For evolutionary psychiatrists, psychologists and others interested in sociophysiological Integration

ASCAP

Volume 9, No 4, (Cumulative #101) **April 1996**

"[Human lives] are composed like music. Guided by his sense of beauty, an individual transforms a fortuitous occur rence (Beethoven's music, death under a train) into a motif, which then assumes a permanent place in the composition of the individual's life." *Milan Kundera '*

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.

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 psyclropathologically related states. We are interested in the integration of vari ous methods of study ranging from cel-Iular 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 ...

Congratulations to the winner of the
Aaron T Beck 1996 Essay Competition
Souhir Ben Hamida
of Northwestern University, Chicago, IL, USA
for her essay entitled:
"Mate preferences: Implications for
the gender difference in unipolar depression."

Ms Ben Hamida, a third year graduate student in Clinical Psychology, wrote a single authored submission that was judged to be best in originality, creativity and scholarship and will be published in a future issue of the Newsletter.
Ms Ben Hamida will use some of the $1000 prize money towards travel expenses to New York City where she will present her paper at the 1996 Annual Meeting, as described in the schedule on page 3.

BETTER NEWSLETTER NAME

I would like to say that I agree entirely with Kalman Glantz. He makes a very convincing case. It's obvious when someone points it out to you. I am now completely . sure that we should scrap the name *ASCAP Newsletter.* Aso, I really do not think it helps to share the name *ASCAP* with an established music organisation. I think that what was holding us back was our preoccupation with acronyms. Once we accept that we don't need an acronym for a name, everything becomes simpler. My one objection to the name *"The Mental Health and Evolution Newsletter" is,* as I have said before, we should not restrict ourselves to considerations of health. Why not simply *"The Psychology and Evolution Newsletter"?* It even has a nice acronym, PEN.

Finally, can I say that my book is now definitely shortly to come out as a paperback. March is the proposed publication date. The price will be twelve to thirteen pounds, which will place it within reach of a much larger readership.

John Birtchnell
London, ENGLAND

RESEARCH CENTER

Back in 1993 Russell Gardner asked me to write about the Research Center of which I am president. I am sorry to have waited so long, but now e-communication helps me to formulate a note: INTERNATIONAL CENTER FOR INTERDISCIPLINARY RESEARCH IN PSYCHIATRY, CIRIP. Byg.24B, Svog. DK-4000 Roskilde, Denmark. 33 Rue Lacepede, F-75005 Paris, France.

The Center's main idea consists in uniting "without walls" research workers with various backgrounds and from different countries and cultures. It emphasizes co-operation and wants to restrict competition to sound forms.

Present topics of research include Systems and evolutionary psychiatry, Mind-matter relations, Psychopnarmacology, Stimulant

drugs, Addiction, Epistemology, Information theory and practice, and Spirituality.

Web site: Interdisciplinary Psychiatry, http://www.icafe.dk/sci/cirip/ with links to two associated web sites: Spirituality and Human Ethology (behavioural biology, evolutionary psychiatry).

Axel Randrup, president
arcirip@cybemet.dk

Schedule for the Annual ASCAP Meeting Scientific Program, Sunday, May 5, 1996, in the Bryant Suite, 2nd Floor of the New York Hilton Hotel and Towers, 1335 Avenue of the Americas, New York NY 10019. Tel: (2 12) 261-5724.

10:00-10:45a.m. Presentation of the **Aaron T. Beck ASCAP Award** to the winner, Souhir Ben Hamida, followed by her paper entitled: "Mate preferences: Implications for the gender difference in unipolar depression."

10:45-11:00 a.m. Morning coffee break

11:00-11:30 a.m. John Price, Sussex, England, as discussion leader on resident-intruder animal model of depression

11:30-12:00 noon. Aaron T. Beck, Philadelphia, PA, as discussion leader on evolutionary aspects of anger, hostility and depression

12:00 noon to 1:00 p.m. Lunch

1:00-1:45 p.m. Leon Stoman, Toronto, Canada: Presidential address: Mutual compatibility of agonistic and attachment models of depression

1:45-2:15 p.m. Daniel Wilson, Cincinnati, OH as discussion leader on shame and entrapment processes in depression and mania

2:15-2:45 p.m. Russell Gardner, Galveston, TX as discussion leader on socio-physiology as the basic science of sociophysiological medicine

2:45-3:00 Break

3:15-3:30 p.m. David Preven, Albert Einstein, NYC, as discussion leader on critical review of sociopnysiology and tactics for changing medical school curricula

3:30-4:00 p.m. Kent Baitey, Richmond. VA, as discussion leader on the four-fold model: depression and other inhibition disorders

4:00-4:30 p.m. Anneliese Pontius, Harvard U and NYC as discussion leader on the limbec system in psychosis and homicide

4:30-5:00 p.m. Charles V. Ford, Birmingham, AL, as discussion leadef for integration of the above topics

5:00-5:30 p.m. John K. Pearce, Cambridge. MA, *as* discussion leader for integration of the above topics.

Other faculty include David Rosen, M.D. and Mark Erickson, M.D.

ARTICLE.-

by K Bailey
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Mismatch theory 3: Implications of the fourfold model

In mismatch essay 1 (February 1996), the fundamental assumptions of mismatch theory were outlined, and in essay 2 (March 1996) *conflicts* between between human nature and culture/neoculture (e.g., choosing between producing offspring and going to college) were distinguished from *mismatches* between specific adaptations, or organized complexes of adaptations, and their biologically normal contexts of expression. For example, love of biological kin and xenophobia were characteristic of paleoenvironments, but these adaptations seldom match effectively with today's crowded, urban environments (see Ahern & Bailey[1] on mismatch in urban settings). Nature-culture conflict and adaptation-context mismatch are both sources of tension, anxiety, and stress, and both are implicated in physical and psychological pathology. The additive effects of mismatch and conflict vis-a-vis pathology were discussed earlier in reference to disorder profiling and anorexia nervosa.[2]

Essay 2 also introduced the idea of nature-culture reconciliation within the fourfold model. My approach postulates that there are two basic drives underlying human behavior one to achieve biological success and the other to achieve cultural/neocultural success. The parameters of biological success are general health, reproductive effort, and production of offspring, and those for cultural success include material resources (money), recognition, and prestige. The drives toward biological and cultural success often come into conflict, but the healthy, adaptable person is able to effectively *reconcile* or balance the two motive systems.

Table 1 in Essay 2 summarized the fourfold contingency model that results when the drives toward biological and cultural success are analyzed in terms of success versus failure. As recalled, the four possibilities are biological success-cultural success (optimality), biological success-cultural failure (social pathology), cultural success-biological failure (personal maladjustment), and cultural failure-biological failure (severe psychopathology). Each of the four combinations has different implications for assessing physical and psychological health, defining normality/ abnormality, and prognosticating outcomes.

Cell expectations

Human beings are largely defined by their methods of striving for biological and cultural success, and the varying degrees to which their their goals are achieved. Among other things, individual patterns of biology-culture success/ failure have implications for levels of *self-reward* (e.g., self-esteem), *social reward (e.g.,* money, power, and prestige), *prosociality, antisociality, psychopathology* and *physical pathology*. In American society, self-reward is generated by both biological and cultural success, but social reward relies heavily on cultural and neocultural success. Whereas self-reward is self-conferred, social reward requires, first, a positive judgment by people in power, and, second, the conferring of rewards based on those judgments. Prosociality is encouraged by success in both domains (e.g., good family life and satisfying work), but, again, cultural success may exert the strongest effects on socially desirable behavior. Indeed, the culturally successful person will work very hard to

... there are two basic drives underlying human behavior: one to achieve biological success and the other to achieve cultural/ neocultural success...

maintain his or her favored position in society. By contrast, the cultural failure has few social resources to protect, and, thus, may easily lapse into antisociality, either as a sociopathic adaptive strategy (see Mealey[3]) or as a means of venting frustration and anger. And, of course, imbalanced failure (Cells 2 and 3) and, worse still, balanced failure (Cell 4) are postulated to be at the roots of many forms of physical and psychological pathology. Failure, either biologically or culturally, puts the individual at risk, but failure in both spheres is catastrophic.

Table 1 summarizes the theory-derived expectations for the selected variables. Theoretically, there are n number of other variables that resonate with human nature-culture conflict, but the ones chosen are especially pertinent to paleopsychopathological analysis.

Table 1: Cell Expectations in the Fourfold Model

Biological Success	**Cultural Success: high**	**Cultural Success: low**
high	**Cell 1** self-reward+++ social-reward+++ prosociality+++ antisociality— psychopathology— physical pathology—	**Cell 2** self-reward++ social-reward— prosociality- antisociality+ psychopathology+ physical pathology+
low	**Cell 3** self-reward- social-reward+++ prosociality+++ antisociality— psychopathology+ physical pathology+	**Cell 4** self-reward— social reward— prosociality- antisociality+ psychopathology+++ physical pathology++

The Cell 1 prototype

Cell 1 (biological success and cultural success) represents the optimal compromise between nature and culture, one that provides positive feedback from both levels. In theory, the Cell 1 prototype is an exceptional individual who is not only healthy and attractive, but bright, educated, occupationally successful, and creative in balancing the imperatives of human nature with current social/neocultural demands. In most societies, Cell 1 types are relatively few in number, and they may be extremely scarce in preindustrial or developing countries. Their high intelligence, superior education, and capacity to reconcile nature and culture indicate low levels of stress and tension, and high levels of physical and psychological health.

The Cell 1 prototype (optimality) is expected to be high on self-reward, social reward, prosociality, and physical health, and low on antisociality and psychopathology (see Table 1). Persons with a large number of Cell 1 characteristics are likely to be found among the various optimally adjusted types- the hardy personality described in the behavioral health literature, the fully functioning personality of Carl Rogers, the self-actualized personality of Abraham Maslow, the productive personality of John Gilmore, and so forth. In many ways, the Cell 1 type represents the ideal goal of the various helping professions; whether it be in medicine, psychology, or psychiatry, the implicit goal of treatment is often optimality and not just simple relief of physical or mental suffering.

Optimality is likely for cell 1 types, but is not inevitable. Achieving high levels of either biological or cultural success involves considerable costs in time, energy, and resources, and the Cell 1 person may sometimes suffer stress, fatigue, depression, and poor physical health. Today's "superwoman" is a case in point - with her beautiful family and prestigious job, she is literally successful both biologically and culturally, but she may be highly frustrated, fatigued, angry at her husband for not helping, moderately depressed, and at risk for stress related diseases. Still, her internal assets outweigh her external liabilities and she is likely to respond very favorably to therapeutic interventions.

The Cell 2 prototype

By definition, the Cell 2 prototype cannot fully reconcile human nature and culture, given his or her low levels of cultural success. Levels of biological success are equal or superior to the Cell 1 individual, and there is a tendency to rely on these evolutionary default values in establishing a niche in an often hostile cultural environment. Thus, the Cell 2 prototype is

expected to reproduce early, have numerous offspring, have large extended families, and well-developed social and subcultural connections.

The Cell 2 prototype is largely defined by family, and as the family goes, so goes health and happiness. Even if the larger neoculture is rejecting and hostile, some security, comfort and social support may be found with one's own kind - that is, one's own biological and psychological kin. Thus, as long as the Cell 2 type remains ensconced within family and an accepting subculture, then a reasonably satisfying adjustment can be realized.

But because of low levels of cultural success, the Cell 2 prototype is likely to feel anger and frustration toward a society that is viewed as rejecting and contemptuous. In this discouraging context, the Cell 2 individual may lapse into alienation, depression, helplessness, and even antisociality or compensatory criminality. There is always an underlying frustration in the Cell 2 person, even when outward behavior is conforming and prosocial; he or she may be accepted and well-liked by the larger culture, but prestige, social power, and control of resources will always be in someone else's hands.

Cell 2 expectations include moderately high self-reward due to satisfying familial and subcultural connections, but self-esteem is brittle, given frequent negative feedback from the larger culture. Since there is minimal investment in the larger culture and minimal access to neoculture, there is little reason to delay impulses or deny oneself for the larger good; thus, prosociality may be low and antisociality high in contexts outside the confines of family and subgroup. However, despite the constant burden of conflict between the individual and culture, levels of physical or psychological pathology are only mild to moderate, but when illness does strike there are limited funds for health care and prophylaxis.

In real life, the happy, law abiding, working class individual from an intact family might exemplify the best Cell 2 adjustment, whereas those from broken homes mired in poverty and antisociality would reflect the least desirable variation. The physically healthy, sexually active, aggressive, and highly antisocial male who sires numerous offspring out of wedlock, represents the worst of the Cell 2 outcomes. Cell 2 treatment approaches will necessarily revolve around extinction, suppression, or reshaping of problematic biological strategies, on the one hand, and inculation of cultural values and the shaping of cultural skills, on the other.

The Cell 3 prototype

The Cell 3 prototype is the quintessential over-trained, conforming, highly educated, and culturally successful middle-to-upper class individual who marches to the drums of culture/neoculture. Cell 3 types often meet or exceed their occupational aspirations and are generally held in high esteem by others, although they are often conflicted and frustrated themselves due to a general alienation from human nature and the natural pleasures of life. Their contributions to culture/neoculture are the highest of the four possibilities (due to minimal interference of lower motives), and their relative freedom from mating, reproductive, and parenting responsibilities provides extra time for educational, occupational, and intellectual pursuits. They seldom suffer from serious psychopathology, but they tend to be anxious, mildly depressed, moderately low in self-esteem, and neurotic. Their physical health isfairtogood, but their controlled, inhibited lifestyles put them at risk for stress-related psychophysiological disorders. From their ranks come most of the counseling and psychotherapy clients in our high-pressured neocultural society.

His or her basic conflict truly is between nature and culture, with culture the clear winner. We see a person racing to catch up with a culture that continues to speed ahead of the natural capacities and proclivities of human beings. In a sense, the Cell 3 person is a victim of the very culture that sustains him or her, and, despite high social reward and the trappings of success, there is a barrenness and emptiness to life. In the extreme, family warmth, peertribality, and even romantic love are sacrificed at the altar of occupational success, and, most importantly, the joys of producing and nurturing offspring are denied. The Cell 3 person succeeds at culture but fails the species, and Mother Nature is sure to exact a measure of punishment.

Anorexia nervosa represents the worst case scenario in the Cell 3 quadrant. Even in its milder forms, the patient may suffer irreversible damage to the body, and, as the condition progresses organ systems begin to fail and premature death results if the downward spiral cannot be interrupted. Anorexia is a disorder where the proximal mechanisms for seeking biological and reproductive success are greatly diminished or shut down,[2] but the proximal mechanisms for seeking cultural/neocultural success remain highly active up to the point where declining health begins to interfere with cognitive processes. Once cognitive systems start to fail, the patient is very likely to migrate downward into Cell 4 among those grievously ill physically and mentally.

The Cell 4 prototype

Whereas the Cell 3 prototype effects a conflicted compromise between nature and culture, the Cell 4 individual is incapable of reconciling biological and cultural demands due to failure in both realms. Lack of reproductive success in the Cell 4 person is often due to problems in physical and/or mental health that militate against mating success, fertility, and capacity for parenting. Poor physical and/or mental health may also militate against the developmental, educational, and social growth processes that are so fundamental to cultural success.

Persons suffering from mental retardation, brain damage, other serious forms of psychopathology, and serious forms of physical illness, are likely candidates for Cell 4 status. Patterns of biological/cultural failure in a given case may be due to physical or psychological pathology, or some combination of the two. The Cell 4 person tends to suffer from devastating true pathologies in Charles Crawford's sense; that is, pathologies that were abnormal in ancestral environments and continue to be abnormal today.[6] He or she fails both at the levels of the species and culture, and, not surprisingly, the cell expectations are uniformly negative (see Table 1). In extreme cases, the individual may have to rely on others for the simplest of life's requirements, and the capacity to pursue proximal biological goals or ultimate reproductive mandates may be absent entirely. Given the extremity of their pathology, Cell 4 individuals are often subject to extreme solutions, including institutionalization, surgery, heavy medication, ECT, radiation, and various other interventions.

When things go extremely badly in any of the first three quadrants, there may be migration toward Ceil 4 status. Serious physical or mental illness may lead to acute or chronic failure in the realms of both biology and culture, and natural catastrophes, the devastation of war, political upheaval, and economic crises may shut down most or all of an individual's adaptive systems. Downward social migration in schizophrenia is well-known, and recent wars in Bosnia-Herzegovina, Turkey, Chechnya, and the Middle East have left legions of nigh-helpless survivors among the rubble. Colin Tumbull's graphic descriptions of the social collapse of the Ik, and the current state of many African nations, including Somalia, Ethiopia, Rwanda, and the Sudan, illustrate the point that normal persons may fail biologically and culturally because of events beyond their control.[8]

Some caveats

The fourfold model focuses on human nature-culture conflict, as revealed in the interplay between the separate drives for biological and cultural success. The model and cell analysis appear to shed some light on both normal behavior and psychopathology. However, the model deals with likelihoods and probabilities, and not one-to-one relationships. Moreover, actual cell dynamics are much more complex than depicted in this brief essay, and considerable empirical data will be required to validate the four cell typologies. The problem of movement between cells (e.g., downward migration in schizophrenia) also requires detailed analysis.

In the fourth and final installment, various clinical applications of the fourfold model will be discussed. Implications for the normality/abnormality distinction and clinical assessment will be briefly outlined, but primary focus will be on goal-setting and treatment applications in psychotherapy.

References: page 24 c8

ARTICLE:

Human self-domestication: Excerpts from E-mail

From Thomas Schoenemann Department of Anthropology, Berkeley CA
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There are numerous studies showing that domesticated species have undergone often quite substantial decreases in brain size, on the order of 30% or more for example, wild boar to pig, wolf to dog, polecat to ferret. (Dieter Kruska reviews all this and provides references in "How fast can total brain size change in mammals?" *Journal für Himforschung,* 1987;28:59-70.)

Kruska notes that not all species have undergone the same amount of decrease. Wild and lab mice apparently do not differ, wild and domesticated mink differ by 5%, wild and domesticated mallards differ by ~14% (for mallard reference see Ebinger, Peter: "Domestication and plasticity of brain organization in Mallards (*Anas platyrhynchos)." Brain, Behavior and Evolution,* 1995;45:286-300.)

Kruska suggests a lot of this variability has to do with the amount of time a species has been domesticated, and calculates that there has been about a 2-5% decrease per 1000 years.

Obviously, the human situation has been different (with respect to brain size). There may have been a decrease between Neanderthal and modem humans, but the Neanderthal numbers are probably biased estimates (most are male, and most are generally thought to have been buried, suggesting high status). How much of a bias this represents is hard to tell.

On the other hand, our bodies have definitely undergone substantial "gracilization" (i.e., decreases in bone density, thickness, size of muscle attachments, etc.). This can be demonstrated in, for example, populations for which we have both pre- and post-agricultural remains. (I can dig up some references on request, if anyone is interested.)

Cultural inventions have decreased the stress and strain on human bodies overtime, and this has been reflected by changes in our anatomy.

From Russell Gardner, Jr.
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I understand that there is a literature on neuronal enrichment influences on synapses per neuron as well as brain size. Is that interacting with the above documentations?

From Tom Schoenemann
schoenem@qal.Berkeley.edu

I don't think that has a major effect. Marion Cleeves Diamond's work with enriched environment in rats showed only about a 1% increase in overall brain size over the isolated condition (though certain areas of the cortex showed upwards of 6-7%, if I remember correctly; see her book *Enriching Heredity: The Impact of the Environment on the Anatomy of the Brain* New York: Free Press, 1988.

Also, Kruska notes that domesticated species which are returned to the wild (undergo "feralization") do not show increases back up to size found in the wild, undomesticated versions. This suggests that most of the change is genetically mediated. It also is consistent with the general principle that it is harder to lose some genetic characteristic than it is to gain it (there are more ways to screw up an adaptation than to make it better). *c8*

ARTICLE:

by J Price

In favour of sociophysiology

I fully endorse the invited editorial for *Biological Psychiatry*- it sets the problem out very clearly.[1]

A case in point arises from Leon's recent contribution to *ASCAP* (December 1995). He talks about "functional agonistic mechanisms that are flexible and efficient and generally serve to bring agonistic interactions to an end by leading to acceptance and submission". But where do we find the "normal psychology" of this sort of behaviour? Until we know the normal psychology, how can we deal with the abnormal? What Leon is describing can also be labelled "a switch from the agonic to the hedonic mode". It is a very important process, and covers what is generally meant by reconciliation.

I tried to deal with this topic recently and there is very little "psychology" to go on.[2] More has been written about reconciliation in monkeys than in man.[3] In order to find discussions of human reconciliation behaviour, you have to read novels. Presumably the reason there is no normal psychology of reconciliation is that to reconcile you have to have a fight, and it is not ethical to get people to fight seriously in the laboratory, although it has been done.[4] The same applies to ranking behaviour, and, until recently, to attachment behaviour. So all these normal behaviours whose aberration we think leads to psychopathology have not been described in any technical way.

As readers know, I have tried to make a case for studying anathetic signals, defined as those signals which raise self-esteem (RHP orSAHP) in the recipient. These signals probably evolved from agonistic submission signals, but have become enormously elaborated in man, leading to flattery, adulation, praise, approbation and rituals of politeness. They probably have a sociophysiology, in that Michael McGuire's group found that submissive signals raise blood serotonin in vervet monkeys. Why have other labs not leapt on this promising bandwagon? The answer is, I think, because they have no conception of sociophysiology. That is why promotion of the concept is so important. What is happening to the brain chemicals of Pavarotti when the audience is going hysterical with clapping? Probably much the same as to the alpha baboon when a subordinate presents its rear end in submission. What progress in the evolution ofanathesis!

Recently writing a chapter for Leon's forthcoming book, I made a list of the stages of "functional agonism". There were 14 of them! No wonder it can go wrong. The stages were: 1) Unacceptable situation; 2) Conflict; 3) Fighting; 4) Losing; 5) Receipt of unreciprocated blows/insults; 6) Mental or physical pain; 7) Fall in RHP; 8) Involuntary Subordinate Strategy (ISS) triggered; 9) Further fall in RHP (and other components of self-esteem); 10) Acceptance of unacceptable situation; 11) Decision to yield voluntarily; 12) Act of submission; 13) Submission accepted by other; 14) Reconciliation.

If any one of the last five stages fails to occur, reconciliation is blocked, and the ISS continues to operate and then may be recognised as a depressive state. Depression facilitates stages 10,11 and 12 because it lowers RHP, resource value and ownership. This alters cognition in such a way that the person feels unworthy (of anything better then the unacceptable situation) and loses interest in whatever was being fought about, and feels they have no right to possess it anyway. Sometimes people are so stubborn and proud that no amount of depression will induce them to yield. A good example is Mr. Trevelyan in Anthony Trollope's *He Knew He Was Right.* An earlier example is Satan in *Paradise Lost.* The first book of Milton's poem is like a textbook of dysfunctional agonism. Satan has been thoroughly defeated, and he knows that he has been defeated and that he will never win, but he still refuses to yield; and like in a dysfunctional human family he forms what might be called a cross-generational coalition with Eve. Moreover, what would have appealed to Jay Haley, this coalition is not talked

about but is symbolised by an apple.

Sometimes third parties block submission. One of my patients had a dominating husband who objected to her going to visit her even more dominating mother. Her mother would not allow her to submit to her husband. So her ISS became extended and intensified and she needed treatment for depression. She only recovered fully when her mother died.

Sometimes the dominant partner demands something that the willing subordinate cannot supply. A husband may demand an enthusiastic sexual response, and his bullying because this is not forthcoming makes the wife depressed and even less sexy. A woman may demand that her husband stop fidgeting when he is unable to exert voluntary control over a tic. One spouse may insist that the other give up smoking.

Sometimes the patient may not know what to do to please the other. Sometimes there is nothing that they can do. If an older sister is bullying her younger brother because he is a boy, there is not much he can do about it. Likewise a wife who is bullied because her husband is bullied at work. The same may happen if a dominant spouse gets depressed for any reason - they become more irritable with the subordinate spouse. Sometimes, like the victim/victimiser interactions mentioned by Leon, it may be difficult to know who is responsible for the block, and then one should take a systemic view. At least one marital therapist, treating a woman with depression, gives the antidepressant to the husband (to take himself, not to dole out to the wife). You could mount a good controlled trial between treating the patient and treating the spouse!

These are all cases of blocked voluntary yielding, or blocked reconciliation, and represent one form of dysfunctional agonism. If I am somewhat repeating myself again, I apologise, but, like Russell Gardner with sociophysiology, I feel that it is a message which needs to get through. It should be respectable for psychologists to study things that are too "heavy" to reproduce in the laboratory. Perhaps this is what clinical psychologists are for. At least Paul Gilbert is making some headway in studying submissive behaviour.

I think that psychopathology can arise in the hedonic mode, both through the various forms of failure in hedonic competition giving rise to shame and guilt and so to depression, and also from dysfunctional attachment behaviour like leaving home problems, non-reciprocation of love and friendship, failure to gain sufficient closeness or distance or nurturing[5] and loss of a partner by death. As a rule of thumb, one could say that in the agonic mode it is the presence of someone which creates the problem, while in the hedonic mode it is the absence of someone which is the problem. I think it is likely that psychopathology (in the form of depression) evolved in relation to the agonic mode, in our reptilian stage when there was no hedonic mode, and that the occurrence of depression due to hedonic mechanisms is a secondary development, a sort of tinkering with what was available - and the features of depression can only be understood in the context of its evolution at the reptilian stage (e.g., the global loss of self-esteem).

Finally, I think agonic and hedonic competition are separate things. In agonic competition you are trying to intimidate a rival. In hedonic competition you are trying to make yourself attractive to an audience. It is only very rarely that you make yourself attractive by intimidating a rival. This does not, of course, apply to warfare. Prestige rightly goes to the brave soldier. But the agonistic behaviour we are talking about occurs between members of the same group and it is ritualised. You are more likely to gain prestige by losing gracefully than by winning-see, for instance, the fight at the beginning of Vanity Fair- one of the combatants gains self-esteem (RHP) from winning and the other gains prestige (SAHP) from losing well. Agonic and hedonic competition are occurring in the same interaction, but at different logical levels.

These things are all grist to the mill of sociophysiology, and the fact that they are not receiving the attention they deserve is an argument to support Russell Gardner's case for a new discipline.

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ARTICLE:

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Our dirty little secret

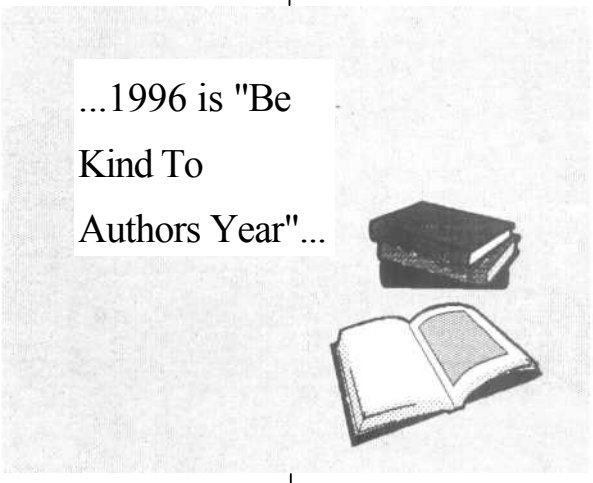
Authors, even the most distinguished, get precious little response from the world of readers. This is the way it works: you work like a dog on the book. In fact, by the time it is finished you hate it. With relief, some anxiety, and some hopeful expectancy you send it off ... then you start your next book because people who make books are book making junkies - they gotta do it. The publisher does not want another book, she wants you to promote the sales of the one she is trying to make money on. (Remember, for the publisher that is what it is all about, money. You would like some money too, but... you know chances are slim.)

The book is out. Reviews dribble in. Some are great, some so so. You glower at the less enthusiastic ones. Some books are bought - by libraries for sure. If you are lucky (I was lucky with *Ethnicity and Family Therapy)* the book will be used as a text or supplementary text. Then the sales climb and twice a year you get a check from the publisher. Peter Kramer made a pile with *Listening To Prozac,* but without course use few professional books make much money. (Gee, I could try my hand at porn ... or books about animals. Jeffrey Masson, after blowing his psychoanalytic vocation, wrote *When Elephants Weep: The Emotional Lives of Animals.* Good move Jeff!) My last book, *Exiles From Eden: Psychotherapy From an Evolutionary Perspective* (with Kalman Glantz, the senior author), got good reviews, adequate advertising by Norton, but did not sell. It was remaindered after about four years.

But, big sales or tiny sales, the author does not hear from readers. (Peter Kramer is again an exception.)

This is the dirty little secret. Writers think that they alone are getting no feed-back from readers. They alone have some literary deficiency that leads to their isolation. If you break the pattern by telling them you like their book they first will fake it - they will graciously thank you as if they were used to that sort of thing. Later they may confide you are the first, or one of only several...

There is a mission behind my revelation. I say, telephone the author and say how much you liked their book. They will be very pleased and you will have some fun. You could write, but it takes more time and is, face it, less personal. Most people can be easily reached by phone. Some publishers hide their writers (it took years before I finally located Mary Edwards Wertsch, author of *Military Brats: Legacies of Childhood Inside the Fortress* - a wonderful book about growing up in military families... she turned out to be living in Worcester, MA, and was delighted to find a fan in Cambridge), presumably to protect them from cranks, but professional colleagues who are writers are easily located.



Don't by shy! It is the authors who are shy. No one talks to them. You will be appreciated, probably even if you want to carp at them. But honest praise! No problem! You will be appreciated.

1996 is "Be Kind To Authors" year. Overcome your inhibitions and when you read something you really like, pick up the phone and call. What? You get a message service? Leave the message of praise. You will see ... the author is so pleased you will get a call-back. Oft

ARTICLE:

byKGlantz

"How to Want What You Have' by Tim Miller: A book review

Timothy Miller's *How To Want What You Have* (NY: Avon Books, 1995) or *The Many Uses of Evolution.*

Evolution is all we have, if we are scientifically inclined and can't accept the creation myths of our forefathers and pre-mothers. Therefore, we have to make philosophy or religion out of it, for we humans crave metaphysics. The brain is too big for the tasks it was designed to accomplish, hence the mind is prey to restlessness, anxiety, grandiosity, depression and creepy-crawly cravings. Something there is that must give it some peace.

Tim Miller enlists evolution in the cause of peace of mind. I think he does an excellent job. He doesn't overstate its power to help. He doesn't commit the naturalistic fallacy. He doesn't appeal to the authority of science. He carefully chooses concepts that are likely to be helpful, and he links his choice of evolutionary themes to psychotherapeutic techniques with a proven history of success.

It should be stated that Tim does not derive his main ideas from the study of evolution. His theme harks back to Buddha: desire is the root of suffering. It's a familiar theme and one that is found in many religions and philosophical systems. Tim brings in evolution for a very specific and limited purpose - to explain why people find it so hard NOT to want what they don't have (page 9).

Tim is a cognitive therapist. Cognitive therapists believe that maladaptive thoughts contribute to unhappiness, so they try to help clients think different thoughts. Tim uses evolutionary ideas to help his clients overcome maladaptive thoughts such as "I have to make a million dollars" or "I have to get revenge on my enemies." He helps them understand that it is natural for a human being to have such thoughts, but unhelpful to hold onto them.

Note that this use of evolutionary concepts is paradoxical. What Tim says to people is this: "The reality is that evolution has built some pretty nasty stuff into the human mind. If you understand the dark side, you will have an easier time dealing with it."

In my opinion, evolutionary concepts lend themselves well to this use. Evolution provides a realistic view of human nature. Personally, I find that view liberating. Understanding what drives me makes it possible for me to overcome drives that arent helpful to me. Recognizing the inherent flaws in my psyche often makes life easier. Understanding myself feels good. My experience is that MOST clients respond the same way.

It's important to recognize that using evolution in this way is not science, it's an art. As a therapist, Tim Miller, if he is responsible, will carefully choose what concepts he is going to present to his clients. He doesn't present the whole truth and indeed truth is not the issue. What's important in therapy is what's helpful to the client.

Evolutionary truths can be used in different ways. The oft-maligned Social Darwinists, for example, erected a compassionless ideology on the substructure of natural selection. Can science decide which use is "better"? I doubt it, although I do think that Social Darwinists did commit the naturalistic fallacy. But if they had simply said to people: "You know, natural selection is ruthless so you would be well advised to compete," science couldn't gainsay them. We evolutionary psychotherapists need to keep in mind that evolution does not support our use of its message.

Still, I like our application. Social Darwinism caused many people to loathe evolution. I wonder if the therapeutic application will change their minds.

Back to the book. Tim advocates a three-pronged approach to psychotherapy: Compassion, Attention, Gratitude. "Compassion" means accepting that other

people are no worse than you are. "Attention" means paying attention to what you are feeling in the moment, without value judgments. "Gratitude" means focusing on the good aspects of what you have.

Again, this triad doesn't derive from evolution and Tim barely makes a stab at connecting them. On page 96, I got my hopes up. He stated that "the world urgently needs a new rationale for Compassion" and I thought he was going to provide one, using some evolutionary ideas. Unfortunately, he didn't. From other statements in the book, I gathered that he uses evolution to get people to understand that we are all fundamentally alike, hence we should cut each other some slack - instead of fuming, ranting, hating and making ourselves miserable. It's a good technique, and I've found that it sometimes works. But you don't have to be an evolutionist to come up with that idea. "Attention" and "Gratitude" are even less connected to evolution.

There are some points I could quibble with. For example, Tim writes of the "instinctive, biological roots of insatiable desire." In my view, this ignores the hundreds of billions of dollars being spent every year solely to inflame envy and greed. There is no hint of social criticism in the book, no recognition that other societies, including but not limited to foraging societies, have been less plagued than ours by the desire for More. But the book was written for Americans and the message is well-suited to its audience.

Evolution aside, there is lots to recommend in this book. Tim has a soothing, poetic style. His advice to people is generally helpful and never damaging. As I read, I was reminded of bits of wisdom that I had lost track of, and I felt better for it.

An interesting sidelight. At several points, Tim opines that people "might want" to "share their practice" (page 257) or form Compassion-Attention-Gratitude study groups (page 258). At the end of the book, he touts his own Newsletter, his Internet discussion group, and his "automated voice-mail system with fax on demand." It almost seems that he is pushing his triad of ancient wisdoms as the basis for a secular religion Could this mean that Tim still suffers from the dreaded Desire for More? If so, I'm sure he wouldn't be surprised that his humanity is showing. *c8*

ARTICLE:

by R Gardiner
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Report on Glen Gabbard's talk on "Dynamic psychotherapy in the decade of the brain."[1]

As the leading U.S. spokesman for psychoanalysis and modern thinking embodied in it as a discipline, Glen O.Gabbard was brought to Galveston to honor Robert White who is the revered, now retired co-founder of the Houston-Galveston Psychoanalytic Institute. I decided to summarize my notes because I felt that his ideas reflected sociophysiological thinking.[2] By this I mean that he did not refer to internal structures of the mind, but extensively to efforts directed to patients' experience with other people and the meaning of this to them. But also, as we do consistently in these pages, he referred extensively to the operations of the brain and its workings (meant by the physiology part of sociophysiology). Most importantly, however, the information reviewed is important for the readers of *The ASCAP Newsletter.*

Psychotherapy and the brain

Gabbard told of being asked about an idea published in *Lancet* that since psychiatry was so divided in fact, there should be a concretization of the two variants, psychosocial and biological. He thought it a terrible idea noting that the psychiatrist embodies integration of the biopsychosocial model, the one specialist with

feet in both camps. He told about Kandel's work on long term potentiation (LTP) in the aplysia (sea snail) which represents learning.[3] On the post-synaptic side calcium release in turn causes cascades of kinases which among other things stimulate the release of a gas, nitric oxide, that stimulates the pre-synaptic neuron in such a way that the neurotransmitters are released. Envision, Gabbard suggested to his audience, that when an interpretation takes hold and the patient learns from it, LTP has taken place. Psychotherapy affects the brain.

But he noted that though there are problems talking to patients about calcium in their synapses, there is considerable power when the patient learns, for instance, from his own experience with the doctor that he had been unable to take the doctor seriously just as he hadn't been able to take the father seriously. Gabbard told of increased synapses per neuron demonstrated in enriched environments of rats vs. living in isolation. He noted a recent landmark article in *Science* which showed that crayfish dominance or submission determined whether serotonin did or did not fire a large key nerve; he considered this a landmark article because for the first time, social rank was shown to have effects at the level of the single neuron.[4] Next he noted Robert Post's finding that early in the lives of manic-depressive patients, psychosocial stimuli are operative; later, as kindling-like phenomena take place in the central nervous system, the condition takes on a life of its own and the environment means less.[5]

Finally, in this phase of the talk. he noted Suomi's work with maternally deprived monkeys: behaviors characteristic of deprivation go away when the afflicted youngsters are with monkey peer "therapists" but recur with threats or novel situations.[6] Also infants reared by peers have increased levels of cortisol and ACTH in response to separation. The conclusion was clear that the monkey therapists were not as capable as were the natural mothers. Additionally, 20% of undisturbed infants reared by mothers naturally nevertheless react to brief separations with increased cortisol and ACTH. But this reaction pattern can be overcome by putting them with super-nurturant mothers. Indeed, such little ones might have enhanced status in later life. Rosenblum *et al.* in 1994 published research on infant monkeys randomly assigned to normal and anxious mothers.[7] Those raised by the latter were more subordinate and had decreased capability compared to the others (random assignment ruled out influence of the genetic contributions to the variance).

Genetics, the brain and meaning

The central feature of psychodynamicsthat Gabbard highlighted was the importance assigned to personal meaning in this form of treatment. Kendler's work with major depression in large numbers of twin pairs has revealed that both higher risk for depression from genetic reasons as well as environmental stressors influenced episodes.[8] But higher loading from genetics increased vulnerability to stressors. Meaning, as psychoanalysts have especially appreciated, has great power. Gabbard cited Hemmen and co-workers in noting that stressors had greater effect if they matched areas of self-defined vulnerability: depression was more likely to occur if events interpreted to mean depletion of self-worth coupled with the expectation of a personal inability to replenish needed supplies.[9] Personal vulnerabilities based on earlier experiences may lead to idiosyncratic appreciations of events. He told a story from Ballenger's clinic at Charlestown, SC: a woman was raped but had no symptoms of post-traumatic stress disorder (PTSD). But then some time later she learned that the rapist had in fact murdered four previous women after first raping them. Suddenly with the altered meaning that she barely escaped being killed, she developed full blown PTSD.

Baxter *et al.'s* work with OCD has shown that increased activity in the right caudate is reduced by either psychotherapy or pharmacotherapy, and perhaps even more by the combination.[10] In the most clearly brain-afflicted patients of all, schizophrenics, Hogarty and associates have shown that if drugs diminish relapse in the first year from 80% to 40%, family therapy diminishes it by another half, and social skills training reduces relapse to nearly 0% in the year.[11] The effect of family therapy especially is also seen in more prolonged follow-ups. He cited Spiegel and associates' well known work published in 1989 in *Lancet* that breast cancer patients in a supportive-

expressive group lived 18 months longer than did matched control patients without the therapy.[12] Similar work has been done at UCLA.[13]

Perhaps more than Luborsky's **Dodo bird** Next Gabbard reviewed the work on outcome in psychotherapy, noting Luborsky's review conclusion that, like the Dodo bird in *Alice in Wonderland,* all psychotherapies win and all should get prizes.[14] Psychodynamic therapies seem no better nor worse than others. However, the studies are all brief.[15] Large samples of single cases in longer treatments are without controls although they are positive (60%-90%).[16] Conducting such studies is problematic, especially when trying to work with dropout rates. "Good match" psychotherapies include the datum that psychodynamic therapies often go well with using medicines. Panic attacks are best approached by using cognitive approaches that focus on patient's catastrophic interpretations of events (which Gabbard noted echoes the psychoanalyst's emphasis on meaning); finally, mild phobias may be best treated by behavioral therapies. Snyder's group in 1991 published data that the long term effects of insight-oriented couples therapy is better in 4 years follow-up in that only 3% were divorced then compared to 38% who experienced behaviorally oriented approaches.[17] Woody *et al*, in 1995 showed that psychotherapy of opiate addicts - compared to drug counselling only -helped them maintain-abstinance.[18]

Hoglend *et* a/, suggested that we should focus upon those most likely to be helped.[19] They sampled patients with Axis I and Axis II disorders as well as a group with no DSM defined disorder but interpersonal and work difficulties. Only the personality disorders (Axis II) required extended insight oriented therapy. For them, the number of sessions correlated with improvement in a complex interaction with time; more was better but a minimum were necessary for this to show the effect. Gabbard recounted his dialog in a previous audience with A. John Rush from Dallas, Aaron T. Beck's cognitive therapy disciple, in which the two agreed that what each in fact did with borderline personality disordered patients was highly similar, (parenthetically I have noted that what I habitually do with such patients is similar to an account I recently read describing Marsha Linehan's "dialetical behavioral therapy" for such patients).[20]

Interpreting data from a large NIMH collaborative study, Blatt showed that perfectionism is related to poor outcomes, unless therapy is longer.[21] Such patients seem to need more help than short term therapy alone can provide; they seem to have more resistances to overcome. But the help may be important in that more patients of this kind commit suicide; Gabbard especially worries about the perfectionistic gifted adolescents who disproportionately die from this when they don't meet their own standards. He told the story of a college student who became depressed from a 3.2 grade point from Stanford, too low (for him) because for family reasons, he had expected a 4.0 from Harvard but hadn't been able to get into Harvard. Fonagy in England studied the effectiveness of child psychoanalysis.[22] Those under 12 years in age seemed to need many sessions per week whereas those over needed fewer sessions, but duration of treatment for the adolescents was an important variable.

Financing of outpatient treatment may pay off. In a system of integrated health care, two psychotherapy visits per week were used for a large number of patients; this decreased inpatient and other medical (nonpsychiatric) services.[23] Outpatient costs increased 33% but reduction in other costs more than offset this. Moreover, Stevenson and Meares showed that borderline personality disordered patients cost the system far more when systematic psychotherapeutic care was omitted.[24] Gabbard visited these investigators where they work in Australia and found that they have unpublished data that the gains hold in 5 year follow-up. Linehan in Seattle using dialetical behavior therapy for these patients showed that treatment for them saved the general system more than $10,000 per year.[25] Studies in diabetic patients showed less mortality and morbidity if the patients received treatment.[26] Finally, with data from large systems, Gabbard challenged the health care planners' arguments that on the one hand patients don't want it and that on the other hand they would overuse it were it generally available (he noted a time he heard a planner make both arguments minutes from one another).[27]

Questions from the audience featured one from Robert Hirschfeld on experience and training of the psychotherapist in research studies. Gabbard noted that this is typically understudied in research that has been done. I noted his de-emphasis on talking to patients directly about brain mechanisms, but wondered whether brain information and metaphors might indeed be useful information for patients, noting that *Newsweek's* 19 February, 1996, issue featured learning as a brain function in such a user-friendly fashion that I have provided excerpts to some patients. Gabbard agreed that such information was certainly important but also pointed out that this is especially true in combination with the patient's personal meaning.

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ABSTRACTS & EXTRACTS...

Giros B, Jaber M, Jones SR, Wightman RM & Caron MG: Hyperiocomotion and indifference to cocaine and amphetamine in mice lacking the dopamine transporter.

Schwartz AB: Direct cortical representation of drawing.

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Barbujani G & Pilastro A: Genetic evidence on origin and dispersal of human populations speaking languages of the Nostratic macrofamily.

Takahata N: Allelic genealogy and human evolution.

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Fowler JS, Volkow ND, Wang G-J, Pappas N, Logan J. MacGreogor R, Alexoff D, Shea C, Schlyer D, Wolf AP, Warner D, Zezulkova I & Cilento R: Inhibition of monoamine oxidase B in the brains of smokers.

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Abstract: Disruption of the mouse dopamine transporter gene results in spontaneous hyperlocomotion despite major adaptive changes, such as deaeases in neurotransmitterand receptor levels. In homozygote mice, dopamine persists at least 100 times longer in the extracellular space, explaining the biochemical basis of the hyperdopaminergic phenotype and demonstrating the critical role of the transporter in regulating neurotransmission. The dopamine transporter is an obligatory target of cocaine and amphetamine, as these psychostimulants have no effect on locomotor activity or dopamine release and uptake in mice lacking the transporter.

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observed under conditions of greatly reduced spectral information. Temporal envelopes of speech were extracted from broad frequency bands and were used to modulate noises of the same bandwidths. This manipulation preserved temporal envelope cues in each band but restricted the listener to severely degraded information on the distribution of spectral energy. The identification of consonants, vowels, and words in simple sentences improved markely as the number of bands increased; high speech recognition performance was obtained with only three bands of modulated noise. Thus, the presentation of a dynamic temporal pattern in only a few broad spectral regions is sufficient for the recognition of speech.

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Abstract. The effect of fluvoxamine, a selective serotonin (5-HT) reuptake inhibitor, was studied in the forced-swimming test, a model of depression, in mice. Fluvoxamine at 60 mg/kg, p.o. significantly decreased the immobility time in the forced-swimming test. A similar effect was observed by the selective norepinephrine reuptake inhibitor desipramine at the same dose. Furthermore, the suppression of immobility time was slightly potentiated by repeated administration of fluvoxamine, and a significant effect was observed at 30 mg/kg, p.o. The effect of fluvoxamine on forced-swimming was unaffected by the 5-HT_2 antagonist ritanserin. On the other hand, the 5-HT_{1A} antagonist NAN-190 (1 -(2-methoxypheny)-4-[4-(2-phthalimido) butyl] piperazine) potentiated the effect of fluvoxamine on forced-swimming. From these results, neitherthe 5-HT_{1A}- northe 5-HT_2-receptor subtype is involved in the suppressive effect of fluvoxamine on the immobility associated with forced-swimming.

Barbujani G & Pilastro **A: Genetic evidence on origin and dispersal of human populations speaking languages of the Nostratic macrofamily. *Proc. Natl. Acad. Sci. USA* 1993;90:4670-4673.**

Abstract. Contemporary patterns of allele frequencies show inferences on past evolutionary processes. L. L. Cavalli-Sforza and C. Renfrew proposed that neolithic farmers from the Near East propagated a group of related ancestral languages, from which three or four linguistic families developed. Here we show that genetic variation among Indo-European, Elamo-Dravidian, and Altaic speakers (grouped by some linguists in the Nostratic macrofamily) supports this hypothesis, whereas the evidence on Afro-Asiatic speakers is ambiguous. Gene-frequency dines within these linguistic families suggest that language diffusion was largely associated with population movements rather than with purely cultural transmission. Archeological, linguistic, and genetic evidence can be reconciled by envisaging a process of population growth and multidirectional dispersal from the Near East as the main factor shaping genetic and linguistic diversity in Eurasia and perhaps in North Africa.

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Abstract. Genetic variation at most loci examined in human populations indicates that the (effective) population size has been ~10^4 for the past 1 Myr and that individuals have been genetically united rather tightly. Also suggested is that the population size has never dropped to a few individuals, even in a single generation. These impose important requirements for the hypotheses for the origin of modem humans: a relatively large population size and frequent migration if populations were geographically subdivided. Any hypothesis that assumes a small number of founding individuals throughout the late Pleistocene can be rejected. Extraordinary polymorphism at some loci of the major histocompatibility complex *(Mhc)* rules out the past action of severe bottlenecks, or the so-called founder principle, which invokes only a small number of founding individuals when a new species emerges.

This conclusion may be extended to the 35-Myr-old history of the human lineage, because some polymorphism at *Mhc* loci seems to have lasted that long. Furthermore, although the population structure priorto the late Pleistocene is less clear, owing to the insensitivity of *Mhc* alleles, even to low levels of migration, the nature of *Mhc* polymorphism suggests that the effective size of populations leading to humans was as large as 10^5. Hence, the effective population size of humans might have become somewhat smaller in most of the late Pleistocene. The reduction could be due either to the then adverse environment in the Old World and/or to the increased migration rate. It is also argued that population explosion fostered by the agriculture revolution has had significant effects on incorporating new alleles into human populations.

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Martin A, Haxby JV, Lalonde FM, Wiggs CL & Ungerleider LG: Discrete cortical regions associated with knowledge of color and knowledge of action. *Science* 1995;270:102-105.

Abstract: The areas of the brain that mediate knowledge about objects were investigated by measuring changes in regional cerebral blood flow (rCBF) using positron emission tomography (PET). Subjects generated words denoting colors and actions associated with static, achromatic line drawings of objects in one experiment, and with the written names of objects in a second experiment. In both studies generation of color words selectively activated a region in the ventral temporal lobe just anterior to the area involved in the perception of color, whereas generation of action words activated a region in the middle temporal gyms just anterior to the area involved in the perception of motion. These data suggest that object knowledge is organized as a distributed system in which the attributes of an object are stored close to the regions of the cortex that mediate perception of those attributes.

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Horowitz M, Sonneborn D, Sugahara C & Maercker A: Self-regard: A new measure. *Am. J. Psychiatry* 1996; 153(3):382-385.

Abstract: *Objective:* The status of patients and research subjects is usually considered in terms of self-reported symptoms. Measures seldom include disturbances in a conscious sense of the self. An additional brief measure of the sense of current self-regard is desirable, since a conscious lapse in an integrated self-concept may occur under stressful circumstances. The authors constructed and tested such a measure. *Method:* Clinical interviews had indicated five common experiences that occurred more frequently as complaints during stress-induced regressions in the sense of the self as a functioning mind-body agency. An anchored five-item scale, the Self-Regard Questionnaire, was constructed and tested with 79 subjects who were in the midst of grief from the death of a spouse. Data analyses included checks on the internal coherence of questionnaire scale scores and their association with symptom, personality, and social desirability measures. *Results:* The five-item Self-Regard Questionnaire was completed quickly, in less than a minute, and led to internally consistent and unique data. Low levels of overall self-regard were correlated with higher levels of distress and predicted prolonged distress. *Conclusions:* These results suggest that the questionnaire is a useful, quick, and easy-to-score self-report tool for assessing, and reassessing overtime, current experiences of the self. The five questions may also be useful to clinicians who evaluate patients in contexts other than research.

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Abstract. Serotonin (5-HT) and dopamine (DA) are established neurotransmitters in the brain. This study examined whether, in conscious, free-moving rats, increased concentrations of endogenous 5-HT in extracellular fluid of the corpus striatum affect local release of endogenous DA. Administration of the 5-HT reuptake blocker alaproclate *via* a microdialysis probe increased striatal dialysate levels of DA and its metabolites dihydroxyphenylacetic acid and homovanillic acid as well as levels of 5-HT and of the 5-HT metabolite 5-hydroxyindoleacetic acid. Whereas DA reuptake blockade with GBR-12909 did not prevent these effects of alaproclate, serotonergic ablation by i.c.v. administration of 5,7-dihydroxytryptamine markedly decreased basal levels of 5-HT and 5-hydroxyindoleacetic acid and abolished the effects of alaproclate on dialysate levels of DA, 5-HT and their metabolites. The results are consistent with a stimulatory action of endogenous 5-HT on striatal DA release in conscious animals.

Gericke GS: A paradigmatic shift in the approach to neuropsychiatric gene linkage may require an anthropogenetic perspective. *Medical Hypotheses* 1995;45:517-522.

Abstract: A model for a new approach to neuropsychiatric gene linkage is proposed in the context of increased chromosomal breakage which has recently been reported in association with Tourette syndrome, schizophrenia, Rett syndrome and the psychopathology associated with mentally normal, female obligate fra-X carriers. Chromosomal fragility may be connected with the formation of unstable repeat sequences at multiple sites resulting in a continuum of effects, ranging from advantageous evolutionary changes, to more serious neuro-behavioural disorders, with neurodegenerative states on the extreme end of the spectrum. The current major problem with phenotype-genotype correlations in complex neuropsychiatric disorders may, therefore, be due to the distance between a postulated breakage-enhancing effect of the primary gene(s), and the continuum of diverse phenotypes resulting from the secondary-gene involvement at a varying number of fragile sites. A unifying view of behavioural alteration, viewed in anthropogenetic context, ratherthan a DSM-based reductionist approach may be required for the elucidation of psyche-destabilizing genetic changes.

Fowler JS, Volkow ND, Wang G-J, Pappas N, Logan J. MacGregor R, Alexoff D, Shea C, Schlyer D, Wolf AP, Warner D, Zezulkova I & Cilento R: Inhibition of monoamine oxidase B in the brains of smokers. *Nature* 1996;379:733-736.

Abstract: The massive health problem associated with cigarette smoking is exacerbated by the addictive properties of tobacco smoke and the limited success of current approaches to cessation of smoking. Yet little is known about the neuropharmacological actions of cigarette smoke that contribute to smoking behaviour, or why smoking is so prevalent in psychiatric disorders and is associated with a decreased risk of Parkinson's disease. Here we report that brains of living smokers show a 40% decrease in the level of monamine oxidase B (MAO B; EC 1.4.3.4) relative to non-smokers or former smokers. MAO B is involved in the breakdown of dopamine, a neurotransmitter implicated in reinforcing and motivating behaviours as well as movement. MAO B inhibition is therefore associated with enhanced activity of dopamine, as well as with decreased production of hydrogen peroxide, a source of reactive oxygen species. We propose that reduction of MAO B activity may synergize with nicotine to produce the diverse behavioural and epidemiological effects of smoking.

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Abstract: There are several reasons why we lack detailed and comprehensive theories of how isocortex evolve in the various lines of mammalian evolution. Although current methods allow cortical areas to be defined with a high degree of assurance, few taxa have been studied in details, and even the most-studied taxa are incompletely understood. In addition, concepts persist from early studies, based on limited data, that confound current theories, and some theories of isocortical evolution have been based on questionable premises. Nevertheless, some conclusions are clearly supportable. Early mammals had small brains with proportionately little isocortex. Mammals with larger brains and proportionately more isocortex evolved in several lines of descent. All mammals appear to have roughly 20 cortical areas, 'the organs of the brain', in common as retentions from an early ancestor, with primary and secondary sensory fields occupying much of cortex. Some of these cortical areas have been greatly modified in some taxa to become significantly expanded in size, highly laminated structurally, or both. Numbers of areas have increased independently in several branches of mammalian evolution, and the functioning of large brains may be enhanced by having more subdivisions. Finally, over many generations, new areas may emerge from old by the formation of functionally distinct modules within areas, followed by the fusion of modules to ultimately form separate areas.

Averof M & Akam M: *Hox* genes and the diversification of insect and crustacean body plans. *Nature* 1995;376:420-423.

Abstract: Crustaceans and insects share a common origin of segmentation, but the specialization of trunk segments appears to have arisen independently in insects and various crustacean subgroups. Such macroevolutionary changes in body architecture may be investigated by comparative studies of conserved genetic markers. The *Hox* genes are well suited for this purpose, as they determine positional identity along the body axis in a wide range of animals. Here we examine the expression of four *Hox* genes in the branchiopod crustacean *Artemia franciscana,* and compare this with *Hox* expression patterns from insects. In *Artemia* the three trunk' genes *Antp, Ubx* and *abdA* are expressed in largely overlapping domains in the uniform thoracic region, whereas in insects they specify distinct segment types within the thorax and abdomen. Our comparisons suggest a multistep process for the diversification of these *Hox* gene functions, involving early differences in tissue specificity and the later acquisition of a role in defining segmental differences within the trunk. We propose that the branchiopod thorax may be homologous to the entire pregenital (thoracic and abdominal) region of the insect trunk.

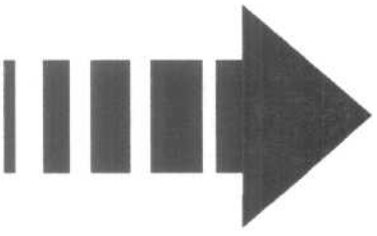
Pritz MB: The thalamus of reptiles and mammals: Similarities and differences. *Brain Behav.* 1995;46:197-208.

Abstract: Certain aspects of thalamic organization in reptiles and mammals are reviewed. Features shared by the dorsal thalamus of reptiles and that of mammals include projection to the telencephalon, specific and non-specific non-telencephalic afferents, and input from the thalamic reticular nucleus. Differences between the dorsal thalamus of reptiles and that of mammals are the absence of reciprocal telencephalic efferents to the dorsal thalamus and lack of local circuit neurons in reptiles (with the exception of the dorsal geniculate complex in turtles) and their presence in mammals. A thalamic reticular nucleus is present in both reptiles and mammals. In both of these classes of vertebrates, this neuronal aggregate surrounds the dorsal thalamus along its lateral surface projects to the dorsal thalamus, and is organized into sectors. In one group of reptiles, *Caiman crocodilus,* the sole reptilian group in which immunocytochemical features have been investigated in detail, the reticular nucleus contains at least three neuronal subpopulations: neurons immunoreactive for glutamic acid decarboxylase (GAD); neurons immunoreactive for parvalbumin; and cells that are not immunoreactive for parvalbumin or, probably, GAD. On the other hand, the reticular nucleus of mammals contains a single population of neurons immunoreactive for GD, gamma amino butyric acid, and parvalbumin.

Bray D: Protein molecules as computational elements in living cells. *Nature* 1995;376:307-312.

Extract: In unicellular organisms, protein-based circuits act in place of a nervous system to control behaviour; in the larger and more complicated cells of plants and animals, many thousands of proteins functionally connected to each other carry information from the plasma membrane to the genome. The imprint of the environment on the concentration and activity of many thousands of proteins in a cell is in effect a memory trace, like a 'random access memory' containing ever-changing information about the cell's surroundings. Because of their high degree of interconnection, systems of interacting proteins act as neural networks trained by evolution to respond appropriately to patterns of extracellular stimuli. The 'wiring' of these networks depends on diffusion-limited encounters between molecules, and for this and other reasons they have unique features not found in conventional computer-based neural networks.

Arguably, the most important defining characteristic of protein-based neural networks is that they are governed by diffusive processes. Signals pass by means of physical contact between molecules, and their dispersion through the cytoplasm is limited by the random thermal motion of molecules. For small molecules and ions, diffusion through a cell is rapid: a molecule such as cyclic AMP can reach any part of a mammalian cell in a tenth of a second. Proteins are larger and diffuse more slowly, and are often impeded in their progress by associations with other components. Indeed the crowded conditions within a living cell force many proteins together in associations not seen *in vitro.* Many steps in signal transduction consequently take place between protein molecules that are in physical contact, moving rapidly through the multimeric structure ('signalosome') by means of propagated allosteric changes or by internal catalytic changes.



Ichimaru Y, Egawa T & Sawa A: 5-HT_{1A}- receptor subtype mediates the effect of fluvoxamine, a selective serotonin reuptake inhibitor, on marble-burying behavior in mice. *Jpn. J. Pharmacol.* 1995;68:65-70.

Abstract: The effect of fluvoxamine, a selective serotonin (5-HT) reuptake inhibitor, was studied in a model of anxiety and/or obsessive compulsive disorder (OCD) in mice. In the anxiety/OCD model, marble-burying behavior, marble-burying was significantly suppressed by fluvoxamine at 30 and 60 mg/kg, p.o. and the monoamine reuptake inhibitor clomipramine, at 60 mg/kg, p.o. No suppressive effect, however, was observed by the selective norepinephrine reuptake inhibitor desipramine at doses from 15 to 60 mg/kg, p.o. and the benzodiazepine anxiolyticdiazepam at 10 mg/kg, p.o. The effect of fluvoxamine on marble-burying was slightly attenuated after repeated administration. On the other hand, both the effects of buspirone and diazepam completely disappeared after repeated administration. Effect of fluvoxamine on the marble-burying was unaffected by the 5-HT_2 antagonist ritanserin. However, the 5-HT_{1A} antagonist NAN-190 (1 -(2-methoxyphenyl)-4-[4-(2-phthalimido)butyl]piperazine) inhibited the suppressive effect of fluvoxamine on the marble-burying. From these results, the 5-HT_{1A}-receptor subtype may be involved in the suppressive effect of fluvoxamine on the marble-burying, but the 5-HT_2-receptor subtype is not involved in this effect. *c8*

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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 Frank Carrell, Dept of Psychiatry & Behavioral Sciences, University of Texas Medical Branch, Galveston TX 77555-0428, USA. WordPerfect, Microsoft Word or ASCII format preferred. Diskettes will be returned.

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