

# A S C A P

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May, 1999

"Martin Rodbell, ...Nobel laureate, [died] 7 December 1998... [at] 73... [He] was the first to use the word "transducer" to describe how the binding of a hormone to its receptor is translated (transduced) into enhanced adenylyl cyclase activity. ... Marty lived by the motto "models are meant to be disproven." ... Marty came up with new models on a daily basis. We felt relieved when he left town: it gave us time to test the models."  
Lutz Bimbaumer<sup>1</sup>

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**Across-Species Comparisons and Psychopathology (ASCAP) Society Executive Council:**

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**ASCAP Society Mission Statement:**

The ASCAP Society represents a group of people who view forms of psychopathology in the context of evolutionary biology and who wish to mobilize members and resources of various disciplines 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 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

***The ASCAP Newsletter is a function of the ASCAP Society.***

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**Previous volumes are available**  
For details, contact Russell Gardner, Jr.

**World Psychiatric Association**

**<http://www.wpanet.org>**  
**for the August, 1999 meeting contact:**  
**[www.wpa-hamburg.de](http://www.wpa-hamburg.de)**

Some of us will be staying at  
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The World Psychiatric Association is an organization of psychiatric societies aimed at advancing psychiatric and mental health education, research, clinical care and public policy.

The basic members of the WPA are 110 national psychiatric societies, representing more than 140,000 psychiatrists worldwide.



*The ASCAP Newsletter is the official newsletter of the Psychotherapy Section of the World Psychiatric Association.*

# ADDRESSED TO & FROM ...

## MacLean Festschrift

We received the welcome news that the Greenwood-Praeger Publishing Group is interested in a two volume version of the conference proceedings, although they do not wish to focus on the Festschrift component (Festschriften tend to sell poorly), but rather on the presentations. Additionally they want a paucity of illustrations, although tables are allowed. Any illustrations that are needed will be in a format standard across chapters that Dr. Cory and I as editors will orchestrate.

The schedule has fleshed out (see pages 4-5 for the present form). Slight change may stem from the possible choice of the Beck Awardee to come to the Boston conference 7/16-17/99. If so room will be made in the schedule for his/her talk.

**Abstract deadline is May 15, 1999!** We need them by then for the July issue of *ASCAP*. **Deadline for the chapters is August 30, 1999.**

**No ASCAP linkage to HBES this year**

We did not this year schedule our meeting in association with the Human Behavior and Evolution Society that will meet in Salt Lake City. That we are meeting at the MacLean Festschrift and in connection with the World Psychiatric Association has disappointed

some ASCAPians who go regularly to HBES and who will this year too.

But Andy Thomson promised to provide summary comments on his experience of the meeting for these pages. Others should feel free to do so as well. Lynn O'Connor, for instance, told me that she might tell us of her work with chimpanzee psychopathology.

For those of you who go, please let us know as soon as possible of next year's HBES plans for the ASCAP Society to consider when we plan our 2000 meeting in Hamburg.

## Still time for Beck Award applicants

Deadline is May 30, 1999. Linda Mealey and her committee will evaluate the best essay that relates to the goals and objectives of the ASCAP Society and its newsletter. Award includes a plaque and \$1000 towards trip to either Hamburg or Boston for one of the two ASCAP meetings of 1999, the former related to the WPA meeting (8/6/99) and the other the Paul D. MacLean Festschrift.

Entrants should indicate which venue he/she would prefer. Send three copies to Linda Mealey, Chairperson, ASCAP Beck Award Committee, Psychology Dept, College of St. Benedict, St. Joseph, MN 56374. Her fax is 1 320 363-5582; email=lmealey@csbsju.edu.

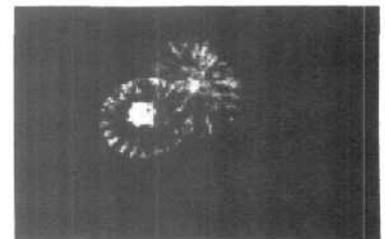
## AECOM Cape Cod Conference on Clinical Sociobiology

Consider the Cape Cod course on **Clinical Sociobiology: Darwinian Feelings & Values**, July 19-23, 1999. This is one of 26 week-long courses organized by Dept of Psychiatry at Albert Einstein College of Medicine. Faculty include James Brody, John Price, John Fentress, & Robin Walker. The course focuses on positive features of what has happened from evolutionary forces, e.g., cooperation, nurturance, marriage, constructive living. How can clinicians understand and intervene when dealing with people for whom anxiety, depression, abuse and infidelity have occurred?

For details contact James Brody  
jbrody@compuserve.com

## Hamburg ASCAP Meeting

As previously mentioned, we expect that the various WPA symposium participants may well wish to also present at the annual ASCAP meeting which will be on August 6. European members might also wish to present. **Please send your abstract by 6/15/99.**



## Detailed Schedule for MacLean Festschrift

Location: Back Bay Hilton in Boston. Make reservations at 800 874-0663 or 617 236-1100 (noting your group affiliation with ASCAP). For non-speakers and people not members of the MacLean family, the registration is \$75 made out to UTMB via check or credit card; send to

Russell Gardner, Jr.

at 921 Blume Drive, Galveston, TX 77554 if before June 1, or  
214 DuRose Terrace, Madison, WI. 53705 if after June 1, 1999.

Each presentation allotted 30 minutes with speaker taking 25 or fewer minutes- remaining time for discussion

**Friday, July 16, 1999** (Russell Gardner, Jr., Chairman)

**8:30 to 8:45 a.m. Welcome from Dr. MacLean or his family if present**

### Session 1. Neuroscience Perspective

1. 8:45-9:15 C.U.M. Smith: Deep Time & The Brain: Intimations of Its Evolutionary Past From Its Molecular Biology
2. 9:15-9:45 Gerald A. Cory: Inaccurate Reviews of Paul D. MacLean's 1990 Triune Book
3. 9:45-10:15 Vassilis Koliatsos: Appraisal Of MacLean's Efforts For Neuroscience

10:15-10:30 a.m. Break

### Session 2. Philosophy, History and Theory

4. 10:30-11 Seymour Itzkoff: Philosophical Assessment Of Triune Theory
5. 11-11:30 Ernest Barratt: Historical Perspectives on MacLean's Theory
6. 11:30-12 Daniel Levine: Neural Nets, Consciousness & Triune Theory

12-1:30 p.m. Lunch

### Session 3. Attention, Behavior and Emotions

7. 1:30-2 Allan Mirsky: The Triune Brain in Relation to the Functional Analysis of Attention
8. 2-2:30 Neil Greenburg: The Beast Within: Human Implications of the Reptilian Brain
9. 2:30-3 Glenn Weisfeld: Human Emotions and Their Ethological Roots: Darwin and MacLean

3-3:15 p.m. Break

### Session 4. Children, Aggression, and Violence

10. 3:15-3:45 James C. Harris: Neuroscience for Child Psychiatrists
11. 3:45-4:15 Anneliese Pontius: Neuroethology Exemplified by Limbic Seizures with Motiveless Homicide
12. 4:15-4:45 Daniel Matthews: Practical Results in the Treatment of Violent Youth from Assessing Limbic System Pathophysiology

4:45-5 p.m. Audience discussion.

**Saturday, July 17,1999** (Gerald A. Cory, Jr., Chairman)

**Session 5. Triune Theory and Depression**

- 13. 8:30-9 a.m. John S. Price: The Triune Theory and Depression
  - 14. 9-9:30 Hagop Akiskol: Evolutionary Significance of Hyperthymic and Cyclothymic Temperaments
  - 15. 9:30-10 Leon Sloman: Involuntary Subordinate Strategy as Backdrop for Depression
- 10-10:15 a.m. Break

**Session 6. Triune Theory, Mania and Hyperactivity**

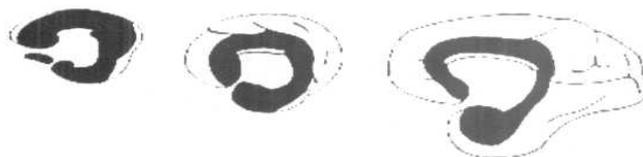
- 16. 10:15-10:45 Daniel R. Wilson: Mania and Evolutionary Epidemiology
  - 17. 10:45-11:15 James Brody: Mania and Hyperactivity as Evolutionarily Determined Alpha States
  - 18. 11:15-11:45 Alan Swann: On Formulations That Mania Resembles Leadership: A Critique
- 12-1:30 p.m. Lunch

**Session 7. Politics and Pathology**

- 19. 1:30-2 Roger Masters: Why the "Enlightenment"?: Neuroscience, Triune Brain, & Origin of Modernity
  - 20. 2:-2:30 Kent Bailey: Upshifting and Downshifting the Triune Brain: Role in Individual & Social Pathology
  - 21. 2:30-3 Horatio Fabrega: On the limits of an evolutionary conception of psychopathology.
- 3-3:15 p.m. Break

**Session 8. Communication and Implications**

- 22. 3:15-3:45 John D. Newman: Audiovocal Communication and The Triune Brain.
  - 23. 3:45-4:15 Russell Gardner, Jr.: Communicational, Brain and Molecular Basic Plans
  - 24. 4:15-4:45 Karl Pribram: The Last Word: MacLean's Work and The Informational Sciences
- 4:45-5 p.m. Audience discussion.



The limbic lobe as a common denominator in mammals from page 247 of The *Triune Brain in Evolution*, 1990  
Rabbit, cat and monkey are here represented.

**For presenters: Abstract deadline May 15,1999; chapter deadline August 30,1999**

## Response to Dylan Evans

This responds to the article by Dylan Evans on the "Social Competition Hypothesis of Depression."<sup>1</sup> Evans' wish to test the hypothesis is laudable, but I question some of his premises and conclusions.

Evans argues that a crucial issue in the debate on depression is whether depression is an adaptation or not. Evans describes the model as stating<sup>p13</sup> that "depression is an adaptation whose function is to inhibit aggressive behavior to rivals and superiors, when one's status is low". He goes on to say that, "translated into the language of modules, the hypothesis is that human beings share with their more primitive ancestors a mechanism for yielding in competitive situations and that this module plays a key role in generating all the major symptoms of depression". There is a fundamental difference between these two statements. Whereas the first statement claims that depression itself is adaptive, the second implies that, whereas depression may originate from a mechanism that is adaptive, depression itself can be maladaptive. Evans recognises the possibility of the second interpretation by posing the question as to whether depression could be "the by-product of modules that were selected for in virtue of other capacities". I would support the latter interpretation, because it does not go out on a limb by claiming that depression is usually adaptive.

Evans says that the social competition hypothesis seems to predict that "almost everyone in modern societies should be depressed." <sup>p.14</sup> He bases this on his claim that, when the average group size of *Homo Sapiens* was around 150, it was likely that every individual could excel in some area. He compares this with modern western society where he claims one's chances of excelling at anything are remote. I would disagree with both of these conclusions. Evans' argument is based on the premise that every person has a unique talent. Though this may sometimes be true, it is often not true. Some people are multi-talented and others are sadly lacking. When I went

canoe-tripping in Canada's far north with my children and their friends, who were more physically able than I was, I felt I had nothing to contribute. This makes me feel that, in a hunter gatherer society, I would have had very little to contribute. I suggest that when one has to rely on one's own resources to survive as did our early ancestors, one's deficiencies become glaringly apparent. Evans claims that in modern societies one's chances at excelling at anything are remote, because there is so much competition. One could also argue exactly the reverse. If I have any particular interest, I can choose to have agonistic encounters with someone at my level or below - as when I play tennis. Although I could never become a champion tennis player, I can still find many people I can beat.

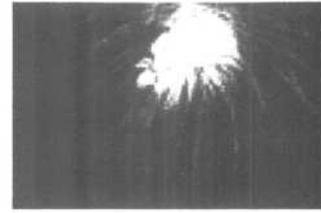
Evans justifies his conclusion that the "social competition hypothesis identifies depression as a peculiarly modern scourge" by referring to recent data which suggest that rates of depression have increased steadily in the past few decades. Stevens and Price<sup>2</sup> also argue that rates of depression have increased and there are data which appear to support this conclusion.<sup>3</sup> However, I would personally go along with McGuire and Troisi who come to the opposite conclusion.<sup>4</sup> McGuire and Troisi argue that there is little reason to suppose that the incidence of disorders is any higher in modern social conditions than it has been in the past. They also conclude that the number of people with whom one regularly interacts is likely to be about the same now as it was in the Pleistocene. There is a saying that if your only tool is a hammer, every problem becomes a nail. This could apply to depression - because of recent dramatic advances in the development of antidepressant medications, depression is now being more successfully treated than before so that it is not surprising that depression is becoming more frequently diagnosed. I am therefore questioning both Evans' prediction that the social competition hypothesis would identify depression as a modern scourge and the evidence that he gives to support the accuracy of his prediction.

Evans quotes Nesse & Williams statement<sup>5</sup> that "many depressions go away only after a person finally gives up some long-sought goal and turns his energies in another direction." Evans challenges this conclusion by saying that in to-day's different social environment there will often be no such thing as a more profitable social niche. As a clinician I disagree with Evans. In general, people with major depressions have unrealistic aspirations and, if one can assist patients to develop more realistic aspirations, this can go a long way to helping them resolve their depression.

Even though I disagree with some of Evans' conclusions, I feel that the social competition hypothesis of depression requires the kind of rigorous examination that he has conducted. I say this because I feel that this hypothesis has far-reaching implications. I have recently been engaged in a group effort to explore the interrelationship between this hypothesis and other models such as attachment theory, social science models, biological models (including those based on other primates and the brain neurotransmitter changes in human depression) as well as different psychotherapeutic models.<sup>6</sup> So I hope this debate continues.

### References

1. Evans D: The social competition hypothesis of depression. *The ASCAP Newsletter* 1999;12:12-15.
2. Stevens A, Price J: *Evolutionary Psychiatry*, New York, Routledge, 1996, p. 35
3. Cross-National Collaborative group. The changing rate of major depression. Cross-national comparisons. *JAMA* 1992;268:3098-3105
4. McGuire MT, Troisi A: *Darwinian Psychiatry*, New York, N.Y. Oxford University Press, 1998
5. Nesse, R. & Williams, G (1994) *Evolution and Healing; The New Science of Darwinian Medicine*, London: Phoenix, 1994
6. Sloman L, Gilbert P.: *Subordination and Defeat; An Evolutionary Approach to Mood Disorders and Their Therapy*, Mahwah, NJ, USA: Lawrence Erlbaum Associates, in press.



### Some quotes from a glossary by JZ Smith 1955-7<sup>1</sup>

*Amygdala*. A basal part of the brain, injury to which may cause changes in aggressiveness and other emotional behaviour. (The name means an almond).

*Phonemes*. The smallest sound units that change change meaning in a language (e.g. in bit /b/, /l/, & /t/). A phoneme may be pronounced in several ways, called allophones.

*Phones*. The sound features used in language, not themselves carrying meaning.

*Reductionism*. Replacing statements by others that are simpler or generally used in a different context, e.g. describing mental events as programs of the brain. Often used as a term of abuse by those who think that brains are simpler than minds or who wish to continue to believe in spirits.

*Standard* (goal, set-point, reference point, aim). The coded instructions that indicate the level of operation to be maintained by the programs of a controlled system. Hereditary standards are basically defined by the genetic program and then embodied in certain parts of the brain, for instance, the hypothalamus. Humans have learning mechanisms by which standards of more complex personal and ethical social behaviour are acquired.

*Thalamus*. A group of cells at the centre of the brain, which send signals from the various sensory systems to the cortex. Also has other functions. The name means literally a chamber.

1. Young J.Z.: *Programs of the Brain. Based on the Gifford Lectures 19075-7*. New York, NY: Oxford University Press, 1978, pp 289-300

## Please tell us more, Donald Klein

While 'hypothesis testing' is useful, it is perhaps more important to look for falsifiability as we sort through psychiatry with a Darwinian framework. A bit of literary flair is not to be condemned, either. Though there is no disputing private preference, too much of both psychoanalytic and biological psychiatric research is desultory to the point of near unreadability.

In any event, how many psychiatrists know that Darwin's work—the most remarkable in biology if not all science — was *not* primarily a corpus of testable hypotheses' but rather more deductive. Very few, it would seem. Indeed, it is little recognized in biomedicine that evolutionary science, the basis for understanding the whole of biology including psychiatry, is fundamentally not reducible via inductive research.

It is true Darwin at times claimed a larger role for inductive research than was actually evident in the body of his work, but scholars have long ago concluded on firm evidence this was more a gloss to placate the Victorian demand that science *must be* inductive. Fortunately (and unlike Freud), Darwin's deductions were formulated from an extraordinary mastery of systematic, descriptive biology.

This is not at all the same problem that beset(s) psychoanalysis. Here I should perhaps note my 'psychiatric teeth' were cut at Iowa under George Winokur. I fully appreciate the central role systematic description and induction has had in the progress of psychiatry (as well as the role sloppy thinking had in the heyday of psychoanalysis). First of all, psychoanalysis did not derive a necessary and complete system from valid and reliable first principles. Secondly, it compounded this weakness by an Aristotelian scholasticism in which 'authority' replaced 'argument'. Finally, psychoanalysis posed neither testable hypotheses nor falsifiable observations.

Evolutionary psychiatry must certainly guard against the rise of the second of these worries - 'authoritarianism'. Indeed, that is partly what the MacLean

Festschrift is to celebrate! However, the first and last of these other concerns are far less alarming. It is true *The New York Times Book Review* can still be counted on to stir the dusts of Gouldianism and such. But these are not now nor ever were genuinely scientific debates. They were sociopolitical digressions. First principles are generally set.

Within evolutionary psychiatry, there is already considerable inductive research and the proposition of falsifiable ideas. Of course there is much enthusiasm and, so, inference arises. But is this really different than the responsible and informed but even more epidemic speculations and all too frequent pronuncia-mentos of, 'experts' in neuropharmacology, molecular medicine, brain imaging, or the like? No.

Instead and more simply, it may be these latter operations of biomedicine and psychiatry are imbued with 'gravitas' by 'masters of the guild'. Certainly, they are allotted more federal and corporate money and are of more immediate applicability. Quite likely these are among many relevant sociological considerations of the relative status of evolutionary psychiatry.

Of course progress in biomedicine is essential to the development of evolutionary psychiatry. What is far less appreciated is how the further development of biomedicine is increasingly in need of (even dependent upon) evolutionary reassessment at every turn; especially as to research which moves us toward integration of disparate facts and classes of facts.

It is exactly this sort of integration I have worked toward with respect to evolutionary epidemiology— inductive epidemiological data framed by established principles of Darwinian evolution. I have occasionally reported these ideas in *The ASCAP Newsletter*. One such communicate drew worthy, thought provoking criticism by Don Klein to which I responded last spring (May, 1998 (pp.6-7)). Then, I acknowledged points of agreement, clarified apparent errors in Don's critique and posed manifestly falsifiable hypotheses.

Among such hypotheses was: that manic-depressive epigenesis sustains a here-to-fore unexplained level of quasi-mendelian (i.e., oligogenic) prevalence despite obvious deleterious disease burden. As I averred last April: It would be indeed fascinating to encounter a clear and convincing demonstration that the familiar pathophenotypy of manic-depressive disease, *per se*, conferred on individuals sufficient ultimate advantage to sustain even a 0.5% prevalence in the face of all manner of liabilities—including excess early mortality (through suicide, homicide and accidents) and marked psychosocial morbidity. Importantly, Darwinian biology has long ago established such prevalence is high impossible for genetic disease, *sensu stricto*.

I can well understand if Don is too busy to reply. Truly. Yet is it not a bit unseemly to call for such hypotheses then, only to now overlook them within renewed and at least ambivalently critical correspondence? Is it the epidemiological data or the Darwinian facts that I have posited wrongly? I believe it is neither.

However, if Don still disagrees, can he not at least offer a cogent reply compatible with the epidemiological evidence and reconciled to Darwin? Again, I do not think he can but I am all ears.

#### **Editor's comment:**

Let me remark upon your first paragraph, Dan. Testing a hypothesis *means* determining if it is false. One always compares a positively stated hypothesis to its null counterpart and until the evidence comes in otherwise, one *first* assumes the null hypothesis to be correct. Right? Fundamental statistics.

I believe, however, that you refer to the strategy advocated by Karl Popper and articulated with telling force by John Platt in his highly influential *Science* paper (1964; 146:351) and which Nobelist Martin Rodbell illustrated in his professional lifetime (see headquote this issue): a positively stated hypothesis is more likely appreciated as potentially true by the scientific public when other explanations for the phenomenon are ruled out (are found false). A falsified hypothesis has higher value than a beautiful theory. One never "proves" a hypothesis, but reluctantly accepts it when alternatives are crisply ruled out. RG

#### **New Book Announcement**

Ascapian Nancy L. Segal has written *Entwined Lives: Twins and What They Tell Us About Human Behavior* (NY: Dutton, 1999, U.S. \$27.95) and she has enjoyed a national book tour touting it. The publicity: *Twins fascinate us, whether it's their identical looks, their uncannily similar behaviors, or their help in answering the nature versus nurture debate. As public interest in twins and multiple births increases, in-depth information available on such topics has not kept up. [Here is] ...a study of all aspects of twin life, capturing both the scientific flavor of twin research and the unique experiences associated with development as a twin.*

*The insightful comprehensive book brings together an array of topics including twins separated at birth, unrelated children reared together from birth (pseudotwins), the loss of a twin, new fertility treatments and their consequences, twins in sports, twins in the courtroom, even twins in the animal kingdom. Packed with scientific findings and anecdotes, Entwined Lives definitively guides the reader on all there is to know about twins, and their families.*

I've read Nancy's book. How could I not, being married to an identical twin and now having twin grandchildren?! Nancy writes well with a pleasant combination of personal experience and a critical attention of research findings. She pulls the reader in and provides authoritative, interesting, unsteretyped information, e.g., she calls attention to some non-identical twins and other siblings who resemble in their closeness that of identical twins (also see fiction by Arundhati Roy in *The God of Small Things* extracted p.25 this issue on the closeness of traumatized twins). Identicals typify human connectedness at its most extreme (mothers sometimes have a problem making contact as the twins themselves so compellingly relate to each other). She described a mother who after twins had another baby to feel a real mother-child connection, only to incur multiple pregnancy again!

Nancy originated the pseudo-twin design that allows more powerful statements about environmental vs genetic influences than the usual comparison of identical twins to their non-identical counterparts. RG

## A Case of Hedonic Emotional/Limbic Escalation

Researching our forthcoming book on cult leaders,<sup>1</sup> I came across some interesting material in a book by Len Oakes, an Antipodean psychologist, who carried out a study of charismatic cult leaders and their followers.<sup>2</sup> One of the followers gave the following account. He, John, and his wife Mary had had great difficulty in conceiving, and when she finally became pregnant and went into labour, there was a hitch and John was sent out of the delivery room. Oakes continues:

*Alone, John paced the floor in the waiting room. He heard a voice, not an audible voice, but he knew God spoke to him, saying, "John, what if I take your baby?" John replied in a whisper, "Lord, we've trusted you for this baby. We've gone out on a limb for this baby. The church is praying for this. You cant" Then, after a time, he said, "All right, if you want to take that baby, you take it, Lord." And then God spoke again. "John, what if I take your wife ?" Now he burst into tears, crying, "Oh, please, Lord, you can't do that. I've committed my life to her. I gave her my life. She means everything to me." John struggled with this for some minutes before at last he felt able to say, "Right, Lord, if you must take her, you take her too. "After John said this, a strange rapture came over him, which he later described as "a peace [that] came into my heart that was unbelievable. Unbelievable. It was just a peace, and a relief, and a joy... That experience has never left me. The peace that came to my heart when I yielded, call it a high, call it what you like, it's something that I don't think I've experienced the depth of it, or the height of it, since, or before."*

How does one react to this material? I react at several levels. In the first place, I say, "Lucky you!" to experience such rapture. Then, I think, this is not the sort of experience that can be studied by academic psychology; it is too personal, too rare, and also unpredictable. It is like the experience which brings patients to the clinic, except that their experience is bad, and his

good. Then my suspicious mind takes over, and I say to myself, "Perhaps this man is unhappily married, and not admitting it to himself, and he has been terrified that a baby will tie him even more strongly to a woman he desperately wants to ditch, and the thought of her dying in childbirth is a wonderful release, so he is elated." Then, I think, well, let's take him at his word, as reporting a genuine experience, and try to fit it in with what we know already.

I think everyone would agree that, in the experience described by John, there has been de-escalation at the rational/neocortical level of the triune mind/brain. There has been submission to God. Even though the phrase "you take her too" appears to be a command (and, as such, escalatory), the command echoes something already suggested by God, so the overall meaning is de-escalatory, in fact, a massive, radical de-escalation, involving the relinquishing of his main incentives.

John achieved what eluded Job. And what Satan rejected. Job's sequence was: threat/stress --> neocortical escalation (attempt to justify himself, wanting to take God to court) --> reptilian de-escalation (chronic depression). John's sequence of events seems to have been: threat/stress --> brief limbic de-escalation (burst into tears) --> radical neocortical de-escalation (submission to God) --> limbic escalation (rapture).

But how can we call this rapture limbic escalation, when we have said already that this is the "limbic agonistic strategy set" and limbic escalation consists of anger, indignation, and other emotions associated with "Tight"?

The hedonic mode

A possible answer relates to the evolution of the hedonic mode. Hedonic competition may have evolved

**Table 1. The hedonic competition strategy set at three levels of triune mind/brain**

	<b>Escalation</b>	<b>De-escalation</b>
<b>Rational level</b> <b>Neocortical goals</b>	Formation of goals proclamation of goals overcoming of opposition social participation self-assertion	Giving up of personal goals adoption of others' goals submission, acceptance, resignation, self-effacement
<b>Emotional level</b> <b>Limbic goals</b>	Joy, rapture, enthusiasm oceanic feeling	Boredom, apathy, shame, guilt
<b>Instinctive level</b> <b>Reptilian goals</b>	Increase in social attention holding power (SAHP), resource, value, ownership, &/or energy	Loss of SAHP, resource, value, ownership, &/or energy

from agonistic competition, using some of the same mechanisms.<sup>3</sup> Hedonic anathetic signals (approbation) evolved out of agonistic anathetic signals (submission). Hedonic catathetic signals (disapprobation) evolved out of agonistic catathetic signals (threat and attack). Loss of hedonic SAHP causes reptilian de-escalation (depression) in the same way that loss of RHP causes depression.

Likewise, the agonistic strategy set has become a hedonic competition strategy set. At the neocortical level, hedonic de-escalation lies in self-effacement, joyful submission, the giving up of personal goals, and the adoption of the goals of the powerful other (or the group). Hedonic escalation at the neocortical level lies in self-assertion, the formulation of new personal goals, and in the recruitment of others to pursue these goals in the role of followers, offering, in return, protection and nurturance. Likewise at the limbic/ emotional level, there is another hedonic competition strategy set, in which the de-escalating emotions are shame and guilt in response to group disapprobation, and the escalating emotion is joy and triumph in response to group approbation. At the reptilian level, hedonic de-escalation takes the form of depressed mood with a lowering of SAHP, resource value, ownership/entitlement, and energy; while escalation

takes the form of elevated mood with a rise in the same variables. These strategies are listed in Table 1. Compare this with the Table given by Gardner on page 13 of last December's ASCAP,<sup>4</sup> which, apart from shame and guilt (which are hedonic emotions), represents the three strategy sets which pertain to the agonistic mode.

#### **Affiliation**

At the emotional level, affiliation is very much woven into the "hedonic competition" strategy set. This is not surprising, in view of the long period of co-evolution of affiliation and competition in the lineage of most present day primates.<sup>5</sup> Affiliative de-escalation gives grief at loss and separation, whereas escalation gives pleasure at coming together and reunion.

Although in present day society, many affiliations are independent of rank and status, in the EEA it is likely that affiliation meant the gaining of an ally, whereas separation or bereavement meant the loss of an ally, so that allies became an important source of RHP, and the loss of an ally became a reliable predictor of loss of both RHP and social rank.

Dori Le Cray's wives<sup>6</sup> showed the "emotional distress" of limbic de-escalation in the context of agonistic conflict

with their husbands. The de-escalation was expressed in the metaphor of child/parent, giving the message, "I am like a child to your adult and therefore no threat to you." But it is also a request for affiliation and nurturance, giving the message, "I am like a child, so please look after me as if you were a parent." This message elicits nurturance which is incompatible with agonism, and also switches the interaction into the hedonic mode. I suggested that the reason the display of emotional distress did not in fact work, so that the couples were coming for counselling, was due to the fact that the wives were escalating at the rational/neocortical level, and the husbands being only too aware of this, were not moved by the emotional/limbic display of de-escalation.

## Discussion

It is instructive to compare the agonistic and hedonic strategy sets. In hedonic competition, the choice of strategy is more stimulus determined than in agonistic competition, especially at the limbic level. In fighting, if the odds are even, it makes sense to have a random choice of fight or flight, if only to keep the rival guessing. In the case of hedonic competition, it is the group which decides the outcome, and if the group gives the thumbs down, there is not much scope for escalation. The disapprobation of the group is similar to the situation in a very hierarchical society, of being challenged by a stronger or higher ranking opponent -de-escalation is strongly indicated, and there is not much scope for a choice of strategy.

Members of cults are said to have elevated mood, and it may be that this is induced by the submission they have to make to the cult leader, which involves accepting an often outrageous doctrine. In fact, it is said that the more outrageous the doctrine, the higher the mood of the converts. This could be due to the fact that outrageous doctrines require a more intense submission than doctrines that are easier to accept. The more intense the rational/neocortical de-escalation, the more intense the emotional/limbic escalation which follows it. That rapture follows submission is an empirical finding. We did not predict it, in the way we predicted that rational/neocortical de-escalation (submission) would terminate instinctive/reptilian de-

escalation. Could we elaborate some sort of *post hoc* explanation in terms of "relief from responsibility"? It is as though the lower levels were monitoring the rational level, and deciding when to "put on the brakes"; the lower levels might then take the attitude, "providing there is complete submission at the higher level, we can afford to let rip down here with a bit of escalation".

It is interesting that this formulation assumes that the lower centres are aware of the existence, and the activity, of the rational/neocortical level; this contrasts with John Birchnell's model,<sup>7</sup> in which the inner brain is said to be unaware of the existence of the outer (more recent) brain. Could this be the exception that proves the rule? Can we suggest to JB that the inner brain monitors the balance of escalation and de-escalation in the outer brain? If the inner brain feels that the outer brain is escalating too much, it de-escalates with both depressed emotion and depressed mood; this is its way of making the outer brain more pessimistic, and so inclining it to de-escalation. If, on the other hand, the inner brain feels the outer brain is not escalating enough (or de-escalating too much), it escalates with euphoric emotion and elevation of mood; this is its way of making the outer brain more optimistic so inclining it towards escalation.

Perhaps we might fantasise about the condition of Len Oakes' John, whose inner brain, being pre-linguistic, has never heard of God. It might say, "Who is this guy who wants to take your wife and child, and to whom you are submitting so readily? Get on and fight for your family." So it sends him limbic escalation, hoping this will induce the fighting spirit. However, the inner brain has not heard of the evolution of the hedonic mode, so does not realise that the limbic escalation will materialise as hedonic rapture rather than as agonistic anger.

The golden rule that arises from all this is, "If you want to be happy, ensure that your inner brain thinks your outer brain is de-escalating too much."

Len Oakes' book is well written and full of interest. He makes a case that most cult leaders are narcissistic personalities, and he relies a fair bit on Kohut's self-psychology.

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## Primate Behavior and the Concept of Pseudosex<sup>1</sup>

For the student of human behavior in the consulting room or elsewhere, the study of other animals provides relatively simple models for understanding automatic irrational actions, and thus supplies clues for unraveling the far more complex and diversified automatic patterns which impede or even replace the operation of human intelligence. An instance of this is the concept of pseudosexual behavior, developed independently by A.H. Maslow, H. Rand and B. Newman and ourselves, in our book *Human Behavior: A New Approach*.<sup>2</sup>

### Pseudosex as displacement in non-humans

Animals of many species, when in conflict situations liable to evoke combinations of flight and attack behavior, often resort to activities irrelevant to their current mood and environment (e.g., feeding movements during courtship). These displacement activities have been well studied by ethologists working on lower animals, especially by N. Tinbergen. A displacement act usually differs in form from the same act performed in its appropriate context (e.g. a feeding movement during courtship as compared with a feeding movement during feeding). It is often disorganized, nearly always incomplete. In the restricted lives on lower animals, the same conflicts are likely to arise again and again through the generations, and some displacement activities become regular features of social interactions such as those of threat and courtship. They assume characteristic patterns, and are said to be ritualized. They then function as social signals, producing automatic effects on other individuals, which help to resolve the social conflict for the signaler.

In lower vertebrates, displacement sexual activities are rare, perhaps because in these species the timing of sexual acts is tightly controlled by protein and steroid sex hormones. But in many mammals, and especially primates, sexual acts are often seen in non-sexual contexts: for instance, mounting another animal as if for copulation, or "presenting" the rear for another animal to mount. Ethological observation of these primate displacement activities only beginning. But it

already seems that these acts differ objectively in form from sexual acts in a sexual context. In particular, they never include complete copulation. For instance, V. Reynolds has observed that a male macaque, mounting a female sexually, grasps her hindlegs with his own; a male engaged in displacement mounting keeps his feet on the ground.<sup>3</sup> The displacement acts may therefore be called pseudosexual. They regularly occur in conflict situations involving flight and attack, and have been ritualized as social signals of dominance and submission, helping to establish and maintain a dominance hierarchy which will minimize violence in the colony. The classical case, observed long ago by Sir Solly Zuckerman, is that of an individual doing something likely to provoke an attack from an more dominant monkey, and hence in a conflict involving the urge to flight. If such an individual stays put and persists in its provoking activity, it will present its rear for the dominant animal to mount: this act serves as an appeasement, which inhibits attack.

Pseudosexual activities may evidently be seen as reactions to social stress. From reports of field observers, it is clear that dominance tensions are much less severe in the wild, where there is more space and where they are set-off by social responsibilities of leadership and cooperation, than in the crowded and idle life of the zoo. This has been observed by H. Kummerin Hamadryas baboons.<sup>4</sup> The same observers report that pseudosexual activity, originally seen in zoos, is far less frequent in natural conditions. Maslow has noticed that, even in captivity, pseudosexual activity is relatively rare in primate species (such as chimpanzees) whose dominance relations, even in captivity are relatively mild and free of tension.<sup>5</sup>

### Human pseudosex

Study of human behavior with ethological precision is still in its infancy. Nevertheless, it is abundantly clear that many human fantasies and practices hitherto called "sexual" are permeated with elements of flight,

attack, dominance, or submission, as well as other inappropriate components, such as disgust. This is most readily seen in the more bizarre forms cataloged by Krafft-Ebbing and Havelock Ellis, and more entertainingly by Brantome in the sixteenth century. In more subtle ways, the same inference may often be made about ostensibly straightforward heterosexual behavior. Thus the compilers of the Kinsey reports claim that convulsion at orgasm is frequent in "normal" intercourse: yet it is known from the work of M.R.A. Chance on lower animals that convulsion is associated with blocked flight and probably attack impulses. It was already debated in Brantome's day which partner is more dominant during sexual intercourse. It is becoming clear that a large proportion of apparently sexual behavior in man is really pseudosexual, in the precise sense outlined above.

Pseudosex in humans is naturally far more complex and diversified than anything seen in a single lower animal species. In a general way, it may be classified into restrictive inhibitions of true sexual activity on the one hand, the Freudian superego, and compulsive urges to pseudosexual activity on the other hand, the Freudian id. Particular patterns of the two components, at the level of whole societies will dictate elaborate mating rules. These plainly differ between societies, and are notably more flexible and diversified within progressive civilizations. From the work of D. Miyadi and other Japanese observers, it is becoming clear that, even in monkeys, mating rules, along with many other behavior patterns, are transmitted from generation to generation by a form of tradition, which may take different paths in different isolated colonies. It is worth noting that in the simple monkey situation pseudosexual activity is invariably sterile. Mating rules may therefore be seen as culturally evolved mechanisms for population control. Here again the position in humans is far more complex, but V.R. Dorjahn has suggested that in some societies polygamy may operate to reduce fertility.<sup>6</sup>

If there are such automatic population control mechanisms, they must be subject to all the usual defects of any automatic mechanism; they may well break down in either direction, tending to under- or over-population. The importance of understanding how they are cultur-

ally evolved and changed in obvious, and we are beginning to investigate this possibility.

### **Applications to therapy**

It was one of Freud's great contributions to suggest the very wide ramifications in human automatic behavior of what he took to be sexual mechanisms. The evidence from lower animal behavior has made it easy to see what he was really dealing with was pseudosex. Since this is always a reaction to social stress, particular patterns are readily transmitted from parent to child in the social context of the family, and may be further reinforced, distorted, or intensified by social stresses and biases operating in adolescence, e.g., initiation ceremonies, and later in life. Detailed clinical observations repeatedly points this way, and shows us that the Freudian is, no less than the superego, is a product of individual experience, and anything but "innate." The distinction between sex and pseudosex is of immediate value in the consulting room. The mere provision of information about the difference, illustrated by simple and telling examples in the animal behavior, is often in itself of great assistance to a patient. It cuts through many of his rationalizations, and relieves him from many of his rationalizations, and relieves him from many of those imposed by social pressures. It may help a man to know that when he visits prostitutes, for instance, he is not expressing the lavish sexual urges which he feels are demanded of him, but engaging in quite unsexual dominance-submission activity as a reaction to social stresses. He may then be ready to explore what those stresses are in his present situation, and what other stresses and influences predispose him to this particular pattern of displacement. For both therapist and patient, the concept of pseudosex as a reaction to social stress is of great assistance in unraveling compulsions and confusions. The concept would have been difficult to arrive at without the simple, clear-cut observations of the social life of animals. It is only one of the fruits already gathered from animal behavior study; we may expect many more.

### **References page 32**

## Sex, Winning, Passions, Religious Experience

*James Brody (JB): Winning tennis raises serotonin and helps you pick up chicks, masturbating does not raise serotonin but intercourse does.*

David Berreby (DB): Got a reference on this? Interesting fact, and makes me wonder: Only intercourse? Where does masturbating with a partner fit in? i.e., is it the potential payoff in offspring (intercourse) or the sociality (someone is having sex with you, even if you're manipulating yourself at The Moment) that triggers the serotonin? I bet the latter. But who knows? Unless it's covered in the work you allude to.

*JB: My own fantasy is that environmental feedback turns on and off, up and down, genetic outputs. Too much glory and too little sleep and you're off on a roll!*

DB: Sure. We'd be better off if Galton hadn't lifted that speech of Prospero's and stuck us with this idea of a sharp separation.

*JB: That is, his wife's saying "go without me" will terrify a lot of these guys into settling down; the trick is getting her to say it. And hope that he doesn't have another female lined up.*

DB: Maybe everyone's better off if he takes off. Maybe they're not. Not really One Answer to this, is there?

*JB: Perhaps conceive of mania as a variable response.*

DB: Makes sense. I wonder here if one of Mark Epstein's attempts to link Buddhism and psychotherapy doesn't have an insight. (The book is called *Thought Without A Thinker*, I believe.) There are six Buddhist hells through which the unenlightened pass not after life but in daily living, every day. In addition to the ones having to do with anger and fear and hopeless yearning, there is the "God realm." In paintings this symbolic space is shown as a place where powerful dieties listen to music and stride along, using their powers. What, you might ask, is this doing

among the hells? It's there because a feeling of blissful power is, first, an illusion and second, robs you of compassion for other people. The Bodhisattva arrives here with a flute or a bell, symbolizing the wake-up call. Point is: don't be seduced by this, you shouldn't stay here any more than you should stay in the realm of the angry demons.

*JB: Follow your passions without leaving your responsibilities?*

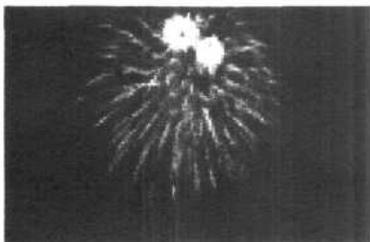
DB: Well, that's what we mean by character, right? My own experience is that doing the right thing seems less onerous when the passion is engaged, not less. But let us not lose sight of many people not permitted by one circumstance or another from combining the two streams. A guy said in a recent newspaper quote I happened on, for instance: "I feel like I had a gallon to give, but they only took a cup." Let me make what I think of as the Martha Sherwood point, which is an important one: Lots of people never get their chance, through no fault of their own, because of the way other people have arranged for their own happiness.

*JB: He also shows "Maclean behaviors"—for example, vomiting at the sight of a dead mouse in the drive, the odor of Chinese food, over-responding to his little sister's screams — plenty of startle patterns that look as if they are phylogenetically old. Mom has the same features. She's also the more skeptical of medications and the more protective of her son than is dad. Neither parent likes AHP as a "flaw." They both seemed to like the idea of mania as a predictor of eventual success despite social disruptions. They both like the idea of school as both an opportunity but also as something to be survived.*

DB: Back on my own hobbyhorse: Feeling humiliated and worthless is very bad for your health. Therefore, the sensible human responds to such feelings by trying to find a place where people won't instill them. Migration and revolution aren't always possible. So we

get subcultures. The humiliation imposed by others is reinterpreted as a badge of honor. Best example: Christianity. The old Mideastern punishment of crucifixion is supposed to make you, your followers and your relatives feel extremely bad about your conduct. But wonder of neocortical wonders—the meaning of the social event is not fixed, and can be reinterpreted. Too bad, Pontius Pilate: We've decided being crucified is a mark of greatness.

Back to earth: Your new clients want to see their son's condition as a trait, maybe even a valuable one. Not a flaw. Hallowell and various popularizer/imitators have pretty much converted ADD into a positive. In this they have followed, knowingly or not, the same path traveled by feminists, blacks, gay people. Also with less success, "juvenile delinquents," to use the quaint term. And inner city kids who razz the good students at their high school for not being really black.



**Wechsler L: Mind-sets: beyond victimhood. *The New Yorker* April 12,1999, p.25.**

**Extract:** Fascism is often represented as the dictatorial rule of a privileged few over the oppressed many, whereas it is almost always, at least at the onset, a profoundly majoritarian phenomenon — albeit a deeply antidemocratic one in terms of how the majority treats minorities. Ignazio Silone once characterized fascism as a counterrevolution against a revolution that never took place — a formulation that captures the ferociously paranoid and specifically anti-leftist cast of much of twentieth-century fascism, including Mussolini's and Hitler's. But a different aspect of the rise of Nazism, in particular, seems more pertinent to the sort of fascism that we're seeing today. This.... draws most of its strength from a sense of historic grievance and of the nation-as-misunderstood-victim —

a national self-pity zealously husbanded, nurtured, and sustained from one generation to the next in a process that often seems to verge on the pathological....

Serbia... glorifies a six-hundred-year-old botched defeat, one that continues to cry out for vengeance.... Serbs are not the only Balkan people who evince this sort of mind-set.... It's not as though people in this region have historically been incapable of living together. Through most of their history they did just that; the rate of ethnic intermarriage in cities like Sarajevo was almost a third in the last years before the war. Rather, it's that to the extent they thought of themselves as Serbs or Croats or Kosovars or Bosnian Muslims - or suddenly started thinking of themselves that way all over again -their core identity arrived pickled in the brine of historic victimhood. Once they got started, these people were not only unable to forget the past; they could scarcely think of anything else....

[Societies that luxuriate in a sense of victimhood make themselves vulnerable to... manipulation.... Yet the susceptibility to such opportunists is hardly inevitable: the tendency toward an endlessly self-pitying sense of victimhood is not some sort of inescapable genetic inheritance. Individuals can change and so can entire societies. It's one thing to nurse blood vendettas in an era of knives and pistols -something else altogether more fearsome to do in a time of tanks and mortars and mines and dive-bombers. Today the Balkan myths - and especially Serbian myths - invariably exalt the bloody heroes who went down fighting, calling forth vengeance upon their enemies for all eternity. Those are the stories that persist. And that is the ethos that will have to change.



## Beginnings of Individuality

Email discussions of Jared Diamond's thesis in his *Guns, Germs, and Steel: The Fates of Human Societies*<sup>1</sup> turned on the questions of whether geographical characteristics of the euro-asian land mass were sufficient on their own to explain that mega-region's dominant contribution to technological advance, or whether such factors worked interactively with the evolution of human intelligence.

The recent visit over here of Harold Bloom, an American Shakespeare expert, raises another possibility. When interviewed on TV he expressed that Shakespeare was primarily responsible for the "invention" of the modern human. By this he meant that Shakespeare's conception of our interior worlds was not something which just "rang bells" with his original audiences, rather it was a novelty which so impressed them that they internalised it. He was prepared to concede that in three or four places Chaucer displays a similar kind of conceptualisation, but holds that in the main it was Shakespeare who implanted in the modern human the type of self-conception that actually makes him or her the modern human.

Much as I admire Shakespeare, this seems to me far too much to lay at one man's feet. Nonetheless there is something of great importance here. Russ Gardner has several times referred me to a book by Colin Morris - I have as yet to read it (so RG added the rest of this paragraph): *self-conceptions underwent a radical change in Europe during the past millennium but earlier than Shakespeare*.<sup>2</sup> Morris suggests that the concept of the person feeling him or herself to be an individual was a western invention from about 1100 A.D., evidenced after this by distinctive (vs idealized) portraits, personal writings, biographies, e.g., Barbarossa, an ugly man, willingly let his statue reflect his distinctive features that contrasted to the Greeks whose statues were idealized. Morris, a religious medieval historian, traced the origins of this to Cistercian monks who thought of themselves as sinful in increasingly creative and exaggerated terms. How to be fully and completely sinful before the Lord?

His answer (which he documents): **being a unique person**. Once let out of the bag, such heightened attention to the individual moved to other people and in less negative terms. Once it happened, like the potato-washing of the Japanese monkeys, individuality was here to stay. Back to MW.

I also recall Peter Frost saying something to the effect that it's only in very recent times that moderns have come to see themselves as individuals, not just a link in lineage. And last night, during a programme marking the end of a great national institution, Commercial Television's "News at Ten" - we were told that this had been made inevitable by all such common ground coming under threat because a combination of technical advance and ever rising levels of self-absorption meant that viewers wanted programme schedules tailored to their needs, not something imposed from outside by tradition or whatever.

If all this is taken at face value, it must surely have impacted in a major way on the kinds of issue being in the Diamond email thread. Assuming such a development had a specifically European epicentre (did it?), I would like to know: what impression did the European expansionists make on the pre-modern peoples they encountered or such pre-moderns as visited Europe? Obviously in the first case at least, such impressions are likely to have been highly unfavourable: but is there good evidence that they sensed they were dealing with a people with an entirely alien outlook? Further, if there were crucial differences, how large a part did such differences play in bringing about what some have called the material triumph of the West? Certainly, "looking out for yourself is a key driver in modern capitalism.

### References:

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2. Morris C: *The Discovery of the Individual 1050-1200*. Toronto: U Toronto Press, 1987

*Price*

## **Evolutionary biology demarcates the territories of specialist psychotherapists and general psychiatrists**

This begins a pair of essays, the next to be published in the June issue. I present a radical and speculative view which I hope will act as a basis for discussion.

### *1. The role of the specialist psychotherapist*

Psychotherapy can be looked on as dealing largely with the problems of low, labile and fragile self-esteem. An evolutionary view of self-esteem helps to clarify the type of psychotherapy needed for different problems. We think that human self-esteem evolved out of resource-holding potential (RHP) and social attention-holding potential (SAHP) which are self-constructs relating to capacity for agonistic and prestige competition, respectively. Behavioural ecologists tell us that it is advantageous to both individuals and groups to have a wide variation in competitive ability. In humans, this variation in life-long self-esteem is effected during two critical learning periods, using signals from parents in early childhood and from peers during adolescence. During adult life, it is also advantageous to have the capacity for variation in self-esteem, and this is largely brought about by mood change. The psychotherapy needed to deal with these adult changes in self-esteem should be the province of the general psychiatrist, and in the next essay I give three examples from my own practice. To rectify low self-esteem induced during childhood and adolescence requires a recreation of the archetypal situation during therapy, and this should be the province of the specialist psychotherapist.

#### The individual therapist

In his recent monograph and elsewhere, Anthony Stevens has made the case for specialist psychotherapy when there has been "frustration of archetypal intent" in the parenting of the child.<sup>1</sup> The child whose archetypal of the "good parent" is not activated by

either of the real parents suffers from a serious developmental defect, and this can be remedied by dynamic therapy in which the developing relationship between the therapist and patient is vitally important, in that it recapitulates the parent/child relationship, but in a healing form. It provides a "corrective emotional experience" in that it makes up for something that should have, but has not, happened during childhood.<sup>2</sup> It could be looked on as an extreme form of psychological kinship therapy.<sup>3</sup> Such taking the role of the parent is a matter for the specialist psychotherapist, and usually the general psychiatrist has neither the skill nor the time for such a task. It could be argued that it does not matter what the patient and therapist talk about, just as it does not matter what a father does with his son in establishing the father/son relationship; the therapist could talk about sex, power or dreams, in the way that a father could take his son to football, or fishing or tell him stories. Provided the therapist has the qualities of the good parent, and a forum for interaction is provided, the content may be of subsidiary importance.

In the developing self, and in the formation of self-esteem, there are two sensitive learning periods in which outside influences may be crucially important in either inculcating a good sense of self or, alternatively, leading to a damaged self and lifelong low self-esteem. The first is the parental influence during infancy and early childhood, discussed above; the second is the adolescent peer group. These are two archetypal situations. The archetypal quality of the parent/child experience can be inferred from the ritualised way that parents stand around a young child and give great whoops of admiration as the little person overcomes some trivial obstacle to its progress. From an evolutionary view, the gain is set very low in this activity. The resource acquiring properties of high adult self-esteem have no doubt led parents to maximise this

opportunity to inculcate high self-esteem in their children, so that any child who does not get what, to an outside observer, appears to be excessive parental boosting, is liable to result in below average self-esteem. At the other tail of the distribution are those children who receive the message from their parents that they are intrinsically evil and should never have been born. And other children fail to get the boosting because the parents are absent or dead. As a result of this varied parental input, some children come to think of the world as their "oyster", and others feel the need to apologise for their very existence.

The reason for this variation is given by evolutionary game theory. A population of hawks is not evolutionarily stable, and can always be infiltrated by doves.<sup>4</sup> We can equate the dove with the person suffering from life-long low self-esteem, who never fights back and is always willing to take a subordinate position. For some reason, which it would not be appropriate to discuss here, some parents are motivated to turn one or more of their children into doves, and they do it by withholding the praise that the majority of children get, or, even more effectively, by putting their children down. These children then remain doves for the rest of their lives, even if they never meet a hawk; after all, they have an internalised hawk who takes the form of their "hostile dominant self" who bullies them relentlessly year after year, keeps them "up to the mark" and ensures that they perform a devoted lifetime of service to others.<sup>5</sup>

It is not at all evident that a "corrective emotional experience" should be possible during therapy. After all, by the time the patient comes for treatment, the critical learning periods are over. The parents, and the peer group, have lost their power to affect self-esteem. So how can a therapist do it? It is, I think, one of the great empirical findings of the psychotherapeutic movement that such a possibility exists. The parent/child archetype can be resurrected in therapy and it appears in the regression of the patient to a childlike form of behaviour and in the transference. The patient feels to the therapist as a very young child feels towards its parent, and so re-enters the archetypal situation, and this allows the therapist to boost the patient at a very primitive level, by paying attention to

what the patient says, giving respect, taking the patient seriously, and in general, treating the patient as someone of great value. This, I think, is why it is useful for the patient to be encouraged to remember and talk about early childhood; the value lies not in the retrieval of "repressed" memories of nursery conflicts, but in helping the patient to regress to an age at which the parental archetype is active, and so allow it, amazingly, to alter its first message from "You are a worthless person" to "You are an important person." To orchestrate such a scenario of regression and transference is a highly skilled matter - it is a task for the specialist psychotherapist and should not be undertaken by the general psychiatrist.

### **The group therapist**

Let us turn now to the second critical learning period for self-esteem. The archetypal quality of the peer group experience is revealed by the way adolescents cohere into gangs and feel intensely about their acceptance by their peers. Some "make it" but others are rejected and they too are doomed to lifelong low self-esteem. Often they become highly successful people who compensate by their achievements for their basic feeling of "not having made the grade". In these cases, too, it is possible to have a "corrective emotional experience" and do a rerun of what was not completed during adolescence. The adolescent peer group is re-created in the therapy group.

As with the parent/child archetype, so too with the adolescent/peer group archetype: it can be opened again during therapy, but it requires group therapy rather than individual therapy. The group members represent the peer group, and the therapist represents parental authority. The therapist prevents the group from discussing adult matters, like current affairs, and so the group interaction descends to the typical chaotic and apparently senseless discourse of the adolescent peer group. But this, together with rebellion against an apparently unsympathetic therapist, seems to help regression of the group members to the adolescent stage at which acceptance by their peers can activate the archetype. It is also helpful if there are other groups with which the index group can compete in typical adolescent fashion, although this

may be difficult to arrange on an out-patient basis. The skill of re-creating this adolescent scenario is a specialist matter and should not be undertaken by the general psychiatrist, because, of course, if it goes wrong the patient may get a reinforcement of the original message that the peer group does not want them (there are not many rejecting individual therapists, but there may well be rejecting therapy groups). On the other hand, it may be useful during training for the general psychiatrist to experience "group therapy"; I, for one, would otherwise not have believed it possible to feel such love for fellow group members after meeting together once a week for six months.

In summary, evolutionary biology predicts a wide variation in self-esteem in any population of competing individuals, and it appears from observation that this variation is induced during two critical learning periods during ontogeny, one in early childhood in which the variation is induced by differential parental messages, and the other in adolescence, when further variation is induced by differential messages from the peer group. It is a surprising but empirical fact that these learning periods can be re-entered during a therapeutic situation in which the original archetypal relationships are re-created. To create such therapeutic situations is a highly specialised task, and defines one arena in which the specialist psychotherapist should reign supreme, and into which the general psychiatrist enters at his or her peril.

### **Learning the capacity for hedonic symmetrical relationships**

Another candidate for group psychotherapy is the individual who is unable to enter into hedonic (friendly) symmetrical relationships. Evolutionary biology is informative on this issue. If we look around at our fellow primates, we find that the capacity to form hedonic symmetrical relationships is exceedingly rare. As human beings we are expected to relate to others as equals in many social situations, and we expect people to do it as a matter of course, but it is, in fact, a very surprising and rare capacity. Adolescence is again, probably, the arena in which the capacity is formed. Some people come out of adolescence with equal friends; others do not, and they have learned

the pernicious "Peter Principle" that "whoever is not one up is one down."<sup>6</sup> These latter are what has been termed authoritarian personalities.<sup>7,8</sup> Their social life is based on the social hierarchy. They are either grovelling or sneering. Their self-esteem seems very variable as it depends on whether they are looking up or down the hierarchy. Looking upwards, they feel inferior and regard others with deference; looking downwards, they feel superior and regard others with contempt. They are behaving like non-human primates; indeed, like any non-human group-living terrestrial vertebrate.

An example of this type is the case of Mr Silver described by Horowitz.<sup>9(Ch 1)</sup> He wanted to enter into cooperative partnerships with peers at work, but was unable to do so; he had a pathogenic belief that "I must be superior or I will be inferior and rejected; if I am not superior, I am scared of being left alone." The fact that Horowitz does not discuss the possibility of group therapy for Mr Silver is another justification for applying the evolutionary perspective.

The members of a therapeutic group are assumed to be of equal status. Any attempt by members to adopt an inferior or superior role is part of "group process" and represents material for the therapist to work on. It is more difficult to do this in individual therapy because the relationship between patient and therapist is not, and never can be, symmetrical; and so the individual therapist has to work with the patient's relationships outside the therapeutic setting.

Next issue I consider generalist psychotherapy.

References on page 32



## More on Territoriality: The Us Generation?

In the February 1999 issue of ASCAP, David Evans wrote a fine piece on territoriality, stating his belief that the territorial instinct bulks large." ASCAP's editor, Russ Gardner, followed with his own piece on territoriality, to "stimulate response from readers." And well he did. So here is mine — a few thoughts that I have been sitting on for a little while, my two cents on territoriality to toss into the mix.

On November 21<sup>st</sup> of 1998, my son's class attended the *MIT Junior Summit*, founded by Isao Okawa, Chairman of Sega Enterprises, and co-sponsored by many other companies from around the world. One hundred of our world's best and brightest young delegates gathered on this day, to share with us their many ideas on how they would use technology to make our future world a better place. Just a mom on the bus, I was, nonetheless, filled with pride to have produced an offspring included in this event.

It was as proud as I had felt earlier in September when my little Joey, now 13-years-old, had made the cut for the *Johns Hopkins Institute for the Academic Advancement of Youth* conference on *Mind and Brain: The Inner Frontier*. However, as we departed the bus for this MIT event, our boys ran up the hill and into the building faster than we could catch them to explain the buddy system that was to return them all safely at the end of the day. A nearby mom turned to me and said, "I wonder which ones we'll lose; I hope it's the dumb ones; the gene pool you know." On this unseasonably warm November day, I suddenly felt chilled to the bone.

My first thought was that I might have to pull Joey from the school. My second thought was that I had never heard anything like this in his five years at this school. So, what ever possessed her? I happen to be a fan of "the voice of the system" approach to explaining the unexplainable. That is, sometimes the system psyche chooses (possesses?) an individual to articulate forces in the system, which can then result in

distortions or amplifications of the individual's own voice. And so it was that this woman, who sat beside me for the rest of the day, spoke only in direct contradiction to her earlier comment — lending support to this notion that her blurt may have been more a foreboding of things to come from the system-at-large, as follows.

It was a day of presentations on the Global Kidz Bank, Ecological Activism, Affordable Computing, Global Newspaper, and the like. Disability and the Digital Age was presented by only two of the numbers of physically disabled children up on the stage. The children spoke with pride about their inclusion of not only the physically challenged, but of all the intelligent boys and girls of so many different tongues and colors. An adult Summit sponsor talked about how the children had targeted the quiet ones among them early on, thereafter seating the quiet ones front and center for easier voice. This sponsor then hit her high note when she concluded that, unlike previous generations, this was now The Us Generation," as if territoriality had gone extinct over the course of that week. I wondered.

With warmth and humor, the adult sponsor then detailed how the children had called the adults on the rug only the second day into the weeklong Summit. The kids demanded that, since the adults had gotten too involved, they would have to stay out of the meetings from then on. The adults, however, were expected to appear whenever they were summoned, "just in case we need you for something." They were also expected to disappear immediately when asked as well. This report prompted an audience parent to question, "Well, what role exactly do you young people see for your parents' generation in the future? One brainchild responded with a smile that lit up the auditorium, "Absolutely nothing!"

So there it was. *Us* indeed, but *Them* too, at least as much as ever before. Generational boundaries are not new, of course. And while the *Them* of the global future

may not be as much about color or tongue as it has been before, (that's a good thing), this day gave me a frightening glimpse of what else it might be. Namely, age and, more than ever before, intelligence too. All of a sudden, a number of my burning questions were answered. For example, why do so many dads *and* moms I know now work themselves to distraction, putting income for tuition payments above just about everything else in their lives.

What ever happened to vacations for these couples, maybe dinner out without the kids, or even just being home from work early enough to have dinner with the kids? Why do so many parents I know now subordinate their own lives to carting their kids around (dragging their kids around?) to varsity this and that, to school play practice, to SAT prep courses, all to fortify the applications for the next schools they hope their children will attend? And why does my poor daughter fret as much as she does about what pre-school her little Sammy will attend, when he is only 3-years-old, and happy enough wherever he goes to play? Now I understand a little better that we are indeed moving into the *Age of the Brain*, and if we parents are good for anything at all, it is simply to get our children ready for that—and then to get out of the way.

I am getting older and dumber. Witness the zillions of lists all over my life space to compensate for decaying brain cells. So, I asked Joey where he plans to put me later on. He said not to worry; he will put me in a nice place with a gym. If it comes to that, I believe that he will. I am his mom. He loves me. And I do take care of his brain. But what about the rest of *Them*, the others who may be dumb or old, or both? What if they are not lucky enough to have a Joey? Who will take care of all of *Them*?

*"I wonder which ones we'll lose; I hope it's the dumb ones; the gene pool you know."*

As a fellow parent colluding in the drawing of these new territorial lines, I must admit that I am now feeling something both complicated and troublesome, mixed in with my no longer pure pride.

**Crowcroft P: *Mice All Over*. Brookfield IL: The Chicago Zoological Society. 1966,1973.**

Peter Crowcroft, zoologist and native of Tasmania, trained at Oxford University's Bureau of Animal Population. He wrote this most enchanting book, part of the reason, perhaps, that he became Director of the Chicago Zoological Park (Brookfield Zoo). I found it in a bookstore near the University of Chicago in the early 1980s. There were many copies there, like "mice all over" so I thought it an important resource. I've not seen it since and have talked to graduate students in animal behavior who do not know of its existence.

He had studied mouse behavior in old warehouses after World War II funded partly to help with rodent control. The following describes his conclusions from watching animals in large pens fitted with wooden nests that were covered. The quote from Dr. Crowcroft stems from last pages of chapter 7 (77- 79) that began with a quote from *Of Mice and Men* by Nobelist John Steinbeck, as follows, '*Guys like us... are the loneliest guys in the world. They got no family. They dont belong to no place.... They aint got nothing to look forward to.*'

Extract: [A] male mouse has a pretty miserable time if he is not one of the 'top dogs'. Even with a suifeit of food and no predators, he only manages to survive because he has companions in misery, all of whom dissipate some of the dominants' aggression. By sharing that aggression, they each manage to get enough peace to survive. One could say therefore, that in crowded colonies, the mice themselves provide a form of coverfor each other.

The females and juveniles also act as cover. The dominant male steers clear of nursing mothers, but those females appearto tolerate the continued presence not only of their daughters, but also of their sons until they are well grown. Thus, in an over-crowded pen there were nest -covers occupied by a large proportion of the population, but it was mainly the females and their offspring of various ages. Into that mass of mice a few of the grown males would insinuate themselves. Perhaps they took on the community smell of the next sufficiently to disguise their male-

ness.... [O]ne could not help but wondering whether they... and not the dominant male, fathered most of the offspring. The territorial males seemed to be far too busy chasing away other males to pay proper attention to their connubial obligations....

These were artificial conditions we were forcing on the mice, but they were similar in the essentials to the food stores where mice tend to reach high numbers. The modern business man is living under unnatural conditions too, which tend to distort his sense of values and obligations, but they are the conditions in which more and more of mankind are living, and in which they too become grossly overcrowded.

Later on, when there were more old males present and consequently more fighting, we saw a new thing. Some males which had been badly defeated and bitten, and were no longer able even to put up resistance, resigned from the mouse-race and became social pariahs or tramps. They no longer lived in the nest-covers; they camped out in the debris in the corners of the pen, or slept 'rough' in food pots or on the roofs of the boxes.

They became so cowed that they no longer displayed aggression towards one another, but huddled together for warmth, and perhaps for comfort. In pen 6, where there was now most fighting, there was a group of five tramps who spent every day on a corner of a particular nest-cover. They did not sleep side-by-side, but in layers, each one trying to get underneath the others.

In the positions they adopted for resting, these tramps escaped the attention of the dominant mice. They had found, by painful trial and error, the vacuums of activity which occur in even the most over-crowded situation; those odd corners which were not included in the habitual paths of the patrolling mice. Only in an artificial environment, with plenty of food near at hand, and no predation, could such pariahs survive. But given those conditions, they hung on tenaciously to life, scruffy, dirty, and extremely smelly.

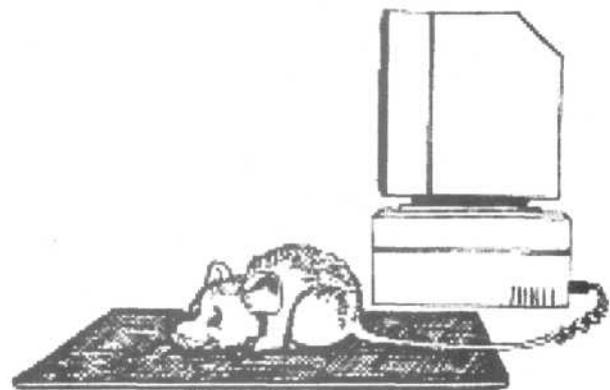
One of our experiments... involved the dispersal into a much larger pen of a colony which included such a group of these social failures. The trapdoor leading to

the new area was opened late in the afternoon, and again, we watched the process of dispersal.

As these tramps were normally the only individuals out and about in daylight, they were the first to find the open door and to enter into the New World. They explored the new pen, becoming visibly bolder and bolder, and within the hour, when other mice began to explore, they were making aggressive darts at newcomers and trying to set up new homes in the new nest-covers. And they succeeded for a time.

But then the dominant males of the old pen became active and came through the door. When they received an aggressive confrontation they did not hesitate to counter it and soon the tramps had been forced to surrender their new homes to their former tyrants. Obviously, the mice at the very bottom of the social ladder were still quite capable of setting up a similar society, if given time and weaker mice upon which to build up their confidence....

It is tempting to interfere, to set up an experiment in which by timing and manipulation, the table could be turned upon the dominant males, and the social roles reversed. But we had no business bringing about revolutions among mice, especially as the result would be merely to change the identity of the dictator. The tramps would have to submit to the life ordained for them by a merciful providence... and make the best of things. The remarkable thing about it all for me, was the resilience of the mouse spirit; the rapidity with which a mouse could recover its mousehood, if given another.



## Group Strategies of the Early Jews

In *A People That Shall Dwell Alone* (Chs. 3,8), I date the origins of Judaism as a group strategy to the period of the Babylonian exile because it was during this period that the priestly redactors developed the separatist ideology and practices contained in the Torah—they had self-consciously become a Diaspora group. I argue that the exiles who returned to Israel rejected the Israelites who had been left behind because the latter were ethnically suspect—clearly the view articulated in the books of Ezra and Nehemiah, perhaps the most extreme of the books of the Tanakh in their abhorrence of exogamy. The Israelites who were left behind (who came to be called Samaritans) may indeed have been genetically virtually identical to the returnees from Babylon, but their genetic purity was sufficiently suspect (because of suspected intermarriage with their conquerors) so that they were never allowed to intermingle with the returning Israelites.

These two groups went their separate ways (i.e., they were two separate group strategies), with the Samaritans much less successful than their erstwhile brethren. (Only a very few survive into contemporary times; I suspect the reasons included that they never developed the high IQ/high education strategy of the Jews.) Although question has been raised about this suggestion, I don't see how this is a problem for my analysis, since if anything it shows that the Israelites were deeply concerned about the genetic background of group members. In my reading, the wedge between these groups was not caused by the Greeks but by their own scruples about the genetic purity of their former countrymen. Although it has been asserted the Greeks were important here, I would need to see evidence for this conclusion. There may have been other important divisions between early Jewish communities, although all the accounts I have seen point to very cohesive, mutually cooperating groups, with distinctive language and mannerisms and clothing, living in physically separated areas administered by Jewish law dating from the earliest stages of the

Diaspora. I cite Salo Baron to the effect that because of the often hostile relationships with the gentile world, there was much less division within Jewish Diaspora groups than in Israelite society of the Second Commonwealth.

Ken Jacobs has articulated opinions about my work and is quite correct to note the development of the Hasidim as another example where serious divisions emerged in pre-modern societies. One might also mention the Reform movement as a response by some Jews to modernism and (in my view) the rift between the Conversos and the unconverted Jews in pre-expulsion Spain—another case where a more elite group of Jews broke off from their more traditionally minded brethren. The point is that whatever internal divisions there were, Jewish groups were still groups; i.e., in traditional societies at least they still maintained group boundaries, they cooperated economically, policed individual economic and sexual behavior, developed elaborate mechanisms of within-group charity, etc. The Hasidim may have become groups unto themselves, but they must still be considered variations of the Jewish group strategy even if they had a rather low opinion of non-Hasidic Jews.

Jacobs makes the additional good point that some non-Jewish Western societies in the 17<sup>th</sup> and 18<sup>th</sup> centuries were also characterized by mechanisms that softened the distance between social classes. It would be interesting to compare, e.g., the levels of within-group charity and ingroup patronage, between Jewish and gentile societies in the same country at the same time. I suspect that the Jewish societies would be found to be higher on these qualities, but I can't say that I have any overwhelming evidence in this regard. I agree with Jacobs that the Catholic Church also bears analysis from an evolutionary perspective. I have tried to deal with some of the issues in various places. It seems to me that the Church has to be analyzed differently in different periods. Whether the Church may be profitably

analyzed as universalist strategy designed to further the genetic interests of certain individuals or groups within the society is still an open question. For example, I suggest that the Church was basically anti-Jewish in the 4<sup>th</sup> century, designed to further the interests of sectors of the non-Jewish population.

There were overtones of this in the Middle Ages, but surely that is not the whole story (I develop an evolutionary perspective on the role of the Church in regulating the sex lives of the aristocracy in my papers "The Establishment and Maintenance of Socially Imposed Monogamy in Western Europe." (*Politics and the Life Sciences* 1995;4:3-23) and "Focusing on the Group: Further Issues Related to Western Monogamy." *Politics and the Life Sciences* 1995; 14:38-46) (available on my website <http://www.csulb.edu/~kmacd>). The role of the Church in the Spanish conquest of Latin America and the development of a Mestizo culture definitely bears scrutiny as a very different sort of group strategy if indeed it can be so analyzed. I suppose that would be another book project.

Finally, I agree with Jacobs that only by studying many groups (majorities and minorities) and seeing how they are alike and how they are different can we understand the variety that is out there and begin to develop generalized theories from particular histories.

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Kevin MacDonald's three books about the group strategies adopted by the Jews are: *A People That Shall Dwell Alone: Judaism as a Group Evolutionary Strategy*. Westport, CT: Greenwood Publishing Group, 1994.

*Separations and Its Discontents: Toward an Evolutionary Understanding of Anti-Semitism*. Westport, CT: Greenwood Publishing Group, 1998. *The Culture of Critique: An Evolutionary Analysis of Jewish Involvement in Twentieth-Century Intellectual and Political Movements*. Westport, CT: Greenwood Publishing Group, 1998.

Also Dr. MacDonald edits the journal, *Population and Environment*. His emails are [kmacd@csulb.edu](mailto:kmacd@csulb.edu) or [kmacdi@ix.netcom.com](mailto:kmacdi@ix.netcom.com)

**Roy A: *The God of Small Things*. New York: HarperPerennial, 1998, pp. 4-5**

**Extract:** They were two egg-twins, "Dizygotic" doctors called them. Bom from separate but simultaneously fertilized eggs. Eshta -Estappen-was the older by eighteen minutes.

They never did look like each other, Estha and Rahel, and even when they were thin-armed children, flat-chested, wormridden and Elvis-Presley-puffed, there was none of the usual "Who is who?" and "Which is which?" from oversmiling relatives or the Syrian Orthodox bishops who ...visited... for donations.

The confusion lay in a deeper more secret place. In those early amorphous years when memory had only just begun when life was full of Beginnings and no Ends, and Everything was Forever, Esthappen and Rahel thought of themselves together as Me, and separately, individually, as We or Us. As though they were a rare breed of Siamese twins, physically separate, but with joint identities.

Now, these years later, Rahel has a memory of waking up one night giggling at Estha's funny dream. She has other memories too that she has no right to have. She remembers, for instance (though she hadn't been there), what the Orangedrink Lemondrink Man did to Estha in Abhilash Talkies. She remembers the taste of the tomato sandwiches - *Estha's* sandwiches, that *Estha* ate - on the Madras Mail to Madras.

And these are only the small things.

Anyway, now she thinks of Estha and Rahel as *Them*, because, separately, the two of them are no longer what *They were or ever thought They'd be....* Their lives have size and shape now. Estha has his and Rahel hers. Edges, Borders, Boundaries, Brinks and Limits have appeared like team of trolls on their separate horizons. Short creatures with long shadows, patrolling the Blurry End. Gentle half-moons have gathered under their eyes now and they are as old as [their mother] was when she died. Thirty-one. Not old. Not young. But a viable die-able age.

# ABSTRACTS & EXTRACTS ...

**Price J, Stevens A: The human male socialization strategy set: cooperation, defection, individualism, and schizotypy. *Evolution & Human Behavior* 1998;19:57-70.**

**Abstract:** It may be useful to regard variation in behavior as representing alternative strategies in one or more strategy sets. These may throw light on normal variation and on psychopathology. A simple scheme considers four strategies in a "socialization strategy set." In the "coalitional" strategy, men band together for hunting and warfare; to achieve this they internalize the norms of the group and live an extroverted existence. Similar to this but without internalization of norms is the "defector" strategy, recognized clinically as the sociopath and from the genetic point of view as a free-rider. Leading to geographic dispersion is the individualistic or "homesteader" strategy in which there is a preference for a single family unit and the lifestyle is one of introversion. The schizotypal strategy leads to the formation of a cult with an ideology at variance with that of the parent group and thus to groups splitting. Orthogonal to this strategy set is the high/low self-esteem strategy set, which is responsible for the variation in the personality trait of neuroticism. The schizotypal strategy is seen in the context of previous ideas about the adaptive value of the genetic predisposition to psychotic illness. Some implications of the model for research and treatment are discussed.

**Taubes T: "Healthy avenues of the mind": psychological theory building and the influence of religion during the era of moral treatment. *Am J Psychiat* 1998;155:1001-1008**

**Abstract:** This article delineates the main psychological interventions used by American asylum superintendents practicing moral treatment between 1815 and 1875. Further, it explores the impact of Protestant religious ideas on specific aspects of moral treatment's theory and practice. Asylum annual reports written by superintendents (physicians dedicated to the treatment of the mentally ill) were studied along

with volumes of the *American Journal of Insanity* from its premier issue in 1844 through the 1890s. The writings of two laymen, Thomas Galludet and Horace Mann, both committed advocates of moral treatment, were also examined. The superintendents espoused complex theories about individual psychology and the nature of the self based on their observations. Protestant religious thought was a major influence, helping to catalyze original psychological propositions. Interesting resonances can be found between the superintendents' concept of a central agency, a governing "I" accounting for individual behavior, and ego psychologists' concepts of the organizing functions of the ego. Moral treatment did not produce a comprehensive psychotherapeutic system. Nonetheless the superintendents voiced surprisingly modern psychotherapeutic insights. Religious worship as well as religious notions about the inviolability of the soul greatly influenced their views of patients. Rather than being an impediment to formulating psychological ideas, religious concepts proved to be a rich framework for evolving theories about aspects of patients' internal psychological functioning.

**Mehlman PT, Higley JD, Faucher I, Lilly AA, Taub DM, Vickers J, Suomi SJ, Linnoila M: Low CSF 5-HIAA concentrations and severe aggression and impaired impulse control in nonhuman primates. *Am J Psychiat*. 1994; 151:1485-1491.**

**Abstract:** The purpose of this study was to examine the relationship between behavior and serotonin by using a nonhuman primate model of aggression and impulse control. During a routine capture and medical examination, 26 adolescent male rhesus macaques (*Macaca mulatta*) were selected as subjects from a free-ranging population of 4,500 rhesus monkeys inhabiting a 475-acre sea island. Physiological data were obtained from 22-23 of the subjects. Blood and CSF samples were obtained, and each subject was fitted with a radio transmitter collar for rapid location. The subjects were released into their social groups, and quantitative behavioral observations were made

over a 3-month period. CSF 5-hydroxyindolacetic acid (5-HIAA) were inversely correlated with "escalated" aggression, i.e., a measure of more intense and severe aggression as defined by the ratio of chases and physical assaults to all aggressive acts. CSF 5-HIAA concentrations were significantly lower in those subjects who showed evidence of physical wounding than in subjects without wounds. Low CSF 5-HIAA concentrations were also correlated with greater risk-taking as determined by an analysis of leaping behaviors in the forest canopy. The ratio of long leaps (leaps that traversed the longest distances at dangerous heights) to all leaps was negatively correlated with CSF 5-HIAA concentrations. Adolescent male rhesus macaques with low CSF 5-HIAA concentrations are at risk for 1) exhibiting more violent forms of aggressive behavior and 2) loss of impulse control as evidenced by greater risk taking during movement through the forest canopy.

**Smith EE, Jonides J: Storage and executive processes in the frontal lobes. *Science* 1999;283:1657-1661.**

**Abstract:** The human frontal cortex helps mediate working memory, a system that is used for temporary storage and manipulation of information and that is involved in many higher cognitive functions. Working memory includes two components: short-term storage (on the order of seconds) and executive processes that operate on the contents of storage. Recently, these two components have been investigated in functional neuroimaging studies. Studies of storage indicate that different frontal regions are activated for different kinds of information: storage for verbal materials activates Broca's area and left-hemisphere supplementary and premotor areas; storage of spatial information activates the right-hemisphere premotor cortex; and the storage of object information activities activates other areas of the prefrontal cortex. Two of the fundamental executive processes are selective attention and task management. Both processes activate the anterior cingulate and dorsolateral frontal cortex.

**Lange JH: Dominance in crayfish. *Science* 1996;272:13**

**Letter:** I am an 8th-grade student in Westland Middle School in Bethesda, Maryland. I read with interest the article "Neurobiology: Social status sculpts activity of crayfish neurons" by Marcia Barinaga (*Research News*, 19 Jan. [1996], p. 290), which discussed the report "The effect of social experience on serotonergic modulation of the escape circuit of crayfish," by Shih-Rung Yeh *et al.* in the same issue (p. 366).

A statement in Barinaga's article says that male crayfish display dominance behavior toward other males, my 1995 science fair project was on the subject of fighting and dominance behavior in crayfish. I carefully noted the sex of the crayfish. I discovered that not only males fight males, but females fight males and females fight other females. In general, one cannot predict which animal will finally be dominant. That is, females or males can show dominance in a mixed fight. I also observed that relative size or the absence of a claw were not predictors of dominance.

**Behrs J, Butler JL, Sturges SG, Drummond DJ, Behrs C: Strategic self-therapy for personality disorders. *J Strategic & Systemic Therapies*. 1992;11:33-52.**

**Abstract:** Strategic self-therapy (SST) is a psychotherapy paradigm based on limited intensity, rigorous differentiation of therapeutic boundaries, and cognitive reframing with behavior control as the vehicle for change. Prospective patients must be able to (1) guarantee safety from destructive behavior, (2) think abstractly, and (3) implement independent self-therapy projects. By focusing treatment responsibilities on the patients themselves, it is ideally suited for personality, dissociative, and posttraumatic disorders. Compared to intensive psychotherapy, it is hypothesized to be comparably more effective, more efficient in time and cost, and less vulnerable to regressive dependency with its associated distress and risk for destructive acting out behavior.

**Birtchnell J, Kennard J: Early mother bereaved women who have, and have not been psychiatric patients *Soc Psychiat* 1981 ;16:187-197.**

**Abstract:** A series of early mother bereaved, 40-49 year-old women, who have never required psychiatric treatment, was compared with a series of early mother bereaved psychiatric patients, of comparable year of birth distribution, whose first breakdown had occurred by the age of 40. The parental social class and current social class distributions of the non-patients was significantly higher. The quality of marriage of the psychiatric patients was markedly worse. There was no difference between the two groups in respect of the circumstances of the mother's death or of the quality or number of changes in subsequent maternal care.

**Verhulst J, Heiman JR: A systems perspective on sexual desire. In SR Leiblum, RC Rosen (Eds): *Sexual Desire Disorders* New York, NY: The Guilford Press,1988, pp. 243-267**

**Abstract:** Among the... challenges presented by desire disorders is the need for a ... system perspective in evaluating and treating these problems. Beginning with their critique of the traditional disease model of pathogenesis in understanding complex interpersonal phenomena, The paper proposes that a systems perspective is ideally suited for an understanding of sexual difficulties in general, and of problems of desire in particular. From this perspective, low desire is viewed as essentially a problem in *synchronization or coordination* of the sexual rhythms of the relationship. Verhulst and Heiman further emphasize the subjective nature of the complaint, as well as the interactional context in which the problem typically is manifested.

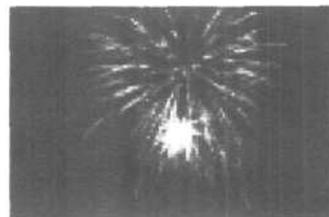
While most theorists acknowledge the potential value of a systemic or interactional view of sexual desire and problems of desire, Verhulst and Heiman ... propos[e] a detailed and specific model.... [I]t represents an expansion and elaboration of their earlier... "interactional approach" to sexual disorders which focused... on "affect-regulated interactions," or the emotional responses that each partner brings to the sexual situation.... [T]he authors have broadened their approach to include a focus on the sensory/physiologi-

cal and the cognitive dimensions of partner interactions as well. Each of these dimensions or "subsystems" is described in detail and is viewed as potentially contributing to low desire.... [T]he model ... emphasizes] systemic factors both *within and between* partners in a relationship. Finally, these authors... attend... to the often overlooked subtleties in a sexual relationship, such as seduction rituals, territoriality conflicts, and the synchronization of sexual rhythms.

In the cases presented, the authors illustrate graphically the value of treating desire problems from an integrated, systemic approach. For example, the therapist attempts to realign each partner's cognitive aspirations ("map of the world"), while simultaneously instructing the couple in more effective and satisfying means of sensual interaction. This approach can also be of value in understanding the impact of medical interventions (e.g., a surgical implant)...

**Maloney A: Preference ratings of images representing archetypal themes: an empirical study of the concept of archetypes. *JAnal Psychol* 1999;44:101-116.**

**Abstract:** Archetype theory is consistent with the full range of empirical psychological research, yet has not itself been empirically studied. As part of a project to integrate psychological theory, especially psycho-therapeutic theory, with empirical research, I asked 151 subjects to rate their preferences for images representing archetypal themes and factor analysed their responses. The results are consistent with the hypothesis that archetypal themes determine affective responses in adults. Archetype theory may prove itself to be useful in operationalizing a number of contemporary psychological theories.



**Aprison MH, Galvez-Ruano E, Lipkowitz KB: Comparison of binding mechanisms at cholin-ergic, serotonergic, glycinergic and GABAergic receptors. *J Neuroc Research* 1996 ;43:127-136.**

**Abstract:** Employing computational methods and published data from molecular biological studies involving amino acid sequences in the polypeptide receptors, the authors studied and compared how two excitatory neurotransmitters, ACh and 5-HT, and two inhibitory neurotransmitters, glycine and GABA, can bind to their respective recognition sites at CNS receptors. Models for each neurotransmitter interaction with specific amino acids are described and identified. Molecular mechanisms are identified that can explain how the binding process initiates ion flow through channels located within the postsynaptic membranes membrane such that if the neurotransmitter is inhibitory, hyperpolarization occurs, and if excitatory, depolarization occurs. Although the theoretical work described indicates that there is a difference in molecular mechanisms operative at the anionic and cationic channels, and provides an explanation why the former is more specific, the molecular modeling data and the similarities of specific amino acids in the sequence of the four receptor polypeptides used to construct the four models support ACh, 5-HT, glycine and GABA as being members of the same ligand superfamily.

**Caramazza A, Shelton JR: Domain-specific knowledge systems in the brain: animate-inanimate distinction. *J Cog Neurosc* 1998;10:1 -34.**

**Abstract:** We claim that the animate and inanimate conceptual categories represent evolutionarily adapted domain-specific knowledge systems that are subserved by distinct neural mechanisms, thereby allowing for their selective impairment in conditions of brain damage. On this view, (some of) the category-specific deficits that have recently been reported in the cognitive neuropsychological literature - for example, the selective damage or sparing of knowledge about animals - are truly categorical effects. Here, we articulate and defend this thesis against the dominant, reductionist theory of category-specific deficits, which holds that the categorical nature of the deficits is the

result of selective damage to noncategorically organized visual or functional semantic subsystems. On the latter view, the sensory/functional dimension provides the fundamental organizing principle of the semantic system. Since, according to the latter theory, sensory and functional properties are differentially important in determining the meaning of the members of different semantic categories, selective damage to the visual or the functional semantic subsystem will result in a category-like deficit. A review of the literature and the results of a new case of category-specific deficit will show that the domain-specific knowledge framework provides a better account of category-specific deficits than the sensory/ functional dichotomy theory.

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

**Abstract:** Certain aspects of thalamic organization in reptiles in 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 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 crocodylus*, the sole reptilian group in which the 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 GAD, gamma amino butyric acid, and parvalbumin.

**Dowden SL, Allen GJ: Relationships between anxiety, sensitivity, hyperventilation, and emotional reactivity to displays of facial emotions. *J Anxiety Disorders* 1997;11:63-75.**

**Abstract:** Undergraduate women who scored in the top (n=24) and bottom 15% (n=24) on the Anxiety Sensitivity Index viewed randomly counterbalanced sets of three neutral and three dysphoric faces after having either hyperventilated or relaxed. Participants rated the amount of change they experienced in Happiness, Sadness, Fear, Anger, Surprise, Disgust, and Contempt after viewing each face. High Anxiety Sensitive (AS) women reported significantly greater changes on six of the seven emotions, even though pretreatment differences in somatically experienced anxiety were covaried out. Significant three-way interactions were found for participants's self-rated changes in Fear and Surprise, with tendencies towards significance ( $p < .10$ ) also emerging for Anger and Disgust. The pattern of interactions was identical for all four variables. Low AS women manifested greater reductions in these four emotions when viewing neutral as opposed to dysphoric faces, regardless of whether they hyperventilated or relaxed. High AS women who relaxed manifested similar discriminant abilities. High AS women who hyperventilated, however, reported no relative changes in emotional arousal to both dysphoric and neutral faces. The blunted discrimination shown by high AS women who hyperventilated suggests that, when these individuals are in a physiologically challenged state, they may be less responsive to "early warning" indicators of social distress displayed by others which may, in turn, cause them to experience subsequent interpersonal difficulties.

**Uz T, Manev H: Chronic fluoxetine administration increases the serotonin N-acetyltransferase messenger RNA content in rat hippocampus. *Biological Psychiatry* 1999;45:175-179.**

**Abstract:** It has been proposed that up-regulation of cyclic adenosine monophosphate response element binding protein is a common action of chronic antidepressant treatments that may regulate specific gene targets in the hippocampus. We hypothesized that

the serotonin N-acetyltransferase (AA-NAT; EC 2.3.1.87) gene is one such target. AA-NAT leads to formation of N-acetylserotonin from serotonin, and in the pineal gland, to melatonin synthesis. We investigated whether hippocampal AA-NAT expression can be modified by chronic administration of fluoxetine to rats. Male Brown-Norway rats were administered 5 mg/kg fluoxetine or its vehicle either once (acute) or once daily for 21 days (chronic). They were then sacrificed 18 hours after the last injection, and their hippocampi were processed for a quantitative reverse-transcription-polymerase-chain reaction assay of AA-NAT and cyclophilin (eye) messenger (m)RNAs. The results are expressed as AA-NAT/cyc ratios. Results: Chronic but not acute fluoxetine administration resulted in about a fivefold increase in hippocampal AA-NAT mRNA. Conclusions: Up-regulation of... hippocampal AA-NAT expression may play a role in mediating the effect of antidepressant drugs.

**Extract:** The human AA-NAT gene was recently cloned, and its expression was observed not only in the pineal gland but in the brain..... the highest expression in the human midbrain, the brain stem, and the hippocampus.... The only published *in situ* hybridization studies of AA-NAT mRNA distribution/localization were performed in the *Drosophila melanogaster*, and they also identified its prominent expression in the nervous system.

**Fraser JS: Process, problems & solutions in brief therapy. *J Marital Fam Therapy* 1995;21:265-279.**

**Quote from a Japanese Folktale:** A Japanese coastal village was once threatened by a tidal wave, but the wave was sighted in advance, far out on the horizon, by a lone farmer in the rice fields on the hillside above the village. At once he set fire to the fields, and the villagers who came swarming up to save their crops were saved from the flood.

**Extract:** The focus of change [in the article] is alteration of ongoing interaction patterns of attention, concept, and related interaction to create some shift or difference.... focus is on simple shifts in the pattern of concept and action in collaboration with an ongoing process of evolution.

**Dixon AK: Ethological strategies for defence in animals and humans: their role in some psychiatric disorders. *Brit J Med Psychol* 1998; 71:417-445.**

Abstract: Ethological strategies for defence in animals and humans are expressed as either aggression or flight behaviour. Aggression is employed by animals during intraspecific competition for resources, mate, territory and acquiring and maintaining social status. It also disperses individuals throughout the biotope. Flight behaviour is used to avoid a source of danger or harm, has both dynamic and static forms, is phylogenetically very old and takes precedence over all other activities including social behaviour. Animals exposed to inescapable threats or attacks exhibit a characteristic defensive strategy, arrested flight, which consists of gaze-avoidance or cut-offs, cryptic postures such as immobility and covert surveillance of their surroundings. Arrested flight also occurs in social encounters when submission fails to reduce attacks, and in prey animals when escape from a predator is hampered.

Ethological studies show that during interviews, depressed patients exhibit a pattern of non-verbal behaviour having all the hallmarks of arrested flight. Cut-off behaviour, which seeks to reduce the input of flight-evoking stimuli is especially evident in these patients but takes an extreme form, i.e., eye closure, in the gaze-profiles of paranoid patients. It is proposed that these cut-offs always denote the presence of incipient flight and that arrested flight is a 'last measure' defensive strategy in response to inescapable proximal threat. It can arise in humans whenever their escape routes are hampered and characterizes the behaviour of patients suffering from depression. As in animals, different pathways may lead to arrested flight in humans. In humans, defensive mechanisms also operate at the mental level through putative ego defences, the psychological function of which is to preserve self-esteem by hindering the access of disturbing emotional material into awareness. It is suggested that they function ethologically as mental cut-offs analogous to the behavioural cut-offs in animals.

**Wilson DR: Evolutionary epidemiology and manic depression. *Brit J Med Psychol* 1998;71:375-395.**

Abstract: The reformulation of epidemiological prevalence rates at evolutionary frequency rates puts medical genetics within an explicit framework of Darwinian theory. Yet an enduring and still current assumption of genomic medicine is that genes associated with disease are necessarily maladapted. Indeed it seems it could hardly be otherwise. However, evolutionary epidemiology has begun to uncover important and surprising counter-exemplary case-studies. Thus, the present aim is to first outline this emerging sub-discipline of 'evolutionary epidemiology'. Then, a major psychopathological syndrome - manic-depression - is examined in some detail within the purview of evolutionary epidemiology. Its medical genetics are those of an adaptive polymorphism in the human genome. Hence, genes associated with what is now a major public health problem accrued as they conferred selective advantage in phylogeny. Why should manic-depressive etiogenes have been selected? A preliminary anatomic-functional model, assembled from facts of human paleoneuropsychiatry, more adequately contextualises manic-depressive genomics and phenotypy. In this model, manic-depression finds its heuristic origins in a hierarchy of behavioural strategies stabilised in phylogeny and embedded at serial levels in the brain (Hawk-Dove ESS). A proportion of the population has variant genotypy which appears to have been favoured in social competition phylogenetically but express more pathogenic phenotypy in the current environment.... [Alternative [clinical] considerations emerge with the syndrome recast in a more positive Darwinian light.



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