For evolutionary psychiatrists, psychologists and others interested in sociophysiological integration.

ASCAP

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"We all know, from the inside, what it is like to run a simulation of the world in our heads. We call it imagination."
Richard Dawkins[1]

Across Species Comparison and Psychopathology (ASCAP) Newsletter Aims

- A free exchange of letters, notes, articles, essays or ideas in brief format.
- Elaboration of others' ideas.
- Keeping up with productions, events, and other news.
- Proposals for new initiatives, joint research endeavors, etc.

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ASCAP Society Mission Statement

The society represents a group of people who view forms of psychopathology in the context of evolutionary biology and who wish to mobilize the resources of various disciplines and individuals potentially involved so as to enhance the further investigation and study of the conceptual and research questions involved. This scientific society is concerned with the basic plans of behavior that have evolved over millions of years and that have resulted in psychopathologically related states. We are interested in the integration of various methods of study ranging from cellular processes to individuals in groups. *The ASCAP Newsletter* is a function of the ASCAP society.

Contents

Concerning paleobiology, sociophysiology, interpersonal and group relations, and psychopathology

ADDRESSED TO & FROM ...

RAINBOW

The news of *ASCAP* is like an English summer's day -- there is the cloud and rain which dampen the spirits and yet the odd patch of sunshine such as Erica Ainsbury returning as Managing Editor.

I gather that we need to raise some money in order to keep ASCAP going, and that Russell Gardner has suggested that a group of members should be coordinated who would address this problem. I should be delighted to help if I can, although I should tell you in advance that I have no experience of fund-raising. In general, my financial skill is in the negative range -- I have only to invest in some shares and within weeks the company is facing bankruptcy. I would also be prepared to help by doing work of some kind, if you could identify some work that could be done from here.

Michael Chance used to be a grant holder of the Guggenheim Foundation, and they are keen to support activities related to human aggression and domination, so they might be interested in supporting us. Would it be a good idea to prepare a statement about ASCAP for circulation to them and other grant giving bodies?

We should certainly try to recruit new subscribers and it might be productive to put a piece about us in other in-house journals, such as *The Psychologist,* which is the in-house journal of the British Psychological Association. Should such entries be placed by the President, or by the Editor?

It looks as if we need to induce some radical change in order to keep going. Perhaps even, in systems terms, we need to facilitate the emergence of new properties. Hopefully, the combination of rain and sun we have been having will produce a rainbow rather than a flood!

John Price
Sussex, ENGLAND

BRAIN-STORMING REPLACES HURRICANE

As you recall from the editorial of last issue, Hurricane Opal threatened the gulf and did in fact ravage many crops in Alabama. A number of pecan farmers now have to go out of business; it takes a long time to establish the pecan grove. Once gone, the enterprise is costly and time-consuming to re-establish. On the Texas coast, we, for the moment, are preserved and feel gratitude that hurricane season is mostly over, though problems remain. As noted last issue we are feeling such things metaphorically as well as literally.

At *ASCAP,* I happily announce that business is able to continue for at least another year. In some ways there are some very happy developments. As John Price notes, some sun shines through the clouds.

What has happened since last issue?

(1) President Leon Sloman appointed a 'brain-storming' committee of *ASCAP* subscribers/members assigning membership according to those known to communciate via E-mail.

(2) John K. Pearce responded to Leon Sloman's direct discussion with him about where else might the publication take place. He offered to do it himself as needed! This has the happy meaning that we can proceed with a continuation for next year offering you a renewed subscription knowing that if UTMB can't come through, JKP is our safety net with his Microsoft Publish software. Many thanks to you, John!

(3) Then the spectacularly sunny news emerged that Erica Ainsbury is able to reappear as our managing editor for at least until mid-January as we regroup for planning. For the financial support of this, we are indebted to: (a) the 1995 subscribers via funds left in the *ASCAP* account at UTMB, and (b) Robert M. A. Hirschfeld and Karen Dineen Wagner, the Chairman and Vice Chairman respectively of UTMB's Department of Psychiatry and Behavioral Science, who have been supportive. When they learned that the UTMB downsizing had a deleterious impact on *The ASCAP Newsletter,* the news alarmed them and Dr. Hirschfeld made it directly plain that the department valued the newsletter and wished to see it continue. For the next few months as we re-

group, he has supplemented the above funds.

(3) Now under Erica's leadership, brain-storming has indeed occurred with a number of proposed results, as concretely seen by several of this issue's letters to the editor. Amongst the additional thoughts I've heard in various venues is the need for a marked expansion of paid subscribers.

(4) Dr. Hirschfeld has indicated any additional support available from the department is on an interim basis only. Aaron Beck has told me that he would take a letter to the Beck Foundation appealing for funds (additional to that already committed for the $1000 annual Aaron T. Beck ASCAP Award) to help us in this time of need. The principal new expenses are for Erica's efforts and advertising. The department and university continue to support the newsletter as before with supplies and the willingness of Linda Crouch from the department to copy and mail the issues. Linda has worked with me before and I am pleased to welcome her again to the ASCAP family.

A controversial method of financial sponsorship has involved the suggestion of drug companies support. Some might be interested in showing their disinterested altruism by supporting worthy causes, of which this might be one given the small amount (by their standards) that we would need. More on that below.

Membership Drive: First, we *are* now putting out in November the renewal requests. Note as one brainstorming result that we are upping the subscription by $10 to $35 for the 12 issues of 1996, more than the $5 dollar increase that otherwise would have been the case. Henry Nasrallah has additionally suggested that each member take upon him or herself to persuade five other people to subscribe! You will find a form requesting this of you with this month's issue of the newsletter. Our usual membership has been about 80 to 90 people. At $35/person, 90 x $35 would amount to $3150 which is far short of the $10,000 we need. If this were to expand to a subscribership (and society membership) of 350, our budget would be able to support the new budget estimate.

Aaron Beck noted that this kind of steep increase in membership may be much to ask. Others agree, but Henry and others have noted that very few people know about ASCAP. Marketing hasn't been our strong point to date.

We need to advertise. And of course this is costly as well, although those who know their way about the Internet might let the electronic mavens know (see Michael Coe's letter below) without significant budgetary input.

Associate Editors: Henry Nasrallah and Michael Coe have fostered the idea of Associate Editors, each with a topic-oriented responsibility for articles and exchanges. What does the membership think of this idea? For me, this has a number of salubrious features. The first entails my backing up to relate to you some more considerations.

Geographic decentralization. This came up as an issue as we discussed Erica's possible mobility this coming year. Erica Ainsbury has a wonderful home on Galveston Bay where she lives with her husband, Bob. But they are aware that his expanding software business may foster a move to another part of the country. This for awhile gave us pause in our thinking. But with the wonders of instant communication in our modem age (in many of which Bob is expert), we realized that *ASCAP should* become more decentralized for best health and growth potential. Having Erica elsewhere in the world need not interrupt the publication process. Moreover, Associate Editors in various locations would allow a distributed focus of more minds, essential for the newsletter and society to survive.

Defocus on originating editor. Another factor that influences me pertains to the personally gratifying growth of two research projects. Twenty years ago, I had desired to foster research using natural experiments of chronic brain disease, but had been unable to carry it off for a variety of reasons, some of them technical. Now with an interdisciplinary group of investigators at UTMB and the growth of imaging and other technology, my participation in such a project is on the verge of becoming concretized. There is an MRI "bright line" in the posterior

fomix (a white matter structure of the limbic system) that seems correlated with short memory deficit. This was discovered by neuroradiologist Leena Ketonen, M.D., Ph.D. She, I and others here are planning to study this phenomenon further. My other project involves the genome-neural-behavioral analysis afforded by the natural experiment of the chromosome 15 deletion syndromes which I have already described in these pages.

Also, Dr. Hirschfeld, who is under the gun for financial reasons (in concert with all other psychiatry and medical departments in the country), wants all his faculty members including me to see ever more patients while also teaching more students and residents. This little personal account shows you that decentralization and spreading of the editorial burden may be necessary for my health and well-being.

Continuity. Yet I want to stay very much involved because I feel the central sociophysiological message of *ASCAP* to need continued emphasis that I would like to maintain. There are boundaries of the *ASCAP* message that abut other fields and I'm not sure that the concept is yet well understood even among ourselves. A kind of editorial shuttle interweaving top-down and bottom-up analyses continues to be necessary in my view so that I would appreciate the opportunity to foster still this central feature of *ASCAP.* Fortunately, the tent of sociophysiology is a very large one so that many subjects are easily subsumed under the *ASCAP* canvas. Let me now suggest some ground rules and some topics.

Ground rules. I propose that:
(1) There be a group of Associate Editors who will serve as the Editorial Board that answers to the Executive Council that is constituted as before by the President (presiding officer), Just-Past President, the President-Elect, the two Vice Presidents, and the Secretary who would also be the Editor-in-Chief who would preside over the Editorial Board.

(2) Those who have been officers in The ASCAP Society already should most assuredly participate in the threads stimulated by the Associate Editors but themselves would not be Associate Editors. This designation should rather be the leadership prerogative of relatively newer people who may look for advice, commentary and suggestions to the people in the already established ASCAP hierarchy of officers and past-presidents.

(2) *Sociophysiology* (the word) should be part of each topic area implicitly if not explicitly. I believe this to help assure the systems-oriented, *top-down bottom-up* thinking that I believe important to continue. As most of you know, *top* or *up* refers to interpersonal processes from systems levels of the communicating person still further *up* to group and family interactions. *Down* or *bottom* refer to brain, cell, and molecular processes. Data may be limited to *top-up* or *bottom-down* but a sense of the shuttle between the levels should be at least implicit. We recall that our *ASCAP* arena links such phenomena to psychopathology.

(3) The Associate Editors would themselves be primarily responsible for the sparking, continuation and sometimes elicitation of lines of discussion. Sometimes the material gathered will constitute a theme issue; other times the continuity from issue to issue will be predominant in a slower, unfurling fashion.

(4) Fundamental to this enterprise should be the same informality, basic good will, and exploration of new and different ideas that have characterized the newsletter to date. Skepticism is wonderful and should appropriately be a major part of what transpires, but the chief commodity in short supply are new ideas, not insufficiently criticized bad ideas.

(5) In the best interest of creative brainstorming, categories of topic areas should not be strictly parallel, but involve in some instances methodology, others processes, still others inferred theoretical premises and their data-bases.

(6) Daniel G. Freedman suggested that we send a newsletter issue to each member on the mailing list of other organizations, thereby letting them know our product and letting people who may not otherwise know about it get enthusiastic. Candidate organizations include HBES and ISHE.

Topic Areas. Michael Coe has volunteered to be an Associate Editor of [the sociophysiology of] attachment processes. Thomas Joiner has staked out the territory of the sociophysiology of measured interpersonal processes in psychopathology and Sharon Wills suggested that a topic in which she is expert and interested involves the sociophysiology of memory processes (including but not restricted to abuse sequelae).

What are some others? As you see in Michael Coe's letter he has some other ideas.

To get the ball rolling, still others (impossibly many) of which I immediately think include the sociophysiology of the two modes, basic plans, involuntary subordinate strategy, familial systems, familial bonding, selfish gene theory, memes, genome-neural-behavioral analysis, twin-strategies of investigation, leadership, follower- oraudienceship, Darwinian medicine, brain modules, Jungian and/or other psychoanalytic thinking, amygdala, hippocampus, frontal cortex, hypothalamus-pituitary axis, immune system, politics, economics, impulsivity/aggression, mob behavior, alpha states, family therapy, psychotherapy, pharmacotherapy, literary strategies, and neuroimaging strategies. Any volunteers for any of these? Are there any others or ideas on how better to describe these?

Please quickly communicate your reaction to these ideas and others raised by Michael Coe and others along with your subscription or any other way that you choose. Dr. Sloman, Erica Ainsbury and I will facilitate the decision-making capacities of the Executive Committee so that more finalized versions of these preliminary thoughts can be in front of you and a new organizational structure can be approved in the May, 1996, meeting.

Commercial Sponsorship. To return to sponsorship, drug company money is a complicated topic. I know that we have people in our midst who have familiarity with the sponsorship that the pharmaceutical industry has to offer and a willingness to ask. With lessened funding from other sources and with the power of the new drugs, this has enormous appeal because the companies have enormous money — at least by our lights at a time when $10,000 seems a mountain.

In next issue, Sy Fisher, one of our members with a special interest in psychopharmacology, will publish a tale of his experience with the companies. This was previously on E-mail. In some ways this seems more like ethics or politics or economics, but then some of the complex sociophysiological issues are no less biological despite their focus on large exchanges such as this. They require the large brain of the human to transpire and some of the emotions require certain brain structures. So even though the topic seemed initially distant from our central aim, I decided to include it. Michael Coe in his letter below, however, wonders if it isn't some distance from our mission. Let's have more discussion.

A recent E-mail exchange on the psychopharmacology list 'owned' by Ivan Goldberg at Columbia University had him exchanging with George Nasra from Warren State Hospital in Pennsylvania. Dr. Nasra had communicated on the covert support of a parental ADHD support group by a drug company that manufactures a drug aimed at the condition. Dr. Goldberg responded by mentioning a bribe that was offered to doctors by a manufacturer so that they would prescribe a particular drug. After he wrote on it, he was subsequently visited by a team of salespeople from the company to persuade him of the untruth of this and the quality of the drug.

Dr. Goldberg wasn't swayed and states that, *"It is frightening that the organizations such as the American Psychiatric Assn., and the American Society of Clinical Psychopharmacology continue to accept money from drug manufacturers. The drug companies have now targeted the American Psychological Association and put on programs at the recent meeting of that organization in NYC ....The appearance of not having a conflict of interest is as important as not having a conflict of interest.* "Dr. Goldberg goes on to say, "*I do not think that you can be too suspicious about the motivations and behavior of those who manufacture and promote Pharmaceuticals."*

Clinical ideogram for crisis. The well known ideogram has two components, danger and opportu-

nity. Certainly we have sensed danger, but let us also feel the opportunity. However, in summary, we seem to have ducked the storms this season, but unless we are 350 to 400 strong by the end of next year, we may be in the unfortunate circumstances of the Alabama pecan grove owners whose existence as such is now over.

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IDEAS

Ideas for increasing the membership, in order of increasing cost (I think): E-mail notices on many mental health discussion groups; notices in many related journals/ newsletters (psychiatry & psychology, anthropology, biology, etc, plus *Scientific American* or other general science magazines); flyers for bulletin boards in academic departments/libraries; a world wide web page; direct mail to lists of subscribers to particular journals (if available).

I'm curious: would it be easier to put the references for each article immediately after, rather than at the end? Would it be easier to use APA format for references? (I'm wondering if most submissions arrive in a particular format, how much time is being spent translating from submitted format to *ASCAP* format, etc. If you're getting a lot of varied formats, perhaps it would cut costs to establish stricter requirements for submissions, so that the formatting of references is already done by the author).

I would regret raising the subscription price, because it will decrease the number of new and renewed subscriptions, but you've gotta do what you've gotta do. Hopefully the increase will result in an actual increase in total income (i.e., income lost from ex-subscribers/ missed new subscribers doesn't outweigh increased fees from remaining subscribers). Similarly, I would regret corporate sponsors, but hey, you've got to get funds from somewhere! What about grants from individuals, institutions, etc? The MacArthur Foundation, etc., etc? That would be my preference - but the most important thing is to keep the multilog going. Maybe it would be worth assigning Erica or someone to search for grants a bit.

In regard to topics for associate editorships -- I am very interested to see clinical problems attacked from an evolutionary perspective. What about an associate editor for mood disorders (Paul Gilbert)? Anxiety disorders? Violence, crime, psychopathy (perhaps Linda Mealey)? Family violence? Personality disorders? Etc. I would like to see a series (and an associate editor or more than one) on gene-environment interactions, focusing on how genetically provided behavioral systems respond and develop across the life span differently in different environmental conditions, specifically aimed at demolishing gene vs. environment thinking and providing models of interactionist thinking. What about associate editors who are primarily animal ethologists, who can provide more articles on psychopathology in primates or species with social structures close to ours? What about a book review editor, who would keep track of new books in our area, list them, and solicit/edit reviews? A journal article person assigned to scan journals each month for articles in our area?

Although I am also very interested to see politics and social issues viewed from an ethological point of view, this is probably outside the *ASCAP* mission (and covered by others, i.e. Association for Politics and the Life Sciences, ISHE, etc.).

I think Russell Gardner's argument is very interesting, that the semi-formal newsletter serves a communication niche different from both E-mail discussion groups and formal journals. I agree that it does, and I think it makes the newsletter uniquely appealing. In terms of cultivating the newsletter itself and increasing the membership, it might be a good idea to preserve, promote and advertise these features of timeliness, accessibility, multiple feedback loops and low pressure (unlike journals) yet thoughtfulness and focus (unlike much E-mail!). It's almost like the "committees of correspondence" used to network ideas and enthusiasm during the American Revolution.

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ONCONSCIOUSNESS

I heard Jeffrey Gray on the radio recently, saying that when a person touches something hot, s/he has

moved his/her hand away before s/he feels the pain. The time lag is only very small, but it is there. It occurred to me that this links up with what I have said about consciousness (the cortex) lagging behind the automatic cognition, decision making etc. of the pre-cortex, and Paul Gilbert's distinction between the fast track and the slow track. The pre-cortex must (if you'll excuse the pun) have its own hot-line to the sensory input and makes the decision to act before the cortex gets to know about it. In fact, the cortex has the strange experience of observing the hand being pulled away without having played any part in the decision to pull it away. In no sense can you say that the pre-cortex actually felt the pain. It just got a sensory input that it registered as an indication of danger to the hand. I have asked if the spider feels excited when the web begins to sway and the captive fly struggles to escape? Perhaps it doesn't, because feeling excited is something which happens in consciousness and consciousness is a relatively recent development. The spider perhaps functions like a computer (or the pre-cortex) does; shaking web makes spider (quite unemotionally) run and kill fly.

John Birtchnell
London, ENGLAND

STORIES

Russell Gardner's idea that story-telling is a fundamental human characteristic is interesting, and certainly finds support from studies of contemporary hunter-gatherer societies, who spend much time in this activity, and esteem a good storyteller highly, with consequent elevated social status, as in Turnbull's *Forest People,* for example.

Also, amongst the early cowboys of America, who might be termed nomadic hunters and foragers, the yarn or tale was a centrepiece of social encounters and regular campfire nights, as I have discovered from Andy Adams' *Log of a Cowboy,* recounting his experiences of twelve years in the saddle, and to a lesser extent from *The Life of Buffalo Bill Cody,* by himself. Ambrose Bierce, in his short story *The Stranger,* which deals with just such a meeting with a yarning man, puts it like this: "Anyone can tell some kind of story: narration is one of the elemental powers of the race."

David Stevens
London, ENGLAND

ATTRACTIVE SIGNIFICANCE

In describing a patient on E-mail, John Pearce used the adjective "attractive", which a fellow correspondent criticized. Here is John's reply:

Actually, "attractive" does have significance (which I took for granted when I wrote the passage). Attractive means healthy. Evolutionary psychologists have demonstrated that what is regarded as "attractive" in all species is traits selected by evolution. For example, all animals prefer mates that are symmetrical - an indicator of genetic heterozygosity. Animals in environments in which parasitic loading is a leading problem select for both general appearance and bright colors - indicators of parasite resistance. In such species - typical of tropics - there is an arms race with parasites. In our species, what is usually considered attractive are cues for reproductive success: youth, good skin color, bodily symmetry, and signs of vitality. These are condensed into the global assessment of attractiveness. Such signs are far from infallible, but they are a good hint of general health.

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GET SHORTY

Last month's was a fine issue of *ASCAP.* Tim Miller writes with great clarity and good sense. Admirable.

I love Russell Gardner's thoughts about hedonic encounter. Saturday night my Suzy and I went to see the film "Get Shorty". This is a most interesting variation on the theme. Travolta, a gangster, is not, generally, agonistic. He is markedly, or at least arguably, hedonic in situations where he might not have been so. The result is charming. His look is described as conveying "I own you; you are nothing to me." but he appears to me to be open with a slight smile that invites a more cooperative relationship.

Good idea to put hedonic/agonistic up front as issues. It is, of course, a pretty crude dichotomy, but the right basic emphasis.

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ARTICLE:

by L Sloman

Phylogenetic adaption resulting from deviation amplification

A few months ago, in the May, 1995, issue of *The ASCAP Newsletter,* Mike Waller chided me for being so brief in my presentation of the "deviation amplification" hypothesis. Since that time, I have been in correspondence with Mike and have had the pleasure of reading his manuscript on this topic. I am writing now because I want to make a point that I have been thinking about, and that was also mentioned by Jack Hope, a colleague. Let me begin by restating the "deviation amplification" hypothesis. Repeated success in agonistic encounters in general stimulates the "cycle of adaptation" based on the fact that successful mastery builds up self-confidence and prepares one to handle new challenges as reflected in the old adage - "nothing succeeds like success". Repeated failure on the other hand is likely to contribute to a "maladaptive cycle" which will negatively affect the individual's self-confidence which is likely to impair the individual's immediate and future performance and may also over time contribute to both psychiatric and somatic illness. According to the "deviation amplification" hypothesis, the adaptive and maladaptive cycles facilitate the spread of positive mutations that raise inclusive fitness and lead to a more rapid elimination of genes and negative mutations that lower inclusive fitness. These cycles have the effect of augmenting the action of natural selection which enable our early ancestors to react to changing circumstances with great rapidity, which would have left others who lacked this advantage (in Waller's words) trailing in the evolutionary dusk.

Several years ago I had the privilege of meeting with John Bowlby and when I described these two phenomena, Bowlby said that he had no trouble accepting the "cycle of adaptation" as an in-built evolutionary mechanism which might have had a role in both ontogenetic and phylogenetic adaptation. Bowlby on the other hand did not accept the notion of a "maladaptive cycle" as an evolutionary mechanism. In retrospect, I imagine that he might have seen this as a "group selectionist" argument which has been largely discredited. Mike Waller argues as I did that one does not need to invoke group selection to explain this phenomenon.[1] Mike Waller argues that there are many examples of genes that further their own evolutionary interest at the expense of their bearers. He claims that the individual's inclusive fitness would be raised and the survival of the majority of his genes would be favoured if a mechanism existed that would lead to the more rapid elimination of any progeny that were particularly disadvantaged.

I do not plan to discuss this issue here. Instead, I plan to use a different line of reasoning. If one accepts the "cycle of adaptation" as a valid evolutionary mechanism, this would in itself have been sufficient to contribute to "deviation amplification". Because deviation amplification increased the chances of survival of those who were better adapted, it would inevitably have had the reverse effect on those who were less well endowed. For example, the individual who was continually able to outsmart or outperform his conspecifics would have experienced a rise in self-esteem, as well as a movement up the hierarchy with the additional advantages that this provided. Those who were less fortunate would have remained near the bottom. Another way that "deviation amplification" might assert its effects is through positive assortative mating in monogamous societies.[2] There is good evidence that those who were better endowed in terms of those characteristics that promoted survival in that society were more likely to choose each other as mates. As a result of assortative mating, those who were best endowed would have been likely to have children who were better endowed and those who were less endowed, would have had children who were also less well endowed. This too would have contributed to the deviation amplification.

One consequence of this line of reasoning is that one can no longer attribute a phylogenetic adaptive

function to psychiatric illness or depression. Within this formulation, clinical depression is seen as representing a failure to develop adequate cycles of adaptation. Human infants are extremely dependent and vulnerable at birth. As the infant successfully masters various developmental challenges and succeeds in eliciting appropriate caregiving responses, the "cycle of adaptation" is initiated. The stronger the "cycle of adaptation", the better able the child is to handle frustrations and failures. The balance between the positive and negative cycles is well illustrated by Erik Erikson, who uses a psychoanalytic paradigm.[3] He speaks of a "sense of basic trust" versus a "sense of mistrust", a "sense of autonomy" versus shame and doubt and so on.

What I am arguing is that if the infant receives less than minimal care, the infant dies. If the infant survives, but has less than adequate mothering, the infant is programmed to develop a "sense of basic mistrust", a "sense of shame and doubt", a "sense of guilt" and so on. The infant needs good experiences to develop the "cycle of adaptation".

In summary, within this formulation, clinical depression is not seen as a mechanism that directly functions to speed up the elimination of the affected individuals from the gene pool. It is seen rather as an expression of basic vulnerability and a failure to generate enough protective cycles of adaptation. These cycles of adaptation serve to raise the individual's inclusive fitness.

By virtue of deviation amplification, small genetic differences between competing individuals would have had a greatly enhanced impact on their relative inclusive fitness and this would have greatly accelerated the rate of phylogenetic adaptation. This would have enabled our early ancestors to react to changing circumstances with greater rapidity. It might have also contributed to man's high level of intelligence. One would presume that the evolution of intelligence would have had to occur by very small steps. If that is indeed the case, the mechanism of deviation amplification would have greatly increased the rapidity of the phylogenetic evolution of intelligence.

What I am arguing is that one can account for the effects of deviation amplification without raising the issue of the "maladaptive cycle" that I spoke of above. Furthermore, one could reformulate the concept of the "maladaptive cycle" as representing a breakdown of the "cycle of adaptation". Therefore, one does not need to invoke "group selection" to account for the action of deviation amplification.

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Please remember to send in your membership dues

Please try to encourage AS MANY PEOPLE AS POSSIBLE to join by subscribing!

ARTICLE:

by M Chance

The story of the discovery of the Systems Forming Faculty

When I was about 3 years old I fell into an ornamental pond with my old and infirm maternal grandfather watching from a nearby seat. Little could I have realised till much later in life that he was to cast a long (agonic) shadow over me till well past middle age. For he was the "moderator"—dominant chief would be the correct description — of the "Wee Frees", the most sectarian wing split off from the Scottish Presbyterian church. This gave my mother a hard core to her warm natured rationalism, which did much to circumscribe the undoubted value of that form or intellectualism current in progressive circles of the 20s and 30s. She was a dynamic and beautiful person and fired my imagination with biology one rainy day, by using a lavatory roll strung round the hall of our house to represent the evolutionary time scale of life on earth — humans arriving only on the last piece of paper! Then she bought me a real microscope (for £60) with 1/12th objective and a substage condenser which kept me happy in my teens exploring down into the intricacies of the cell.

In 1922 my father bought a farm which he shared with a farmer friend, and we acquired a house on it in Hampshire, but no sooner had he established the family there (I had two sisters, two years and seven years younger), than he became interested in sailing, and acquired a series of yachts, each one larger than the one before, so that we were forever dividing our time between the house and the yacht.

This meant we were constantly on the move to different ports around the British Isles at a time when my mother was expected not only to join the yachting, but to bring up a family and run the household at the same time; whilst still having problems breaking away from her Presbyterian mental and emotional straight-jacket. The task proved too much for her and she had three depressive breakdowns during the 20s, further disrupting family life, leaving the children divided between the yacht, the house, and people who temporarily looked after us. At the end of this period she had written three books entitled: *The Cost of English Morals, Intellectual Crime* and *The Romance of Reality* which contributed to the progressive thought of the time and sorted out her ideas which led to a complete recovery from her depressions. Mercifully, the financial crisis of 1929 led my father to give up yachting and settle in the house.

In 1933, I failed my University Entrance Exam and in deference to my father's wishes that I should do something to make it possible to sit the exam again, I registered on a correspondence course and "dropped out" at home, spending an idyllic year watching the seasons going round in one place, which, because I had been at Boarding School from the age of 5, I had not experienced!

We kept a few farm animals and because I was imprinted on a clutch of young geese that I had watched hatch at about the same time as Konrad Lorenz was imprinting his, my father used to say: "If you want to get the geese to go anywhere, ask Michael to move them." During this period of idyllic mental relaxation I did hardly any revision and pottered about with my microscope looking at micro-organisms wherever they were to be found, and so discovered that water taken from different places, holes in trees, ponds, etc., had different patterns of micro-organisms. At the same time, I was also reading *The Science of Life,* the first popular book on biology compiled jointly by H. G. Wells, G. P. Wells (his son, who later was to become my teacher of Zoology at University College, London) and Julian Huxley, which was being issued as a series of illustrated monthly magazines.

Previously at school my interest in biology far outweighed anything I was offered in the school curriculum, and I spent most of my spare time, of which I had a lot (due to osteomyelitis in one foot as a child, I was off games), in the preparation room of the biological laboratory with a lab assistant, who subsequently

became Head of the Animal Population Bureau of Oxford University, investigating anything that came to hand. One was the livers of mice caught in the school grounds and which were infected with a nematode parasite. This showed up as rings in cross sections of the tissue. On sending it up to the Natural History Museum in London I received a request to bring some infected livers to London in a preservative so that the expert could make further observations. Obviously he thought I was a master, so when a young boy appeared in his laboratory it took him a while to gain his composure and I, at the same time, was much in awe of him, seeing the nematode of a whale stretched around the room high up on the wall. The liver sample led him to be able to reclassify the worm, mentioning me as the source in a subsequent paper. Looking back I now realise that this helped to instill in me a feeling of confidence, if subconsciously, that I could make my own way in biology, and gave me confidence to follow my interests rather than the guidance I was being subjected to by the educational system.

When eventually I walked up the immensely imposing road in South Kensington, London, which leads to the examination halls, I said to myself: "You are a fool, you have no right to be here, because you are bound to fail." But again, almost subconsciously, I passed!! Scanning the pass lists in the newspaper on the day they were published, I did not find my name, and hid the paper from my parents until, to my astonishment, they came to congratulate me with a paper in hand, and told me that I had passed — I had been looking at the pass lists for girls' schools! In the immense relief I suddenly realised that I had made a discovery about myself, namely that there was indeed a faculty working within me which had sorted out the material I had learnt in class, and made it available to me on recall. So this is what my mother had meant when she said: "Your mind will see you through." I now call it the *systems forming faculty* which I have used all my life to great advantage and in teaching my students how to do research. Because I felt different in a way I could not have described, I nevertheless felt it had something to do with the idyllic year that had just passed (clearly I must have been much relaxed, but was unaware of the concept then). I did not confide in my mother at the time, as I was a little in awe of her then, and she was, I now see, a proselytizing rationalist, and I sensed then that her attitude would be hostile. I use the system forming faculty in the following way: Whenever I have a problem I review all the relevant facts and focus on the nature of the problem before I go to sleep. In the morning, an answer, or perhaps a series of possible solutions, or new ways of using the information, come into my mind so that I can think afresh about it and sometimes, more significantly, information that had been around in my mind suddenly falls into a coherent argument or plan. This is the apex of the systems forming process. Its growth is assisted by inquisitiveness in youth leading to wide-ranging exploration in later life. Relaxation is, of course, essential to its success, hence readers of *ASCAP* will recognise the hedonic mode and perhaps be persuaded to trust its potential. This faculty is closely related to creative dreaming outlined by Gardner Murphy (1958) as discussed by Anthony Stevens in his book *Private Myths (Dreams and Dreaming)* (1995).

When eventually three to four years later I obtained an Honours degree at pass level at University College, London, I failed on the basis of my factual knowledge, but was passed because I wrote what was considered an exceptional A++ essay on evolution.

During the 50s and 60s, bringing up a family and pursuing an academic career developed in me an agonic tension which ended in the development of a spastic colon for which the local medical establishment advised having my sympathetic system removed!! As a biologist rather than a medical person, I knew at least that, if functioning properly, it had been evolved to serve a role in my physiology, so refused the offer. When, as a pharmacologist, my temporarily successful treatment with a spasmolytic finally ceased to work, I took time off, thought about it, lay down and waited until a course of action floated into my mind. This was to consult my wife. She suggested seeing an osteopath who had successfully treated her for backache after the birth of our first child, and who had introduced her to relaxation and yoga. The osteopath cured me in eight weeks, and yoga introduced gradually a new era of more and more hedonic existence. This coincided with the later phase of the

Department of Ethology when, as a going concern, the day-to-day research was in the hand of an enthusiastic band of research students and fellows. So I was able not only emotionally, but with my attention liberated to some extent from day-to-day concerns of administration, freely to integrate the findings of three decades of research into social structure. This resulted in three books: *Social Groups of Monkeys, Apes and Men* (1970 with Clifford Jolly); The *Social Structure of Attention* (edited with Ray Larson in 1976), and the edited book *Social Fabrics of the Mind* (1988).

I had a short life as a politician, three months into the Communist Party. Following a visit to the USSR I found the "comrades" were not prepared to discuss my impressions, so I was expelled, not being allowed to resign! All along since my short life as a politician, I had attempted to uncover the structure of behaviour which we have inherited, as we now know, in our three brains discovered by Paul MacLean, and I have appended a small list of publications, other than books which constitute the contributions that my research group has made to this subject. All this activity has carried me on into my membership of ASCAP and ESSI.

So what of the present and of perspectives? Following my disillusion with politics, it does not surprise me that a biological investigation into the structure of behaviour has been successful since I followed the path of awareness, observation, including reflective self-observation and finally delineation. It has resulted in the discovery of an evolved structure of behaviour and mentality (a list of relevant publications is appended) which will, I feel sure, stand future generations in good stead, and which, given enough time, I intend to explicate and, where evident, map onto Paul MacLean's three brains.

Looking back I recognise that despite all the distressful elements introduced into the family by the long shadow of my grandfather and my father's obsession with sailing, my parents were at heart much more supportive than I had previously recognised before undertaking this review of our lives as a family. I now find myself with immense pleasure surrounded by the friendship of ASCAP and ESSI whose aims, founded on a biological understanding of our nature, are flung as wide as possible. Is it too much to hope that we can influence the transformation of democracy from a system whereby society sanctions the existence of individuals to a state of being where self-control is sanctioned by an intelligent understanding of ourselves as social beings? These reflections are inevitably selective — partly self-selected (involving the systems forming faculty) in that they have appeared spontaneously out of my memory. They then have been written up as far as possible to convey the feeling and ambiance of the growth process as well as the thought to which my life as a biologist has given rise.

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Aggression: A component of post-epileptic automatism in *Peromyscus. Nature,* 1948;161:101.

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The role of conclusions in behaviour; now expanded in book by P. M. Driver and D. A Humphries *Protean Behaviour (The biology of Unpredictability),* Clarendon Press, Oxford, 1988.

Attention structure as the basis of primate rank orders. *Man* Vol 2, No 4, December, 1963.

A protracted startle response to maternal rejection in infants of *Macaca fascicularis* with E. Jones, *Folio Primatologica* 22, pp. 218-236.

A class in the observation of behaviour with J. H. Mackintosh in: *Biology and Human Affairs,* 40, No 3, 1975.

The infrastructure of the will. *Humanitas,* Vol XV, No 1, 13-b27, 1979.

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Chance M. R. A.: The social formation of personality system: The two mental modes and the identity of recursive mental processes. *American Journal of Social Psychiatry.* Vol 6(3), July, 1986.

ARTICLE:

by J Birtchnell

Response to mania and leadership

I read with interest Russell Gardner's comments on mania and leadership. The problem for RG is that most manics relate negatively and most leaders relate positively. When parallels are drawn between manics and leaders, RG tends to not distinguish clearly between what I would call positive and negative upperness, partly because the terminology to do so isn't used, though in one place he does write: "I envision manics as evincing a leadership biology (albeit maladaptively)...". I can see that RG tries to make an evolutionary link between the two conditions and this is something I do not need to do. I think it is an advantage to use the more general term upperness rather than trying to squeeze all of the characteristics of manics into the rather restricted category of upperness called leadership. Manics and leaders are both related to that more general quality called upperness. I think if RG considers that A (mania) is related to B (upperness) and that C (leadership) is related to B (upperness), it is unnecessary to link all of the qualities of mania (A) to those of leadership (C). Manics stay awake because they have ideas racing through their heads. Leaders stay awake because they need to concentrate on what they are doing. If you can get manics to sleep, their mania often recedes. In fact, the wife of my famous pair of manics maintains that mania comes on if her husband cant get enough sleep. So she puts it the other way round. I think that perhaps RG producing a unitary theory of mania (as a distorted form of leadership) is as bad as John Price producing a unitary theory of depression (as a backing down from an aggressive other).

When RG equates manics to leaders, he too is operating down the right side of the octagon. The kind of leaders described are mainly upper distant. They have to be. It would not do to be too soft on those they lead. But you can get upper close manics who are excessively generous and give all their money away. And I suppose you can also get upper close leaders, or at least upper close charismatic figures. You could say that Jesus Christ was a kind of upper close leader, or better still, Florence Nightingale. Many upper close charismatic figures do not exactly lead: they go around blessing people and caring for them and devoting themselves to their welfare.

... Many upper close charismatic figures do not exactly lead: they go around blessing people and caring for them and devoting themselves to their welfare...

Jesus Christ said: "Suffer the little children to come unto me." He wanted lots of lower close people that he could be upper close to. He was obsessed with looking after people. When psychotic people become deluded that they are Jesus Christ, they presumably go around behaving like Jesus Christ did. Would you call them manic?

I note that the term involuntary subordinate strategy is taking on amongst a number of you. Would you all not say that all strategies which form part of a personality pattern are involuntary? Is not Jesus Christ's strategy involuntary, a kind of involuntary supraordinate strategy? And does not a schizoid individual have an involuntary distancing strategy? And does not an insecurely close person have an involuntary clinging strategy? Does it get you any further to say that it in involuntary? To use my new terminology, I would call involuntary that which is initiated by the inner brain.

You say that the person uses ISS for survival, that is s/he decides to back off. I say if s/he decides to back off, and if in her/his backing off s/he is benefiting, why then is s/he is depressed? S/he should be happy!

Incidentally, backing off is one the characteristics of lower distance. So here again, you are operating on the right hand (distant) side of the octagon.

I think you are quite wrong when you say that "I see the ISS model for depression as the person having an appetite for lowerness." Everybody has an appetite for lowerness, just as everybody has an appetite for the other three positions. It is one of the principles of the theory that every one of the four positions is desirable and that no position is any more or any less desirable than any other. There is nothing intrinsically depressing about lowerness.

In a new book manuscript, I have had another go at describing the two brains and have got a lot further in sorting this out. I have decided to call them the inner brain and the outer brain. To some extent they correspond to the reptilian/palaeomammalian (inner) brain and the neomammalian (outer) brain, to some extent they correspond to the unconscious and the conscious, and to some extent they correspond to Paul Gilbert's fast track and slow track, but I think they are better than any of these distinctions.

Thank you for sending me the address of Michael McGuire. He was very pleased to hear from me and immediately ordered a copy of my book.[2] He also sent me the manuscript of his book.[3] He is hoping to squeeze in some references to me before the book goes to the printers.

References: page 20

ABSTRACTS by GILBERT & MacDONALD

Allan S & Gilbert P: A social comparison scale: Psychometric properties and relationship to psychopathology.

Gilbert P, Pehl J & Allan S: The phenomenology of shame and guilt: An empirical investigation.

Gilbert P, Price J & Allan S: Social comparison, social attractiveness and evolution: How might they be related?

Gilbert P & Allan S: Assertiveness, submissive behaviour and social comparison.

Goss K, Gilbert P & Allan S: An exploration of shame measures - I : The Other As Shamer scale.

Copies of the following articles may be requested from the author, Paul Gilbert, via *The ASCAP Newsletter.* Send us your requests, and we will forward them.

Allan S & Gilbert P: A social comparison scale: Psychometric properties and relationship to psychopathology. *Person, individ. Diff.* 1995; 19(3):293-299.

Summary: This paper describes the development of a social comparison scale using the semantic differential approach. It also explores the relationship between this social comparison scale and psychopathology. The dimensions of social comparison measured here are derived from evolution theory and focus primarily on judgements of social rank, judgements of relative attractiveness and judgements of group fit. The factor structure of the scale appears consistent with theoretical predication. Evidence suggests that social rank

and attractiveness dimensions may be more salient for a clinical group, while group fit judgements become less important.

Gilbert P, Pehl J & Allan S: The phenomenology of shame and guilt: An empirical investigation. *Brit Jour. of Med. Psychol.* 1994;67:23-36.

Abstract: This paper explores the various literatures concerned with shame and guilt. Lewis' (1987) model of shame is outlined. The phenomena she suggested to be part of shame (feelings of helplessness, anger at others, anger at self, self-consciousness and feelings of inferiority) were investigated as to their relationship with shame. Strong support for these phenomena being related to shame, but not guilt, was found. Although located in separate literatures, shame and fear of negative evaluation have considerable overlap and this study set out to explore this relationship. The study further considered the role of submissive behaviour in shame and depression. Evidence was found to support the view that submissive behaviour is involved in both shame and depression.

Gilbert P, Price J & Allan S: Social comparison, social attractiveness and evolution: How might they be related? *New Ideas in Psychology* 1994;13(2):149-166.

Abstract: Social comparison occurs in many forms of interaction. Despite a voluminous literature, the link between human and non-human forms of social comparison has rarely been made or explored. In this paper we consider the evolution of the competency to socially compare self with others and point to its long phylogenetic history. Special regard is given to intrasexual selection, competition for parental investment, and reciprocal exchange. The evolved competency to socially compare has been important in two separate and mutually incompatible forms of social competition, based on displays of either intimidation or attractiveness. This has resulted in two self-concepts which have been called resource-holding potential (RHP) and social attention-holding power (SAHP). These primitive self-concepts derived from social competition may have been stages on the phylogenetic pathway to human self-esteem. It is suggested that an evolutionary approach adds a new dimension to current theories of social comparison.

Gilbert P & Allan S: Assertiveness, submissive behaviour and social comparison. *Brit Jour. of Clin. Psychol.* 1994;33:295-306.

Abstract: This paper explores the relationship between a new assertiveness measure (the Scale for Interpersonal Behaviour- SIB), social comparison and submissive behaviour. The paper investigates these measures in relation to the personality traits of neuroticism and introversion. Findings suggest: (a) that social comparison may be an important variable in assertiveness and submissive behaviour and shows a strong relationship to neuroticism and introversion; (b) that submissive behaviour is not the mirror opposite of assertive behaviour; and (c) submissive behaviour seems more strongly associated with introversion and neuroticism than assertive performance.

Goss K, Gilbert P & Allan S: An exploration of shame measures - I: The Other As Shamer scale. *Person. Individ. Diff.* 1994;17(5):713-717.

Summary: There is growing interest in the association of shame with various personality traits and psychopathology. This study modified a self-report measure to focus upon beliefs about how others evaluate the self (the "Other As Shamer" scale) and explore its correlations with other measures of shame. An initial analysis of the scale indicates satisfactory reliability and a three factor structure, with one factor called 'inferiority' accounting for the largest proportion of the variance. Results support the view that shame involves both self-evaluations and beliefs about how the self is judged by others.

Copies of the following articles may be requested from the author, Kevin MacDonald, Dept of Psychology, California State University-Long Beach, Long Beach CA 90840-0901. Tel: (310) 985-8183. Fax: (714) 509-1868 Email: KMACD@BEACH1.CSULB.EDU.

MacDonald K: Warmth as a developmental construct: An evolutionary analysis.

MacDonald K: Evolution, the five factor model, and levels of personality.

MacDonald K: Warmth as a developmental construct: An evolutionary analysis. *Child Development* 1992;63: 753-773.

This paper provides an evolutionary account of the human affectional system as indexed by the construct of warmth. It is argued that although warmth and security of attachment are often closely intertwined in actual relationships, warmth must be distinguished from security of attachment. Warmth is conceptualized as a reward system which evolved to facilitate cohesive family relationships and paternal investment in children. Individual differences in this system underlie the dimension of warmth in parent-child research as well as a similar dimension revealed in factor-analytic studies of personality traits. Warmth plays an important motivational role in children by facilitating compliance and the acceptance of adult values, and is viewed as one of several discrete evolved systems underlying personality development. Although securely attached children typically have affectionate relationships with caregivers in many societies, it is hypothesized that warmth is complexly related to attachment classification. Consistent with a discrete systems perspective, research is reviewed indicating that relationships based on warmth and affection are often highly compartmentalized and can coexist with relationships based on exploitation and aggression.

MacDonald K: Evolution, the five factor model, and levels of personality. Special issue of *Journal ofPersonality,* 1995;63:525-567 on "Levels and Domains of Personality" edited by R.A. Emmons and D. McAdams.

This paper interprets the Five Factor Model as subsuming variation in normative, species-typical systems with adaptive functions in the human environment of evolutionary adaptedness. It is argued that the evolutionary logic of personality systems is apparent in the patterning of mean sex differences in personality. Personality systems are conceptualized as evolved motivational systems with an affective core. The evolved motive dispositions at the core of personality anchor a hierarchy of levels of cognitive and behavioral functioning aimed at attaining or avoiding the affective states central to these personality systems. Personality systems are seen as often in dynamic conflict within individuals and as highly compartmentalized in their functioning between settings. While variation in personality consists of a range of viable strategies for humans, extremes on these systems tend to be maladaptive, although in at least some cases individuals who approach the maladaptive extremes of individual variation may be viewed as engaging in high-risk evolutionary strategies. Within this wide range of viable strategies, personality variation functions as a resource environment for individuals in the sense that personality variation is evaluated according to the interest of the evaluator The main conclusion for readers of *The ASCAP Newsletter* is that an evolutionary perspective on personality theory provides a powerful framework for conceptualizing many psychiatric disorders.

ABSTRACTS & EXTRACTS

REPRINTED DUE TO REFERENCE OMISSION IN AUGUST ISSUE:
Wilson DS: Language as a community of interacting belief systems: A case study involving conduct toward self and others.

Reynaert C, Janne P, Vause M, Zdanowicz N & Lejeune D: Clinical trials of antidepressants: the hidden face: where locus of control appears to play a key role in depression outcome.

Jones IH, Stoddart DM & Mallick J: Towards a sociobiological model of depression.

Iribarren C, Reed DM, Wergowske G, Burchfiel CM & Dwyer JH: Serum cholesterol level and mortality due to suicide and trauma in the Honolulu Heart Program.

Amsel A: Hippocampal function in the rat: Cognitive mapping or vicarious trial and error?

Shaham Y& Stewart J: Stress reinstates heroin-seeking in drug-free animals: an effect mimicking heroin, not withdrawal.

Flint J, Cortey R, DeFries JC, Fulker DW, Gray JA, Miller S, Collins AC: A simple genetic basis for a complex psychological trait in laboratory mice.

Wilson DS: Language as a community of interacting belief systems: A case study involving conduct toward self and others. *Biology and Philosophy* 1995;10:77-97.
(REPRINTED DUE TO REFERENCE OMISSION IN AUGUST ISSUE)

Abstract: Words such as "selfish" and "altruistic" that describe conduct toward self and others are notoriously ambiguous in everyday language. I argue that the ambiguity is caused, in part, by the coexistence of multiple belief systems that use the same words in different ways. Each belief system is a relatively coherent liguistic entity that provides a guide for human behavior. It is therefore a functional entity with design features that dictate specific word meaning. Since different belief systems guide human behavior in different directions, specific word meanings cannot be maintained across belief systems. Other sources on linguistic ambiguity include i) functional ambiguity that increases the effectiveness of a belief system, ii) ambiguity between belief systems that are functionally identical but historically distinct, and iii) active interference between belief systems. I illustrate these points with a natural history study of the word "selfish" and related words in everyday language. In general, language and the thought that it represents should be studied in the same way that ecologists study multispecies communities.

Reynaert C, Janne P, Vause M, Zdanowicz N & Lejeune D: Clinical trials of antidepressants: the hidden face: where locus of control appears to play a key role in depression outcome. *Psychopharm.*1995;119:449-454.

Abstract: It remains difficult to determine in what measure improvements observed in clinical trials of antidepressants may be attributable to the psychological predispositions of the subjects. The present article focuses on the effect of a psychological variable, the

Health Locus of Control, which measures the extent of a subject's belief that he is in control over his own health. The hypothesis is that depressed subjects whose locus of control is internal, i.e. who perceive themselves to be in control, rather than external, i.e. control perceived as being in others or just chance, will improve more markedly and consistently on the Hamilton Depression Rating Scale across a number of clinical trials. Forty-nine depressive patients undergoing treatment with four different compounds were included, after a week's placebo run-in period, in a classical 42-day follow-up study comprising visits on days -7, 0, 10, 21; and 42. Interactions between the type of locus of control and the clinical course were investigated by MANOVA. Results show that with a classical design of clinical trials of antidepressants, locus of control plays a significant role if it is internal *(P<0.001)* in consolidating the improvement process, and that this is true irrespective of type of antidepressant. The relationship between the concept of locus of control and placebo effect is discussed.

Jones IH, Stoddart DM & Mallick J: Towards a sociobiological model of depression. *Brit Jour. of Psychiat.* 1995;166:475-479.

Background. This is a sociobiological approach to depression using hierarchy and its hypothesised relevance to self-esteem in the marsupial sugar glider *(Petaurus breviceps).*

Method. Differential access to resources between the dominant and submissive animal is measured by observation in four stable colonies. The dominant animals from two of these colonies are then introduced into the other two, resulting in the transferred former dominants becoming subordinate. Behavioural and biochemical measures relevant to depression and involving access to resources are then repeated. These measures include eating, drinking, social and sexual access, motility, grooming and biochemical estimates of cortisol and testosterone.

Results. Subordinate animals have significantly less access to resources, both in the the stable colony and when the formerly dominant animals become subordinate.

Conclusions. A sociobiological approach using a hierarchy model equating resource-holding potential with self-esteem, exemplified by this study, may provide new concepts and insights into the phenomenology and pathophysiology of depression. It allows comparisons to be made between animal behaviour and cognition: the lack of such has been a major difficulty in animal studies hitherto. The findings are possible more relevant to dysthymia than to affective disorder and imply a relationship between low resource-holding potential in sub-human animals as a phylogenetic antecedent of some of the cognitive and affective aspects of depression in man.

Iribarren C, Reed DM, Wergowkse G, Burchfiel CM & Dwyer JH: Serum cholesterol level and mortality due to suicide and trauma in the Honolulu Heart Program. *Arch. Inter. Med.* 1995;155:695-700.

Background. Recent results from cholesterol level-lowering trials and some, but not all, observational studies support an intriguing link between low or lowered serum cholesterol levels and violent death. The reasons behind this relationship are far from clear.

Methods. In this report, we further investigate this issue by assessing the relationship of baseline serum cholesterol levels with long-term risk of mortality due to trauma and suicide in a cohort of 7309 middle-aged Japanes-American men.

Results. After 23 years of follow-up, a total of 75 traumatic fatalities and 24 deaths by suicide were documented. Rather than an inverse relation, a positive association between serum cholesterol level and risk of suicide death was observed. After controlling for potential confounders, the relative risk of suicide associated with an increment of 0.98 mmol/L (38 mg/dL) in serum cholesterol leve (i SD) was 1.46 (95% confidence intem\val. 1.04 to 2.05; P= .02). Multivariate analysis of traumatic mortality failed to

detect a relation with serum cholesterol level (relative risk = 0.89; 95% confidence interval, 0.70 to 1.13; *P*= .44). Heavy alcohol consumption (>1200mL of alcohol per month, top quintile) was an independent risk factor for trauma death relative to abstinence (relative risk = 1.86; 95% confidence interval, 1.07 to 3.22; P= .02).

Conclusions. These findings contradict the hypothesis of an inverse relation between serum cholesterol level and suicide, but they support the hypothesis that heavy alcohol consumption is a risk factor for traumatic fatal events.

Amsel A: Hippocampal function in the rat: Cognitive mapping or vicarious trial and error? *Hippocampus* 1993;3(3):251-256.

Abstract: The most prominent hypothesis of hippocampal function likens the hippocampus to a "cognitive map", a term used by a famous learning theorist, E. C. Tolman, to explain maze learning. The usual application of this concept of cognitive map, as it applies to the hippocampus, is to what is called spatial learning, mainly in the radial-arm maze of Olton and the Morris water maze. In a recent *Hippocampus* Forum, evidence for the cognitive map hypothesis was reviewed in a lead article by Nadel, followed by a series of commentaries by leading investigators of hippocampal function. This speculative commentary offers an alternative not represented in the forum -- that the function of the hippocampus in spatial learning is not as a cognitive map, but that it subserves another function proposed by Tolman in this work on simple discrimination learning, vicarious trial and error, based on incipient, confliciting dispositions to approach and avoid.

Shaham Y & Stewart J: Stress reinstates heroin-seeking in drug-free animals: An effect mimicking heroin, not withdrawal. *Psychopharm.* 1995;119:334-341.

Abstract: Exposure to 10 min of footshock stress (1 mA: 0.5 s on, with a mean off period of 40 s) reinstated heroin-seeking behavior in heroin-experienced drug-free rats after many sessions of extinction and up to 6 weeks after last exposure to heroin. In reinstating the behavior, the footshock mimicked the effect of a non-contingent priming infusion of heroin (50ug/kg). By contrast, the aversive state of acute opioid withdrawal induced by injection of the opioid receptor anatagonist naltrexone (5 mg/kg, SC), following an acute injection of morphine (10 mg/kg, SC), had no effect on heroin-seeking behavior. In a second experiment it was shown in drug naive animals that these parameters of footshock increased dopamine overflow in the nucleus accumbens, a terminal region of the mesolimbic dopamine system implicated in the reinforcing effects of drugs. Similarly, dopamine overflow was increased by an injection of 10 mg/kg morphine, SC, an effect that was reversed by an injection of 5 mg/kg naltrexone given 40 min after to induce the withdrawal condition. A possible interpretation of the present results is that stressors can reinstate drug-taking behavior by activating neural systems in common with those activated by heroin.

Flint J, Corley R, DeFries JC, Fulker DW, Gray JA, Miller S, Collins AC: A simple genetic basis for a complex psychological trait in laboratory mice. *Science* 1995;269:1432-1435.

Abstract: Psychological traits are commonly inferred from covariation in sets of behavioral measures that otherwise appear to have little in common. Emotionality in mice is such a trait defined here by covariation in activity and defecation in a novel environment and emergence into the open arms of an elevated plus maze. Behavioral and quantitative trait analyses were conducted on four measures obtained from 879 mice from an F_2 intercross. Three loci, on murine chromosomes 1,12, and 15, were mapped that influence emotionality. This trait, inferred from studies of strain, sex, and individual differences in rodents, may be related to human susceptibility to anxiety or neuroticism.

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Birtchnell: Response to mania ... p 13

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The ASCAP Newsletter welcomes contributions. Please E-mail to ascap@beach.utmb.edu, or mail hard copy and 3.5" HD diskette to Russell Gardner, Jr., c/o Linda Crouch, Department of Psychiatry & Behavioral Sciences, University of Texas Medical Branch, Galveston TX 77555-0428, USA. WordPerfect, Microsoft Word or ASCII format is preferred. Diskettes will be returned to you. Thank you.