes: The following engaging note on scientific word formation occurred in the 4 May 1989 issue of Nature, relevant to ASCAP's neologisms: Scientists are incorrigible wordsmiths, perhaps in part because to name something confers title, though there are, of course, other more laudable motives, nowadays, it's a free-for-all. New words teem into the world, will-nilly born, but not by any means all divinely formed. It was not always so. Michael Faraday consulted the greatest wordsmith of all, the man who gave us 'scientist', when he needed terms to deal with the torrent of new ideas generated by the discovery of the electrolytic decomposition of aqueous solutions. So William Whewell sat down and created 'ions', 'electrodes', 'anodes', 'cathodes'—a whole new vocabulary. But who will do for us what Whewell did for Faraday? 'Cosmid' is a lovely word, 'genome' too; and so are .. transferred usages such as 'library'. But where was Whewell when 'agretope', 'desetope', 'histotope' and 'restitope'...first wrinkled our brows?..

Readership Survey: » *Outstanding newsletter - a very much needed resource. Thanks very much for all your efforts in putting this together. Jim Byrd, U Pittsburgh*

» *Interesting - please add me to your list. Hats off to you !*

John Schwartz, The Psychiatric Times

» *Does Leslie Brothers receive this newsletter? I think she would be interested; also Paul Maclean. These are friends and colleagues. Christiana Leonard Ph.D. (my wife) and I enjoyed going over the bundle of newsletters you sent. Keep them coming. Tiana is a neuroscientist interested in the neural substrate of social behavior.*

John Kuldau, U Florida, Gainesville

Neither are on the mailing list (although, ironically, Dr. MacLean early on encouraged me considerably in following evolutionary thinking as relevant to psychiatric issues).

» *Sorry we won't see you in Edinburgh, but good luck [in what's happening instead] ...*

John Price, Milton Keynes., UK

» *..I have greatly enjoyed your newsletters, and marvel at how you can get so much done and turned around in so little time. I stand impressed. ..*

Since I don't remember ever paying dues for the Newsletter, please tell me what they are.

Let's stay in touch. And congratulations on the excellence of the Newsletter. JJ Campos, UC - Berkeley

Subscription structure is still to be decided.

» I received a copy of *ASCAP* from a psychiatry resident I am supervising in family therapy and was quite excited by the focus of your work. I was struck by similarities with Michael Kerr and Murray Bowen's theory of family systems in *family evaluation*. I am looking forward to receiving the newsletter.

Mike Matthews, North Shore Hospital, Manhasset, NY

» I think it would be interesting to decide in advance to devote an entire issue to a specific topic. For example, I would contribute to an issue on psychotherapy if I had some advance notice - and perhaps some others as well. Dr. Graham Saayman is a psychologist who has published a number of articles on animal behavior. He is also a Jungian. Please send him *ASCAP*.

I look forward to future issues of *ASCAP*. Leon Sloman, U Toronto

Dr. Saayman is added.

How about something on family therapy? Would you and Dr. Matthews care to elaborate, for example, on the Kerr-Bowen similarities? or on similarities/dissimilarities amongst those thinking in biological terms versus those eschewing such?

Publications: » Burgess RL, Draper P: The explanation of family violence: The role of biological, behavioral, and cultural selection. In L Ohlin and MH Tonry (Eds): *Crime and Justice -An Annual Review of Research Family Violence*, Vol 11, U Chi Press, 1989.

» Sloman L, Gardner R, Price JS: Biology of family systems and mood disorders. *Family Process*, in press.
» AR Chiarelli, U Florence, Italy, reminds us of two journals of which he is editor: The International Journal of Anthropology (IJOA) and Human Evolution: International and Interdisciplinary Journal (HE).

IJOA provides a vehicle of international communication among anthropologists. Original articles and notes are published promptly on human and non-human primate biology, auxology, population biology, nutrition, paleopathology, biosocial anthropology, applied anthropology, and other topics outside the scop: of HE.

HE's main purpose is prompt publication of original articles dealing with physical and sociological evolution of non-human primates and the origin and evolution of humans. HE integrates many disciplines in such study and reflects molecular evolution and genetics as well as palaeontology and taxonomy. Special issues deal with single topics, letter, book reviews, abstracts, and informal communications reflect the current state of knowledge.

Letters: April 25, 1989

Many thanks for the latest: Newsletter and most especially for your kind notice of *Essential Freud*. bringing it to the attention of your readers is most welcome.

Having done so, recent events have reminded me that my earlier book, *The Problem of Altruism* [3], seems little known in the USA and so I include a copy with this letter in the hope that you might find room for a brief mention of that too in some future number of the Newsletter. It is the volume to which my forthcoming *Oedipus in Evolution* is a sequel and a complement - the one is on the theory of cooperation, the other on the theory of sex - both will, I hope, be duly completed by a third volume, entitled *The Nature of Culture*, which will make it a trilogy.

...*Essential Freud* .. has become something of a minor success, having been reprinted twice in its first year of publication. Consequently I plan to produce a second edition in 1990 bringing the text up-to-date with the rapid developments; which are occurring with the integration of the Freudian and Darwinian paradigms. I plan to expand each chapter with the

addition of a fifth section discussing the evolutionary dimension of Freud's original formulations.

... Keep up the good work.

Christopher Badcock, U London, Engl

May 25, 1989
...Your newsletter is very useful in bringing together interdisciplinary contributions in a very advanced area, and I wish to continue receiving it.

My own interests lies in integrating Bowlby's attachment theory and neo-Freudian psychoanalysis. I stress a potential contrast between biological and cultural evolution, which leads to a critical view of society along the lines of Erich Fromm. Similar views are expressed by Glantz & Pearce (p 6, ASCAP Vol I, #13, 15 Dec 88).

I..enclose..papers I have published so far on the subject:

1. Bacciagaluppi M, Mazza MB: The relevance of ethology; to interpersonal psychodynamics and to wider social issues. J Amer Acad Psychoanal 1982;10:85-111.

2. Bacciagaluppi M: Some remarks on the Oedipus complex from an ethological point of view. J Amer Acad Psychoanal 1984;12:471-490.

3. Bacciagaluppi M: Ethological aspects of the work of Erich Fromm. Contemporary Psychoanalysis 1985;21:156-166.

4. Bacciagaluppi M: Inversion of parent-child relationships: A contribution to attachment theory. Brit J Med Psychol 1985;58:369-373.

5. Bacciagaluppi M: A review of Culture and the Evolutionary Process by R Boyd and P J Richerson, Chicago: U Chi Press, 1985. Politics and the Life Sciences 1986;5:149-150.

Marco Bacciagaluppi, Milano, Italy

May 1989

Here is our reply to KG. I have written it alone but with the group's support so you can publish it from me if you like. John [Price] may add an amplification later.

ASCAP is a real event. The areas are so large-ranging from genetics-evolutionary biology to psychology

and sociology-that we can only make real progress by cooperating-in this way, a "real" science of the mind may emerge. Pooling and sharing of information has made the big difference. Mostly in the tribe this was done with familiar others; with ASCAP you are trying to pioneer a similar approach, but across many strangers who have never met. What an achievement. You are doing a most valuable thing in helping this to happen.

Paul Gilbert, Derbyshire, Engl

The Birmingham Group's Reply to Raiman Glantz. by Paul Gilbert

Kalman Glantz (KG) brings out some very important points in his response to our Birmingham letter. These require us to offer further amplification and explanation. As he suggests, there is much agreement on the basic questions to be addressed, but maybe a difference in approach. The Reptilian Strategy The first point is that disagreement is not itself reptilian. Disagreement (as opposed to conflict) and the generation of alternative theories/hypotheses are to be welcomed in the difficult task of exploring and understanding ideas. Alternatives direct a more useful science of hypothesis-testing and evidence-gathering. We do not suggest that the hedonic mode or cooperative behaviour are disagreement-free. However, the tactics of the discourse of disagreement are central (see my quote of Foucault in ASCAP Vol 1 #9 Aug 89).

The main issues involve (a) whether asymmetry is desired, (b) size and stability of asymmetry, and (c) tactics used to secure it. In fact, our use of language needs to be subtle here. There is a difference between "disagreeing with" vs "attacking" someone's position. KG may be too dismissive of tactics, especially the older phylogenetic forms. After all, if someone uses the older tactics of threat and bluff, this will provoke a

different motivation and behaviour in the recipient to the individual who is able to remain 'attractive' to the person (s)he is in disagreement with.

Also the evaluation and automatic self-evaluative thoughts [4] that are aroused by disagreement (eg, '(s)he thinks I am incompetent/ stupid') may represent a sensitivity in a person's arousal in a primitive ranking mentality and activate an older phylogenetic response (eg, 'I'll show him who's boss, or 'I had better not say any more.') Individuals may evaluate the presence of a catathetic signal where none was intended. The issue of evaluation of a social signal is therefore important and as Beck has pointed out this may relate to internal schemata (ways of understanding and organising inputs). Depressives for example may be more attentive to catathetic signals for various reasons.

A reptilian type strategy might be the position of the narcissist who wants others only as extensions of the self and becomes angry at difference and disagreement. This is the situation where disagreement does indeed promote conflict which can develop into hostile interactions rather than friendly explorations of difference that benefit mutually (including the observing audience).

Individuation and growth depend on recognition of difference, respect for difference and also awareness that difference is essential for growth and change (ie, at some level there must be an advantage to being able to stay open to having differences for this reduces agonistic conflict and offers the possibility for change. How many good ideas have been missed in science because the minds with 'the power' have remained essentially closed and defensive of a particular paradigm?)

In the cooperative situation we respect others for their differing ideas and want to come to understand

more about it. These dispositions are linked to the development of moral thinking as depicted in Kohlberg's stages of moral development.

The second point on which we may not have been clear is that whereas RHP relates to a hostility dimension, SAHP relates to attractiveness (ie, being seen as clever, beautiful, empathic, wise, competent, etc.). That is to say, we gain ascendancy in some ranked social situation by eliciting positive (value-bestowing) attention from others. However, the pursuit of SAHP can also be competitive (indeed often is). Furthermore the effects of losing SAHP or seeing others as having more SAHP than one thinks they deserve can activate various forms of the agonistic yielding routines (ie, we may feel depressed or left out and unnoticed) or more open hostility (ie, we may experience envy, or we may try to 'spoil the display' by putting others down behind their backs, hence reducing the SAHP others bestow on the rival [5])

However, usually, when pursuing SAHP, hostility towards those one is trying to attract attention from is inhibited because others (the audience) would find hostility (directed at them) unattractive and in a free situation might switch attention to a less hostile actor. In situations where there is no audience or a limit on freedom (eg, marriage), hostile attempts at control may be far more common (as for example the woman who says "at the party, my husband is the life and soul, but once our front door closes, he becomes hostile or withdrawn.")

SAHP should not be used synonymously with co-operation. As discussed elsewhere [6], cooperation refers to particular behaviours (teaching, revealing, sharing, alliance formation and competitive constraint). The relationship of SAHP to these behaviours is complex and needs further work. Another way of

looking at the difference is between playing, or debating against another as opposed to playing and debating with another. Much may depend on how we fantasise or construct the other, either as an opponent to be beaten (hence there must be a winner or loser) or as a fellow traveler in search of understanding. Culture must take some responsibility for teaching people attitudes to disagreements and differences. (See Arnold [7].) Agonic/hedonic dichotomy. Kalman suggests that we have elevated the distinction of the agonic/hedonic mode to a false dichotomy. This is an important point because there is the danger of confusing levels. However, the concept of modes should be reserved for the structure of the social organisation. In other words, a mode represents a pattern of con-specific interactions. In regard to social organisation, there is evidence that we can detect distinct modes on a cross-species comparative analysis [8].

Strictly speaking modes do not exist inside the heads of individuals. This is an issue to which Peter Trower and I have recently drawn attention [5]. I have suggested that what exists in the head are systems of defence and safety that are related to the reward and punishment brain areas. Further, that various innate biosocial goals are coordinated in the positive reward and punishment systems that render certain behaviours (eg, care-giving, cooperating, or competing) either positively rewarding or potentially punishing. Presumably this is in part the result of reinforcement history, the current style of interpersonal interactions and possibly genetic factors.

The second reason why we should consider the possibility of distinct modes is that there may be styles of interaction that are inherently unstable and tend to switch from one

pattern to another. The model that best describes this possibility is catastrophe theory [9]. We know that there are many situations where, as the result of a continuous interaction of forces, a point of instability is reached that produces major shifts of state (or in this case, mode). Hence to some extent there may be styles of interaction which are unstable and the style must switch to a more stable position. This may occur suddenly or slowly. For example, as disagreements build up between two people then their interaction may become increasingly hostile with subtle (catathetic) signals that are designed to reduce the RHP of the other. Each begins to switch tactics due to interactive feedback producing a switch from (say) an hedonic/friendly to an agonic mode. Previous friends may start to avoid each other and/or 'attack' the other's point of views (ie, there can be a runaway to the agonic or agonistic mode due to reciprocal interactions).

A typical case was the course of the interaction between Jung and Freud. To rule out the possibility of such switching, we would have to assume that every combination of actions (eg, hostile with friendly) produce equally stable social modes or patterns. This seems most unlikely. Not only at the social and psychological levels, but also at the biological level, the concept of the evolutionary stable strategy attests to the recognition that not all interactions make for stable outcomes. Hence the distinction rests on the assumption of there being both stable and unstable solutions.

There is a further aspect to this issue of switching that seems important. This concerns the actions of a victor or winner in any competitive situation. Some winners can be intuitively aware of the importance of changing their behaviour to a

defeated adversary, ie, in some situations, Individuals who appear to have suffered a loss of RHP or SAHP may subsequently gain attention (help) from winners to compensate for this loss and hence avoid then becoming depressed or resentful. In other words the dominant takes responsibility to terminate the agonistic and agonic form of interactions that previously existed between them. This avoids a depressed, envious, resentful loser who may plan vengeful retaliation.

I have argued [6] that cooperation evolved from individualistic competitiveness. By cooperating there were various gains to be had and so individuals forego individualistic conflicts to come together for some purpose. However, to cooperate, the individual has to have some assurance that he/she will not be subject to attack during the cooperative situation or if they have a temporary setback in SAHP. Indeed, in the cooperative situation, efforts are made to keep SAHP distinctions from becoming too large (but not necessarily from removing them altogether.) This reassurance is in part derived from signals of being valued. This in turn may arise from the kinds of behaviour that are elicited when SAHP differences start to become too great which might in turn move the group to an unstable state with a potentially conflictual switch in relations. Of course this does not imply group selection, only maintenance of a stable cooperative/ hedonic situation. Indeed, there may be all kinds of individual benefits from behaving graciously in success (eg, more SAHP and voluntary following, etc.) Self Interest. KG also believes that we are over-optimistic about human nature. It would of course be pointless to make just-so stories about human nature that would fall apart at the first breeze of critical analysis. Certainly we would wish to

suggest that all humans are capable of, and times motivated by, reptilian individualistic competitiveness, and that we can find ourselves acting in unkind ways even when we consciously desire not to do so. It is often a difficult balance because different motivations can be activated to the same event and of course many humans do at some level want to be special and admired. The question is one of tactics and the degree to which success liberates altruistic behaviour (to raise the SAHP of the less admired).

It is helpful to see that SAHP is an adaptation of RHP. In the former the individual attempts to present himself in a way that is attractive to others not threatening. Clearly if one is successful at this then one is going to control more attention from one's fellows. This may lead to asymmetry, but it is an asymmetry of status (conferred because of social attention) rather than of dominance (conferred by intimidation of fearful subordinancy; see also Kemper [10]).

At no time did we mean to imply that at some level there is not self-interest involved in cooperative or hedonic activity (as indicated above). The question is, at what level? In friendly relations the continuance of the relationship is in the self interest of each member because they find the continuance of the relationship rewarding and its disruption (switch to hostile interactions and fights for power or competition for status rank) aversive. It may be that an individual who is good at gaining SAHP feels less competent at the more aggressive relations. Of course, this is not always to the good, but it suggests one reason why efforts may be made to keep a certain mode (style of interaction) in operation.

Cooperative/friendly interactions are possible then because evolution has arranged things such that they

are reinforcing. As far as we know reptiles are neither reinforced by friendship signals nor motivated to form friendships, nor share with conspecifics. However, the fact that cooperation evolved out of hostile competitiveness, and that it is hostile competitiveness that must be inhibited to allow it to work also presents problems. When cooperation breaks down the most usual reason is the regression to hostile fights and reactions to power, demands for control, envy, and so on; or frank issues of relative rank have become important. It is not that disagreement does not exist in cooperative or affectional relations; rather, how it is handled that is central. That is, does disagreement switch the mode to an agonic one? In this as is made clear [8] much depends on how gainers and losers relate to each other and how they attempt to construct winning and losing.

The fact that humans clearly vary on this is a reflection of evolution. Hence, one cannot understand the issue of self-interest at the psychological level without recourse to the issue of positive reinforcement. Furthermore what is reinforcing to an individual depends on the biosocial goal being pursued. For example, if one is caregiving or attempting to cooperate, then finding that one has hurt the other and they are now frightened of you would not be very reinforcing and in fact be aversive (eg, guilt, regret). However, if one is pursuing power and dominance then this same outcome would be rewarding. In other words we need to keep conceptually distinct the levels to which the concept of self-interest applies. We cannot go from genes to behaviour without the intervening concepts of motivational (proximate) systems or biosocial goals [6].

Summary. 1. RHP relates to hostile competitive interactions which are rank directed.

2. SAHP is related to attractiveness, and attention has to be bestowed rather than forced. However, individuals can indeed compete to be more attractive to a target audience. SAHP is a different set of tactics in the ranking game. It is the tactical changes that give rise to the different modes.

3. The cooperative situation requires that SAHP is traded with relative equality and that asymmetries do not ignite hostile competition or components of yielding. We are at pains to recognise the rights and needs of the other and to avoid excessive difference between winners and losers (ie, by allowing turn-taking in attentional displays, recognition and valuing of differences, moral behaviour etc).

4. In other words, RHP can never be part of cooperation, but it has to be a non-hostile bestowing of SAHP. Once an individual begins to pursue SAHP with threat (no matter how subtle) or demands it, then s/he has switched to the agonic mode and those that lose out may become resentful,, envious, vengeful, or depressed.

Overview. In general, then, we feel that there is both useful agreement and points of difference in approach between the Birminghamers and KG. KG's approach is helpful precisely because it is different and here lies the possibility of strengthening our two different approaches. Disagreement forces us back to reassess our position and to note inconsistencies, errors and areas that need much further work. If we have scared Kalman off or have invoked anger so that now the motivation is revenge rather than clarification and understanding, then something has gone wrong, and we are all losers. At present, it may be that KG confuses competition with tactics of competition (see also ASCAP vol 1#4 Mar 88 for a brief discussion of the interpersonal circle that suggests two orthogonal dimensions of

dominance-submission and love-hate.)

Helping humans to engage disagreement and to confront it as honestly and as openly as is humanly possible without at the same time either inducing or fearing a loss of self esteem or becoming defensive (which may reduce problem solving and thought Integrating ability) should be the challenge of our psychological sciences and educational practices. In other words, how can we approach our disagreements without activating defensive and aggressive responding no matter how subtle. That is, we must endeavor to play the ball and not the player.

Many problems in the world can be traced to the fact that sometimes we appear unable to disagree without becoming threatening to the other. Disagreement fragments rather than pulls together to share. The main reason appears to be ranking implications that are evaluated to be involved. Then we have difficulty in accepting we are in error or someone has a better idea, etc., Perhaps too many of us see disagreement as a contest for relative rank, rather than as an opportunity for exploration and advance. The will to power, as Nietzsche called it, is still with us, although our culture and economic relations must take some responsibility for its amplification and accepted tactics.

Why do babies spit up:

by Randolph M. Nesse
I enjoyed Badcock's explanation of oral behavior [ASCAP Vol 2 #3). It had never occurred to me that excessive suckling might decrease the mother's fertility, but the proposal certainly is a plausible explanation of Freud's observation. It stimulates me to pass along a notion I have had about why babies spit up. Like so many interesting traits, spitting up seems maladaptive. It wastes precious calories and is messy to boot. But it might make sense as an example of

mother-offspring conflict. The mother's allocation of calories to milk production is adjusted, in part, by feedback from information on how much milk is removed. If there is excess, production is cut back; if there is not enough, more is made. The mother's goal is to make just enough to provide for the baby. The baby's goal, however, is to ensure a fulsome supply at all times. By suckling a bit too much and then spitting up the excess, the baby stimulates a bit more milk production and gains a slight advantage. The strategy must be used moderately, of course, so that the mother's stores don't get too depleted, and towards the end of nursing, for the sake of identical genes in the next brother or sister.

This isn't an alternative to Badcock's proposal, but an additional possible function of suckling. Badcock's explanation applies especially towards the end of the nursing period; the hypothesis advanced here explains excessive nursing in the first months of life. It predicts that babies who are assured of a constant and sufficient supply of milk will spit up the least, while babies who undergo periods of deprivation, as is the case of schedule-fed infants, might well drink too much milk and spit up the excess in order to stimulate increased production. This test is weak, of course, because babies that are fed irregularly might eat more just to catch up, and more frequent feeding might decrease spitting up just because the volume per feeding is smaller. A better test would be to look in other species and see if infants drink more milk than they can use in order to manipulate their mothers' milk production. Perhaps a reader can offer information to test this prediction.

Next issue includes more on G proteins and "basic plans." Why aren't they discussed more?

1. Alexander R: The Biology of Moral Systems. NY: Aldine de Gruyter, 1987,p.23.
2. ASCAP philosophy and goal. High scientific importance rests on comparing animal behaviors across-species to understand better human behavior, knowing as we do so that evolutionary factors must be considered for understanding properly such behaviors. To accomplish these comparisons, very different new ways of viewing psychological and behavioral phenomena are required. This in turn explains why we need new words to define and illustrate new dimensions of comparisons across species. He expect that work in natural history biology combined with cellular-molecular biologic research will emerge as a comprehensive biologic basic science of psychiatry. Indeed, this must happen if we are to explain psychiatric illnesses as deviations from normal processes, something not possible now. Compare to pathogenesis in diseases of internal medicine.

Some neologisms that hopefully will help implement these goals are those of:

 - a) Michael R. A. Chance: "hedonic" and "agonic" refer to the tone of groupings of conspecifics (members of a same species) i.e., relaxed and fun-loving versus tense and competitive. First initiated with CJ Jolly in 1970, this term is referenced fully in ASCAP #1, Footnote 1.
 - b) John S. Price: "anathetic" and "catathetic" describe conspecific communications! Catathetic messages "put-down" whereas anathetic signals "build-up" the resource holding potential (R) of target individuals.
 - c) Russell Gardner, Jr.: "psalic" is a 2 way acronym: propensity States Antedating Language In Communication and Programmed Spacings And Linkages In Conspecifics. This describes communicational states conjecturely seen with psychiatric disorder and normality (human and non-human), ie, alpha psalic seen in manics, high profile leaders and dominant non-human animals. Bight psalics are named alpha (A), alpha-reciprocal (AR), in-group omega (IGO), out-group omega (OGO), spacing (Sp), sexual (S), nurturant (N), and nurturant-recipient (NR).

All of the above new or renewed terms are initiated or elaborated in Chance, MRA (Ed) Social Fabrics of the Mind, due out in 1988, published by Lawrence Erlbaum Associates, Hove and Hew York.

 - d. Paul Gilbert: Social Attention Holding Power/Potential (SAHP) focuses upon the non-aggressive facets of leadership when this is deployed in the hedonic mode. See ASCAP v.2, #I and his new book: Human Nature and Suffering,. Hove, East Sussex: Lawrence Erlbaum, 1989.
3. Badcock CR: The Problem of Altruism: Freudian-Darwinian Solutions. London and New York: Basil Blackwell, 1986
4. Beck AT (1976): Cognitive Therapy and the Emotional Disorders. International Universities Press.
5. Gilbert P, Trower P (in press): The evolution and manifestation of social anxiety. In R Crozier (Ed): Shyness and Embarrassment: Perspectives from Social Psychology. Cambridge University Press. (Those interested in this can write for a copy.)
6. Gilbert P (1989): Human Nature and Suffering. London: Lawrence Erlbaum.
7. Arnold A (1989): Winners ... and Other Losers in War and Peace. London: Paladin
8. Chance MRA (1988): Social Fabrics of the Mind. London: Lawrence Erlbaum.
9. Postle D (1980): Catastrophe Theory. London: Fontana
10. Kemper TD (1988): Two dimensions of sociality. In MRA Chance (Ed): Social Fabrics of the Mind. London: Lawrence Erlbaum.