ASCAP NEWSLETTER

Across-Species Comparisons And Psychiatry Newsletter
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.. certain actions, which we recognise as expressive of certain states of the mind, are the direct result of the constitution of the nervous system, and have been from the first Independent of the will, and, to a large extent, of habit. Darwin [1]

(c/o Russell Gardner, 1.200 Graves Building (D29), University of Texas Medical Branch, Galveston, TX77550)

For the philosophy guiding this newsletter, see footnote on p. 7 [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: John Price discusses a phylogenetlc theory of anger and depression from Hamburg et al (1975).

Letters;

May 3, 1989
In the process of returning the readership survey, I wanted to thank you for the work you have done in sending it out each month. I've enjoyed reading it, and I've appreciated being on your list.
My book on the sociobiology of religion [Yale U Press] should come out in September. I'll send a copy.. I'm working on a revised, and I hope improved, version of my first book on mental disorders [3].
Brant Wenegrat, Stanford U, CA

A publisher's summary might inform readers even more about your book(s).

April 26, 1989
Thank you for sending me .. ASCAP. It is intriguing to see and I hope you will be able to develop it into a publication that reaches a wide audience.
MR Bernstein, Mass Gen Hosp, Harvard
April 20, 1989
[About the first annual meeting of the Human Behavior and Evolution Society, Chicago, Aug, 1989] We..have about 70 abstracts and most of the notables coming, so it looks like things will work out pretty well.
Your newsletter isn't a newsletter any more; it's one of the most interesting journals I get. Thanks for your efforts.
RM Nesse, U Mich, Ann Arbor

4-19-89
Many thanks for .. the copy of the ASCAP Newsletter. Although I must confess that the topics covered in it are not the focus of my own current interests, I was impressed that it was an excellent vehicle for rapid and easy communication among scholars in a given field and do not remember having seen anything of the same genre before. I appreciate your giving me the chance to see it....
J Nemiah, Hanover, NH

In another section of his mailing Randy supplied an excellent review of Isaac Mark's book (for a refereed journal [4] which thereby prevents replication here). But let us recommend it to you: Marks I: Fears, Phobias and Rituals: Panic, Anxiety and Their Disorders. [5] His Issues capture ASCAP's concerns. For example, note the subtitle emphasizes the normality of panic and anxiety, putting the fact that afflicted humans come to see psychiatrists and obtain helpful treatments into a con-

text of adaptation, despite the maladaptation these patients feel. The immune system is adaptive too, but the sufferers of autoimmune diseases assuredly need medical help.

Marks's approach contrasts to that of a recent Am J Psychiat article [6] with three neuroanatomical hypotheses for panic (on brainstem, limbic and cortical levels for different parts of the disorder); the authors use an implicit model of epilepsy, do not view pathology as deviation from normal context, and thus illustrate pathology-centered thinking.

This contrasts to the approach of J Hughlings Jackson who pioneered study of seizures and who was very interested in their normal context, eg, "I have for some years used the term "functional" to describe the morbid alterations of the normal function of nerve tissue [his italics]. Therefore, before I speak of these alterations, we must notice what the normal function of nerve tissue is..." [7]

Readership Survey Feedback:

» Thank you very much for a highly interesting and inspiring newsletter. T Hielson, U Aarhus, Denmark

» See you in Chicago in Aug. Good to have a regular newsletter.
J Kennedy, Yale, New Haven

» Keep up the good work. I thoroughly enjoy reading ASCAP newsletter, particularly its fluidic nature! not too rigid, encourages creative thinking and interactions.

P.S., Printing is blurred at times, particularly in reference section. Can anything be done about this?
Patrick J Tummon, Switzerland

Note larger print font for references; we need a laser printer!

» I find the review and discussion fascinating. Keep it coming.
Herbert Liederman, Stanford, CA

» I've been reading with great interest all the numbers of ASCAP .. I've received so far. In point of fact the type of work I am doing and I've been doing with autistic children until now is embedded with ethological principles and these are very similar to those reported in most of the articles of ASCAP. I hope I will be able in the future to contribute to the discussicn which is going on in this newsletter. ..
Michele Zappella, Siena, Italy

» I very much appreciate your efforts - the newsletter is very valuable. RA Paul, Emory, Atlanta GA

» Greetings from Hanover..! am an intermittant reader of ASCAP (I save then and may read several at one time)..would like to continue to receive it. J Barrett, Dartmouth, NH

» Thank you for your efforts in this area. D Cline, Minneapolis, MN

» ..I enjoyed very much reading ASCAP Newsletter and.. would very much -appreciate receiving [back issues]. JC Byrd III, U Pittsburgh-

»Excellent pieces and good range. I enjoy the newsletter immensely and have recommended it to a few friends. Keep up the good work.
JJ Ratey, Medford State Hosp, MA

» I think it is fine just as it is.
CR Badcock, U London, England

» ASCAP makes very absorbing reading. Thank you.'
Isaac Marks, Inst Psychiat, London

» Please keep me on your list. I will not be able to attend the CME course you are giving at APA in San Francisco, but I would be interested in meeting you there, we share many interests. One of mine is to do some more teaching to psychiatrists about basic concepts in sociobiology, and in particular the relationship of theose concepts to war/peace issues.
J Lipton, Redmond, WA

The four hour course, entitled "An integrated biologic basic science of psychiatry," was given 6 May 89, at the APA annual meeting; 50 came (max enrollment); many expressed Interest.

Handouts used available on request.

Four lectures were named:

1. Psychiatry's need for an etiopathogenesis and basic science.
2. Evolutionary theory: diversity, natural selection, genetics.
3. Animal communication & its origins
4. Psychiatric syndromes as coramun-Icatlonal propensity states.

» My major concern is that you seem to be promoting a whole new set of jargon, acronyms, and concepts. I really think that there is adequate supply in the biological disciplines of ethology, population genetics, and sociobiology. We probably should become facile with these rather than develop our own.

L Kofoed, VAMC, White River Jct VT

I appreciate this comment, when relooking at the Apr Issue I found myself in contradiction: I alluded (twice!) in a complimentary way to authors for their "lack of jargon," yet in my response to the Birmingham Group, discussed ASCAP's new jargon!

So I rereviewed my reasons for new coinages (I do not speak for my fellow "unabashed neologizers" who have no lack of self-expressive talents!)

I read a personally important book in 1983: The Growth of Biological Thought; Diversity, Evolution and Inheritance by Ernst Hayr [8]. In it, Chapter 20 entitled "Epilogue: Toward a Science of Science" expressed a number of opinions that have shaped my subsequent thinking: On "The elimination of semantic confusions," (p841-2), he states: "Technical terms, when clearly defined and well understood, are a great help in the advance of scientific understanding. Contrariwise, when a term is inadvertently transferred to a different concept .. or when the same term is used for different concepts, considerable confusion will ensue until the ambiguity is cleared up."

After reading this, I spent a month coining "psalic," hoping thereby to highlight the primacy of communication between conspecifics that had existed long before humans were humans, primates were primates, or mammals were mammals, a concept that folks seemingly have a hard time grasping. We generally treat language as though it were primary, (though no one argues it came first, the study of seems to have: people seemed initially to have become aware of language and only later of prelanguage states/codes/signals as well as the importance of communicational propensity states (psalics) which I conjecture are important in animal and human biology and relevant to the production and form of psychiatric disorders, eg, depression, mania, persecutory delusions, agoraphobia, paraphilias, dependency states and personalities, schizoid and isolated behavior. The new word and the concept seem foreign to many. I'm interested: do readers know of an alternative way in which this concept has already been put forth? So far as I know, as I stressed in the self-evaluation of ASCAP Vol 1 #13, I believe still that messages to be taught by psalic haven't yet been conveyed and that they are important.

More from Mayr under "Premature or unfashionable" (p.836-7): ".. discoveries are often largely or completely neglected by ..contemporaries. ..It has been claimed that such neglect occurs because the discoveries are "premature."..My own analysis of the situation..is that a discovery is likely to be ignored if.. made in a field .. not fashionable at the time., outside the dominant research interests of the time. ..there is only limited contact among workers of different research areas and most .. will not relate discoveries in adjacent fields to the problems of their own field. Most..are truly interested in researches that have a bearing on their own work and that are accessible to their research techniques and tools."

Behavioral ecology, inclusive fitness, socioblology and ethology are

fashionable, but genetic and neuronal depth structures that have social rank hierarchical and other communicational propensity states coded within them are not fashionable yet(?!) I've been thinking lately that an eventual science of this (perhaps even a basic science of psychiatry) might involve communicational biology that not only encompasses and integrates cellular-molecular and whole organism-focused data, but includes predator-prey, as well as conspecific, relations. Such thereby would not be limited to "intraspecific communication."

Back to Mayr: On "Scientists and the scientific milieu" (p.832): "Hardly anyone has described the workings of the mind of a successful scientist better than Darwin. He stated repeatedly that he could not make any observations without "speculating".. Everything that he saw raised questions in his mind. Another characteristic of successful scientists is flexibility-- a willingness to abandon a theory or assumption when the evidence indicates that it is not valid. Several architects of the evolutionary synthesis of the 1930's abandoned previously held beliefs when .. shown to be erroneous. A third generalization .. is [the importance of] aconsiderable breadth of interest. .. to make use of concepts, facts, and ideas of adjacent fields in the elaboration of theories in their own fields. ..make good use of analogies and favor comparative studies."

Perhaps these words on the origins of ASCAP make clearer the approaches the Newsletter has taken (fulfilling a promise of Jan 89 issue). Also, let us not forget Paul Gilbert's Idea that all this should be fun!

A Note on Hamburg's Hypothesis on the Function of Anger and Depression.

by John S. Price

In putting forward the yielding hypothesis of depression [9], we did not compare the hypothesis directly with other hypotheses of the adaptive function of depression. One alternative hypothesis is that which sees depression as serving to detach the individual from an unattainable goal. This theory, put forward by Klinger [10] and by Hamburg et al [11], sees depression as a second, "fall-back" strategy of invigoration and aggression (elevation of mood?) has failed. Hamburg et al put it as follows (pp 239-40):

Let us briefly consider anger and depression from this [phyiogenetic] persepective. The angry organism is miking an appraisal of his current situation, which indicates that his immediate or long-run survival needs are jeopardised; his basic interests are: threatened. Moreover, his appraisal indicates that another organism (or group) is responsible for this threat. Although there are ways he can go from this appraisal, the general tendency is to prepare for vigorous action to correct the situation, quite likely action directed against the person(s) seen as causing or at least manifesting the jeopardy to his needs. The signals are likely to be transmitted to these individuals as well as to the organism's own decision-making apparatus. The significant others are then likely to respond in a way that will ameliorate the situation. In a medium range of intensity, anger and some associated aggressive actions are likely to bring about a result desirable to the person and acceptable to his significant others. At very high intensity, the risk of serious injury becomes great for the initiator as well as for others. This behavior can readily becone maladaptive.

Depressive responses have the similar characteristics. However, they tend to follow a prior angry period; but the angry responses have not elicited a rewarding outcome. Then a feeling of sadness and discouragement sets in. The subject estimates the probability of effective action as low. By the term effective action we refer to action the subject believes to be in his self-interest or group interest, even though his belief may be vaguely formulated. He may, in effect, have teen prepared for this orientation through the long past experience of his species or his population or his family or his own experience or some combination of these. But, however he came to this appraisal, it is now a firm commitment,

somehow bound up with his survival. How can the depressive responses be viewed as adaptive? As we saw in the case of anger, they can be adaptive in a medium range of intensity. His feeling of sadness and discouragement may be a useful stimulus to consider ways of changing his situation. If a key human relationship is in jeopardy, ways of improving that relationship, or substituting a better one, may be considered. Moreover, his state of sadness may elicit heightened interest and sympathetic consideration on the part of significant people. Their actions as well as his own may work toward improvement of the situation. But at very high intensity, the depressive responses increase survival risks for the person: (a) in terns of his own behavior, physiology, and susceptibility to disease; (b) in terms of the response of others, which tend to become unfavorable or at least ineffective in the face of intense depression [12]."

Advantages of the Hamburg et: al hypothesis:

1. It fits well with other psychological theories.

Hamburg et al are saying that when the route to a goal (or enjoyment of a goal) is blocked, the individual reacts first with a phase of invigoration/protest/aggress ion which may well succeed in removing the block; if the phase of invigoration fails to remove the block, the individual enters a phase of depression in which there is retrenchment, consolidation, repair, restoration of expended energy, and in which the individual not only has time to lick his wounds but also is able to receive the help of others to restore his health. In this phase of recuperation, the individual has time to reassess the goal which has been blocked and hopefully choose alternative goals that are realisable. This theory is compatible with the formulation of Dollard et al [13] in which aggression is seen as a reponse to frustration, and with the view of Schmale[14]. It is closest to the theory of Klinger [10] who sees the pursuit of goals and incentives as being an alternation of active pursuit and disengagement, depression being the state of disengagement. It fits with Bowlby's [15]formulation of the response to separation, in which a phase of protest is followed by a phase of dispair. It is not incompatible with Selye's biphasic General Adaptation Syndrome, in which a phase of increased resistance is followed by a phase of exhaustion [16].

2. It is compatible with evolutionary theory.

If the tendency to depression were a simple additive character, then we could say that a polymorphism is maintained in the population by heterozygote advantage. The individual with one gene for depression gets moderately depressed when goals are severely blocked, and he is better adapted to survival than the individual with two depressive genes who gets depressed too easily, or too severely, or for too long; and he is also better adapted than the individual with no genes for depression who wastes his substance pursuing unattainable goals and of whom it might be said that he "does not know when to give up."

The same argument applies if the thendency to depression is a multifactorial genetic character, when the general biological principle would hold that individuals in the middle of a distribution tend to be better adapted than those on either extreme.

According to this argument, psychiatrists are not in a good position to speculate on the biological advantage of depression, because our depressed patients are those on the extreme of the distribution whose depression is maladaptive. Almost by definition, if you get to a psychiatrist, your depression has not done its job. Possibly the 95% of psychiatric patients in the UK who are seen by general practitioners and

not referred to psychiatrists have adaptive degrees of depression, or possibly only that 50% of depressives who are identified in community surveys and do not even consult their family doctor.

3. It deals with the relation between aggression and depression.

There is a large and confusing literature on the relation between aggression and depression, and even now there is controversy as to whether the outward expression of aggression (hostility) is inhibited in depression, as it is in the psychoanalytic formulation of depression as aggression turned inwards onto the self. However that may be, a psychological formulation of depression should be clear about the relation to aggression, and Hamburg et al's theory does this by postulating that depression occurs as a "second string" response when the primary aggressive response to a blocked goal is ineffective.

Disadvantages of the. Hamburg Hypothesis-

1. It does not explain important features of depression, such as pervasiveness, incapacity (for perception, execution and decision-making) and unsociability.

2. Episodes of depression are not usually preceded by a phase of invigoration, anger or protest. In the case of both mild and severe depressions, most patients pass gradually from a period of normal functioning into the episode of depression. Hamburg et al themselves (p.250) describe the way this may occur in human grief, when "some persons slide into a clinical depression, in which there is a pervasive undermining of prior interests and human relationships, with feelings of despondency."

3. The relinquishing of unattainable goals may occur at a late stage in the depression or not at all. What does happen early in the depression is that the pursuit of the goal is blocked by the symptoms of the depression, such as anxiety or apathy. But these very symptoms also block the choice and pursuit of alternative goals.

An alternative hypothesis: depression is a means by which a group detaches itself from the goal of one member and switches its allegiance to the goal of another.

The pervasive incapacity mentioned above makes it unlikely that depression is an evolved mechanism for switching from one goal to another within the same individual. But if we raise our frame of reference to the level of the social group, the situation is quite different. Groups often have incompatible goals espoused by different important members or factions; for instance, one member may advocate war with a neighbouring group while another member advocates peace. Let us say the war advocate is in ascendant and the group carries out a war policy. Let us also assume that the war policy is failing. The member who advocated the war policy loses prestige, feels guilty and in the wrong about his failed policy and the deaths of his fellows in unsecessful battles, and becomes depressed. As a result of his depression he ceases to press his war policy with his usual vigour. Students of emotion [171 find that when things go wrong and one attributes the cause to oneself, one becomes depressed, whereas when things go wrong and one attributes the cause to someone else, one becomes angry (with whomever is held responsible). Therefore the peace advocate, who feels "in the right," is angry with the war advocate, and the expression of his anger (catathetic signals) is likely to make the war advocate even more depressed. The war advocate is now depressed for three separate but related reasons: he has lost prestige because his policy has been seen publically to fail; he feels guilty

about the failure of his own policy; and he is in receipt of catathesis from the peace party. None of these three conditions applies to the peace advocate, who does not become depressed and continues to espouse his cause with undiminished vigour. It is likely that, in these circumstances, the group will change its goal from war to peace. Moreover, the depressive reaction of the war advocate will help him adjust to the change in policy, and possibly to a change in leadership, and will reduce the chances that he will change groups and go and fight for the other side.

According to this theory the cause of depression is failure to achieve a goal in the presence of another group member who is espousing an alternative and incompatible goal. The goals may be incompatible because only one person can occupy the goal, such as a territory or leadership position, or they may be incompatible for some technical reason, such as it being difficult to wage war and peace at the same time. In animals the only goals are usually social goals, represented by territory or rank. There is not much else for the baboon to aim for than to rise another step in the hierarchy - most potential subgoals and incentives are secondary to the achievement of the primary goal of rank. Some species have non-social goals, such as migration or the construction of nests and dens. But there is no adaptive advantage in becoming depressed when one fails to achieve a non-social goal. Let me give an example. The golden-headed jackel lives in a monogamous situation and builds a den to rear its young [18]. Let us say that it has a den-building apraxia, and however much it digs, no den results. There is no non-social advantage in its becoming depressed and giving up because of its failure to build a den; it would be better to make some alternative arrangement, such as a nest of branches on the surface. But there is an advantage in depression if the animal fails to build a den in the presence of another golden-headed jackal who is looking for a territory. Then the depressed jackel allows itself to be driven from the territory by the newcomer, who is probably a nephew or other close relative, hanging on for a season or two with its parents waiting for a territory to become vacant. The depressed jackel thus gives up the very slim chance of its own reproduction for the much higher chance of collateral reporduction, and its inclusive fitness is enhanced. In this example, the depression comes into the category of altruistic behavior; in other cases there may be direct advantage to the depressed individual (as might have been the case with the war advocate).

Summary. The pervasive incapacity of depression is difficult to reconcile with a goal reformulation model limited to the individual actor. However, these difficulties disappear if we think of depression in relation to group goals. Those symptoms such as indecisiveness and apathy which interfere with the individual's formulation of new goals for himself, interfere much less with his joining in the pursuit of someone else's goal. Therefore depression may serve the function of the transfer of the role of goal-setter from the depressed individual to another member of the group. The proximate cause of the depression is not likely to be seen in terms of interpersonal competition by the actors concerned, but rather in terms of failure to achieve the original goal. However, the significant change achieved by the depression is the yielding of the goal-setting role by one group member to another, and therefore, since goal-setting is a leadership function, the depression has facilitated a fall in rank.

Next issue features the Birminghammers replying to Kalman Glantz and Randolph Nesse replying to Christopher Badcock.

1. Darwin C: The Expression of the Emotions in Man and Animals. London: John Murray, 1973, p66.

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 most 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 torn explains why we need new words to define and illustrate new dimensions of comparisons across species. We 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 "pat-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 communlcational 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. Eight psalics are named alpha (A), alpha-reciprocal (AR), in-group omega (IGO), out-group omega (OGO), spacing (Sp), sexual (S), nurturant (M), 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 New 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, #1 and his new book: Human Mature and Suffering. Hove, Bast Sussex: Lawrence Erlbaum, 1989.

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4. psychosmatic Medicine

5. MY: Oxford U Press, 1987.

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7. Taylor J: Selected Writings of John Hughllngs Jackson. Volume I: On Epilepsy and Epilentiform Seizures. London, Staples Press, 19S8, p.93

8. Harvard U Press, 1982

9. Price J, Sloman L: Depression as yielding behavior: an animal model based on Schjelderup-Bbbe's pecking order. Ethology and Soclobioloov. 1987;8:85S-98S.

10. Klinger E: Consequences of commitment to and disengagement from incentives. Psychological Review 1975;82:1-25.

11. Hamburg DA, Hamburg BA, Barchas JD: Anger and depression in perspective of behavioral biology. (Ed) L Levi: Emotions: Their Parameters and Measurement. NY: Raven Press, pp 235-278.

12. Herman GL (1974): Depression and adaptation. (Eds) RJ Friedman and MM Katx. The Psychology of Depression. Washington DC: VH Winston, pp 127-145.

13. Dollard J et al (1939): Frustration and Aggression. Mew Haven: Yale University Press.

14. Schmale AH (1973): Adaptive role of depression in health and disease. (Ed) HG Wolff: Stress and Disease. Springfield: Charles C Thomas.

15. Bowlby J (1973): Attachment and Loss. Vol. 2: Separation. Anxiety and Anger. London: Hogarth Press.

16. Selye H: A syndrome produced by diverse nocious agents. Mature 1936;138:32.

17. Scherer KR, Wallbott HG, Summer field AB: Experiencing Emotion: A Cross-Cultural Study. Cambridge: Cambridge U Press, 1986.

18. Moehlman PD: Ecology of cooperation in canids. In (Eds) DI Rubenstein, RW Wrangham Ecological Aspects of Social Evolution. Princeton, MJ: Princeton U Press, 1986, pp 64-86.