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

ASCAP

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"Ethology was hardly known in Britain until Tinbergen's book Study of Instinct (1951) but Michael Chance, discovering the book after anthropological observations of rhesus monkeys at London Zoo, found it a revelation."
A.P. Silverman[1]

Across Species Comparison and Psychopathology (ASCAP) Newsletter Aims

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

*** Previous volumes are available.

ASCAP Society Mission Statement

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

Contents

CONTRIBUTING TO THE NEWSLETTER

The ASCAP Newsletter welcomes contributions. The best way to submit one is sending it on a 3.5" high density disk (IBM compatible preferred) and mail along with a hard copy to Dr. Russell Gardner, Jr. or Dena Stringer, UTMB-Graves Bldg (D-28); Galveston, Texas 77555-0428. Your disk will be returned after your contribution has been published. Disk may be sent in ASCII form or in a word processing program such as Word Perfect, and Microsoft Works/Word.

1995 SUBSCRIPTIONS ($25 FOR 12 ISSUES)

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

ADDRESSED TO & FROM ...

BECK AWARD LETTER

The following letter will be distributed nationally and internationally:

Dear Chair/Director of Training:
The ASCAP Society is sponsoring the 2nd Annual Aaron T. Beck Award competition. This award is given to the best unpublished paper relating to the subjects of evolutionary biology and psychopathology. Papers may be submitted by residents and fellows in psychiatry and related clinical fields and by graduate students in psychology, biology, anthropology, and related academic disciplines, and by recent graduates of such programs (within seven years of terminal degree).

Last year a number of outstanding papers were submitted. Our award winner was Dr. Nicholas Allen of the University of Melbourne for his thoughtful, provocative work entitled, 'Towards a Computational Theory of Depression: An Evolutionary Perspective."

For this year's competition our focus is directed to how evolutionary biology may be used to integrate various levels of understanding and thereby generate new or broaden prospectives for solving clinical problems. There are many possible areas for research including, to name a few, the relevance of evolutionary theory for psychotherapy, comparative psychology and psychiatric illness, comparative brain anatomy and pathological behavior, and relations of attachment processes or social rank hierarchy to psychopathology.

The award will be presented at our annual meeting to be held in New York on May 4, 1996, one day prior to the annual meeting of the American Psychiatric Association. The Aaron T. Beck Award carries with it a cash price of $1000 to support travel expenses.

The ASCAP society is an international group of clinicians and academics who are linked by a common interest in evolutionary biology and how this perspective can inform our work and research (ASCAP refers to across-species comparisons and psychopathology).

We take this opportunity to ask you to notify residents, graduate students, fellows, and recent graduates of your department about this competition. Please post this notice.

All participants should send four copies of their paper to:

Mark Erickson, MD, Beck ASCAP Award, c/o Russell Gardner, Jr., MD, Department of Psychiatry and Behavioral Sciences, 4.450 Graves Building (D28), University of Texas Medical Branch, Galveston, Texas 77555-0428.

The postmark deadline for entries will be February 1, 1996. Do not hesitate to call (409) 772-7029 for further information about the Beck Award or the ASCAP Society.

Sincerely yours,
Mark Erickson, MD
San Francisco, CA USA

Nick Allen awarded the first Aaron T. Beck ASCAP Award by Aaron T. Beck.

RESPONSE TO BIRTCHNELL'S COMMENTS

The following is an extension of the Interpersonal Adjective Scales to include the Big Five dimensions of personality (Trapnel PD, Wiggins JS); University British Columbia, Vancouver, Canada. *Journal of Personality and Social Psychology* Oct 1990;59(4):781-790.

Recent recognition that the dominance and nurturance dimensions of the interpersonal circumplex correspond closely to the surgency/extraversion and agreeableness dimensions of the five-factor model of personality provides a procedure whereby we extended out the adjectival measure of the circumplex. Revised Interpersonal Adjective Scales (IAS-R) to include the additional Big Five dimensions of conscientiousness, neuroticism, and openness to experience. The resultant five-scale instrument (IASR-B5) was found to have excellent structure on the item level, internally consistent scales, and promising convergent and discriminant properties when compared with the NEO Personality Inventory and the Hogan Personality Inventory. The unique feature of the IASR-B5 is that it provides a highly efficient instrument for combined circumplex and five-factor assessment. We provide an example of such combined assessment.

Tim Miller
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EVOLUTION: WHICH MEANING?

I just received the August edition of ASCAP and enjoyed reading your note on "A vision of sociophysiology". I find myself in total agreement with your idea that difficulties arise when the word evolution implies circular reasoning and adaptation as an idea.. This is a pit that I am afraid many of us have fallen into.

In any event, ASCAP under your stewardship has made a wonderful contribution to the field and I want to express my total support for the continuation of this extremely important newsletter.

Aaron T. Beck
University Professor Emeritus

ARTICLE:

by M Coe
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Mental Models: The flexible software of evolved behavioral systems

What follows is a hodgepodge of responses to Daniel Freedman's stimulus article, and to the commentaries already generated by his intriguing and wide-ranging exploration of how mental models may link biological and cultural processes.[1] My primary aim is to seed the dialog with some additional ideas and references which bear on these issues, but which haven't been mentioned in the newsletter so far. The memes I wish to propagate are of two sorts: 1) clarifications and updates on the concept of "mental models" as developed in Bowlby's behavioral systems theory and in attachment research, and 2) useful approaches to the same problem from other corners of psychology.

I use the term "mental models" rather than "internal working models" with purpose, because the former is a more general term which is possibly more fitting for the correspondence so far. In fact, partly in response to John Bowlby's concern about misuse of the term "working model," Patricia Crittenden wrote an article addressing this and other conceptual issues in attachment research.[2] Briefly, a mental model can be working or non-working, depending upon whether the organism can manipulate the model to imagine or mentally simulate various behavioral options and potential outcomes. What Bowlby conveyed in the term "working" model is the ability to conduct what some call "thought experiments," and to use these simulations for planning and choosing courses of action.[3] This ability is not always a feature of mental representations. Crittenden further argued that mental models can be relatively "open" or "closed," depending on how readily they may be updated and adjusted to new circumstances. Obviously, in healthy development or successful therapy, one hopes to

enhance the open, working qualities of one's mental models, so that new information can be incorporated and the models can be employed adaptively. Personality disorders and many Axis I problems may be viewed in part as involving relatively closed and/or non-working mental models.

Freedman advocates a continuity between mental models of attachment relations and animal imprinting. His description of mental models of attachment relations is apt: "long lasting psychophysioiogical representations of social interactions to which an organism is exposed in early life." Bowlby also thought in these terms, and included imprinting and related phenomena as he organized evidence for the existence of an attachment system in humans. However, there are good reasons for viewing attachment behavior in mammals as involving a much more complex type of system, and some important problems have arisen because of viewing human attachment from an imprinting point of view.

The attachment module is a set-goal system, far more flexible and environmentally labile than behavioral systems based on fixed-action patterns, such as imprinting. Much of the discord between psychoanalytic psychology and scientific psychology has involved different views of just how strongly adolescent and adult mental models are determined by childhood experiences. At the "Attachment and Psychopathology" international conference in Toronto last year, Michael Rutter began his review of the state of attachment research with a discussion of four major changes in attachment theory since Bowlby's original expositions.[4] The four major changes Rutter set forth were the following:

1. Viewing attachment as a variation of imprinting causes more problems than it solves.
2. There is no sharply defined sensitive period in the development of the attachment system.
3. The attachment system does not focus on a single attachment figure ("monotropy") but rather focuses rather flexibly on an evolving hierarchy of attachment figures.
4. The organization and functioning of the attachment system is greatly influenced by later relationships throughout the life cycle.

I agree with Freedman that imprinting and attachment serve similar evolutionary functions, but the representational, affective and behavioral mechanisms involved appear to be very different. From this point of view, John Birtchnell's challenge to Freedman to provide evidence that early experiences determine later functioning in some direct or simple fashion is unnecessary; this is not what attachment theorists argue, nor do they argue that human internal representations are neurologically fixed or permanent.[5]

Since human behavioral systems tend to be controlled by fairly elaborate and flexible information-processing mechanisms, Bowlby imported the latest developments from control theory and cognitive science, as well as ethology and anthropology. I think it is worthwhile to continue applying this integrated, cross-disciplinary approach to psychology and psychiatry. For those of us interested in understanding, measuring and perhaps influencing mental models, there is a wealth of new information scattered about in various nooks and crannies of the scientific literature. Mental models are often referred to as representations, representational models, schemas or schemata, prototypes, scripts, and so on. I prefer the term mental models because ordinary mortals can understand it, and it is broad enough to encompass the more specific features implied in some of the other terms, yet still useful as a category. I sometimes use the term "schema," since the schema construct has a long history, has been well documented in cognitive science research, and is equally useful.

I agree with Roger Masters that mental mechanisms for regulating attachment and for regulating social rank are somewhat independent, and that the "central nervous system is structured into functionally specialized modules."[6] This point of view has recently been articulated in important papers by Barkow, Tooby and Cosmides.[7,8] Bowlby argued for exactly this type of modular architecture in his outline of a behavioral systems approach to psychology. The schema construct and related ideas may be applied to many different set-goal systems which, as Bowlby noted, use cognitive "maps of the territory" ("information structures" in today's parlance) to regulate behavior and gene-environment

interactions.[9] Attachment researchers concentrate on understanding one such module which, one could argue, has a privileged role in the network of mental mechanisms - namely, the module for regulating attachment behavior and attachment relationships.

Because of the centrality in psychotherapy of issues pertaining to close interpersonal relationships, and the role of mental models in these issues, there is a growing convergence of interest in these mental models. Beck's cognitive approach to psychopathology and psychotherapy has increasingly made use of the schema or mental model construct as a fundamental cognitive structure, the organization of which is indicated by surface phenomena such as automatic thoughts and dysfunctional assumptions. Many cognitive therapy researcher-clinicians employ the term, with varying degrees of attention to the neurological or evolutionary mechanisms implied by their theories. One such model is proposed by Jeffrey Young, who has written about "schema-focused therapy" and developed a measure of "early maladaptive schemas."[10,11]

Use of the schema construct has grown far beyond attempts to understand basic memory and learning processes. If we imagine nested hierarchies of mental structures, including mental models of people and interactions and relationships as well as data structures representing other natural phenomena, the result is quite analogous to the hierarchical file structure of your computer. Once a particular file is activated, those linked to it generally become more available, while those not linked generally become less available. Many psychoanalytic observations, originally described in terms of transference-countertransference reactions, can be understood by using the evolved mental model paradigm.

In 1991 I attended a conference in San Francisco titled "Person Schemas and Case Formulation for Psychotherapy," which drew together a very diverse array of researchers who were attempting to measure mental models of self, others, and close personal relationships. Researcher-clinicians from cognitive and social psychology as well as psychoanalytic and interpersonal approaches presented a number of schema measurement methodologies. Some were extremely elaborate and very labor-consuming methods for producing very detailed, psychometrically reliable and valid case formulations of individuals with multiple, interacting mental models; several of these were published in a volume edited by Mardi Horowitz.[12] A number of more efficient methodologies were presented as well, based on traditional memory research paradigms, adjective or other linguistic pattern analysis paradigms, interpersonal circumplex scaling, etc. These methods produced valuable but less richly detailed portraits of the individuals in question, and generally were less able to replicate multiple interacting mental models.

I can recall no mention of evolutionary considerations at this conference on understanding and measuring the mental models of patients, and it seems that a great deal of research on schematic information processing and mental models has proceeded in isolation from conceptually similar work. Computational neuroscientists and clinicians interested in case formulation don't often discuss their problems together, and neither group regularly grounds their work in evolutionary biology. Barkow, Tooby and Cosmides have called for an end to this type of disciplinary fragmentation; John Bowlby and Mary Ainsworth, in developing attachment theory, have provided a rich example of how to overcome it.

With respect, I must disagree with John Birtchnell's statement that "Bowlby wrote about secure attachment, but not about secure distance." Indeed, Bowlby's entire formulation of secure attachment is about the development of healthy self-reliance, based on the knowledge that one will have access to closeness and support if needed. This is undoubtedly one of Bowlby's most important departures from other theories of development, and one which is often misunderstood. The concept of secure attachment is precisely one of "secure distance," that is, if attachment relationships are well regulated, the individual feels secure in the knowledge that high quality support is available if needed. Under these conditions, the individual is more free to activate other behavioral systems -- to play, explore, mate and work, to build skills and function independently. (Interestingly, Birtchnell speculates about images of God as being related to mental models of attachment relations. There is ample evidence that this is

so; see work by Lee Kirkpatrick.)[13,14,15,16]

Linda Mealey raised the question of whether attachment style is determined by experience or temperament; she states that "my guess is that the main effect of inborn temperament is much larger than the main effect of parental style, and that children with different genotypes will have different perceptions of the same experiences."[17] While there is growing evidence for the latter assertion, to my knowledge the guess is not supported by the available data. More consistent and larger effects are usually found for parental responsiveness, rather than temperament measures, in predicting children's attachment style; moreover, attachment style in children is readily changeable by interventions aimed at influencing parental behaviors, and attachment style does seem capable of change through the life cycle as a function of new experiences.[18,19]

Many developmental researchers, including Rutter, prefer to treat quality of attachment as mainly an attribute of a particular relationship, rather than an individual difference variable. I think of attachment style as being related to a particular mental model of a relationship. Individuals usually have more than one mental model of human relationships, based largely upon real experience, though experience is colored and shaped by temperament. This is an area of long and spirited controversy, and I'm not going to comment beyond these general impressions. Undoubtedly there are complex interactions between temperament and attachment variables; Belsky and Rovine have advanced one possible model of such connections.[20] Marinus van IJzendoorn has published several studies and meta-analyses aimed in part at these questions.[21,22,23]

In general, however, important adaptive equipment is species-typical; it is found universally in all individuals. This genetically informed equipment is not necessarily independent or insensitive to the environment. Attachment theorists view the behavioral system for regulating attachment as a genetically furnished mental module for incorporating environmental data, flexibly and adaptively, to perform specified functions, primarily regulating closeness and support in interpersonal relationships. Arguments about whether attachment behavior is genetically or environmentally determined miss the point. Bowlby foreshadowed the current drift of evolutionary thinking about the architecture of human psychological modules, as represented most clearly in the work of Tooby and Cosmides.

One correspondent asked for more reading material on these topics. For a well organized cognitive-ethological investigation of development and psychopathology, there is no substitute for reading Bowlby's original three-volume work.[24,25,26] Unfortunately, these 1200 pages are too often avoided. There is at present no easy shortcut to understanding the behavioral systems paradigm embodied in attachment theory, and there are a large number of published miscontruals. Perhaps the most common such oversimplification is to lump Bowlby together with other psychoanalysis, or in particular with the British object relations theorists.

Since Bowlby sought to understand the clinical phenomena of interest to the analytic community, he went to great lengths to critically examine and update analytic theory. His formulation of a behavioral systems approach is generally devoted to a painstaking and thorough look at the available ethological, psychological, and anthropological data, in a effort to understand how children develop and how early experience shapes development. Along the way, he takes time to make detailed important objections to certain features of psychoanalytic theory, practice and terminology. These arguments, and the theory and evidence obtained by his method, yield a model that is very different fro other analytic theories, one which helps explain many of the interesting phenomena addressed by psychoanalysis, and which can merge with an integrated causal model for natural and social science. It is therefore wholly inadequate to lump attachment theory with psychoanalysis, or the evolutionary ethology, or with cognitive science; it is an approach to clinical scientific integration.

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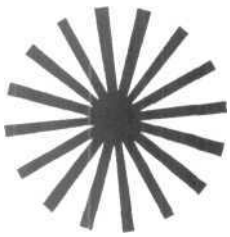

ARTICLE:

by J Price

Agonistic versus prestige competition: A possible basis for a distinction between the agonic and hedonic modes

Summary. It is suggested that two types of organisation of social competition occur in human societies. In agonistic competition, which is the usual form of competition in vertebrates, punishments are applied to one competitor by another, and the result is a rank order based on dominance/submission. In prestige competition, competitors are not allowed to reward or punish each other; instead, rewards and punishments are applied by the social group as a whole, resulting in a rank order based on differential prestige. Agonistic competition is based on intimidating a rival and prestige competition on attracting a panel of judges. The hedonic mode is said to occur when agonistic competition is proscribed by society, so that any attempt to gain power by agonistic behaviour is punished by loss of prestige.

In some societies, which might be termed ultra-hedonic, even attempts to gain influence by attracting others are punished by loss of prestige. Such societies, like the !Kung San of the Kalahari desert, are egalitarian.

"It is just because the terms of science are so well defined, and defined in a way which is closely tied down to the phenomena, that questions in science can be settled: only because this is so can scientists hope to answer definitely the questions that arise for them, by looking to see whether things actually happen in nature in the manner the theory suggests."

Stephen Toulmin

Michael Chance has given us an inspired holistic vision of two types of social organisation, and David Stevens has provided an excellent survey of the development and current status of the two modes concept.[1,2] I think that two issues need further attention in order to make the two mode concept more generally useful to, and acceptable by, behavioural scientists. One is a phenomenological issue and concerns whether the modes are a categorical or a dimensional concept. The other is a reductionist issue, and concerns whether there is some fundamental process or mechanism which operates differently in two modes.

I think there is an underlying dichotomous variable which underlies the two modes, and it concerns the type of social competition which occurs. Let us ignore inter-group competition (e.g., warfare) and concentrate on within-group competition. It has been known for a long time that there are two types of such competition: (1) competition by intimidation (aggression); (2) Competition by attraction.

Michael Chance's contribution related these forms of competition to social structure. He recognised that in most macaque species the only form of competition was competition by intimidation. But in chimpanzees a new form of competition could be discerned, in which the individual displayed to the group as a whole, not to intimidate them but to impress and attract them. In the 1970 book *Social Groups of Monkeys, Apes and Men,* Chance & Jolly wrote:

Reynolds and Luscombe have studied the behaviour of a group of chimpanzees in a thirty-acre enclosure at the Holloman Air Force base in the New Mexico desert, and they found that chimpanzee attention structure is based upon attention-demanding behaviour or display, practised competitively between males of the colony, and is distinct from the pattern of aggression between the same individuals. This display behaviour leads not to submission or appeasement by a subordinate, but is a form of social solicitation, as it leads on to forms of associative behaviour in which there is a continuing interaction between individuals, such as grooming, play, sexual or mothering behaviour with the displayer. (My emphasis).[3]

This discovery of two types of competition, one by intimidation and one by attraction, seems to me to be at the basis of the "mode" distinction. The behaviour of intimidating and the behaviour of attracting are, in most situations, mutually incompatible: the more one intimidates, the less attractive one is; and the more one sets out to attract, the less intimidating one is. Intimidating and attracting are alternative power-seeking strategies.

Human competition is enormously complex, but it is immediately clear that both types of competition occur in humans as well as in chimpanzees. Gilbert, Kemper and Barkow have independently drawn attention to this evolutionary change in method of competition.[4,5,6] But the ideas have not permeated mainstream social psychology.

Intimidation can vary in subtlety from punching on the nose to damning with faint praise. Competition by attraction is enormously elaborated in man, and can take an infinite variety of forms from parading at a beauty contest to writing *Paradise Lost.* Also human competition is infused with paradox and deceit.[A]

It is the replacement of the intimidation by the attraction that allows the hedonic mode to occur. When "attractant" behaviour occurs, it may take many forms, even in chimpanzees, as the above quotation makes clear, so even with chimpanzees we would be on difficult ground if we defined the mode by the form of its actual manifestation. But if we define it by the underlying form of competition, everything else follows. This new type of competition could be called "polyadic" to emphasise that others, apart from the members of a competing dyad, are influential in deciding the winner; or it could be called "externally mediated" to emphasise that relative rank within a dyad is decided by individuals external to that dyad; but I think it would be more user-friendly to call it prestige competition.

Before examining the possibility of defining the modes by the type of competition which is occurring, expected to occur, or allowed to occur, I would like to say a bit more about the evolution of the two types of within-group competition.

AGONISTIC COMPETITION

Nothing could be more important than competition which is, after all, the driving force of evolution, and we have known since Darwin's time that social competition occurs alongside non-social competition in affecting fitness (reproductive success). In most vertebrates, and some invertebrates, social competition takes the form of ritual agonistic behaviour, which is a dyadic interaction in which rank (and therefore relative fitness) is decided according to criteria which are internal to the two members of the dyad. In most species no outside influence affects the outcome of an agonistic encounter; the occurrence of third party interventions in dyadic encounters does not affect the issue.[B] In the vast majority of agonistic interactions, the encounter is decided by the characteristics of the combatants, which may be maturational, genetic or to do with their relative life experience, such as how well fed they are.

[A]Competition tends to be concealed both from fellow participants and from observers. Lord Chesterton wrote to his son: "Strive for place, but seem not to do so". At Oxford in the 1950s (and probably at other places in other times) it was considered prestigious to succeed without really trying. The person who was admired was the one who got a good degree without appearing to do much work, or who got a blue without excessive training. The film *Chariots of Fire* portrays the social disapprobation which accompanies too much effort to succeed at sport. Those who tried too hard at work were labelled "swots" and lost prestige.

The same, or even greater, pressure to succeed without trying occurred at Princeton University in the USA, according to the report of one of its alumni. This is how Scott Fitzgerald described the situation at Princeton :

> ***Football was the best means to social distinction on the [Princeton] campus, and social distinction... was the main preoccupation of an undergraduate's career. The competition was no less fierce because its most inviolable requirement was that the contestants should appear quite unconcerned with social prestige. Beneath this pretence of indifference the game of becoming a Big Man was carried on day in and day out by everyone who had, by local standards, good sense.***[A1]

This sort of comment should make us wary of asserting that competition is not occurring in a society. And, if we think what success a Martian anthropologist might have in studying Princeton social life, we should be cautious about accepting the reports of anthropologists about the practices of "primitive" tribes, who may be just as subtle and concealing as Western undergraduates.[A2]

[B] In a few very social species such as some macaques, family members act as allies and intervene in agonistic encounters to support their kin; and some horses may intervene to support unrelated friends; but on the whole the decision in agonistic encounters is reached by mutual interaction of the dyad alone, and in those cases in which others intervene, the intervention is entirely based on the criterion of existing kinship relations or friendship.[B1, B2] Therefore third party interventions do not affect the criteria which decide the outcome.

Among social insects, the workers may intervene in fights between queens. "Pleometrosis" occurs when two or more queens found the same nest. Usually the queens cooperate until some workers are hatched, but after that their relations are very variable. They may continue to cooperate, or ignore each other, or maintain separate equal territories within the nest, or form dominance hierarchies, or kill each other. The "transition from pleometrosis to monogyny" is the way an entomologist describes one of the queens killing her rivals off."[3] When the workers intervene in these fights, they only kill off and remove wounded or subordinate queens; there is no species in which the workers kill off queens which fail to please them, or which make their queens undergo some form of psychological testing, and then kill off those who perform poorly.

There are no cultural variations in the form of the agonistic encounter, nor in the criteria for success, except in man and possibly in chimpanzees.[C] In a society based on agonistic competition, the qualities of size, strength, fighting skill and alliance-formation will determine high social rank and group leadership; and, since high rank is associated with greater reproduction, these same qualities will be selected for.[7]

The control of agonistic behaviour

Agonistic behaviour has advantages and disadvantages for the individuals that manifest it in their behavioural repertoire. Its advantages are obvious, otherwise it would not have become so widespread in the animal kingdom. It acts as an amplifying transducer of small genetic differences, and thus accelerates the process of natural selection.[8] It transforms small inherited differences in strength and skill into large differences in rank and territorial occupancy. These large differences dictate which individuals in each generation shall succumb to the "reapers" of natural selection: starvation and disease. It is the homeless and low-ranking individuals who die of malnutrition and fail to reproduce. The high-ranking individuals and territory owners are well nourished and have high resistance, and it is they who beget the next generation. Thus, through the agency of agonistic behaviour, intrasexual selection has largely replaced natural selection as the engine of evolution, and the success of the vertebrate radiation is a testament to the efficiency of this process.

On the other hand, ritual agonistic behaviour has its disadvantages. It occupies the attention of individuals and prevents them pursuing other biological goals such as feeding and preparing shelters. The conspicuous displays of agonistic behaviour make the combatants vulnerable to predation.[9] Even worse is the agonic mode in which attention is directed to agonistic behaviour, but nothing is actually being decided; then the participants are getting all the disadvantages of agonistic behaviour and none of the advantages.[D]

We can discern three evolutionary pathways by which the disadvantages of agonistic behaviour have been minimised:

1. Time is partitioned into agonistic and hedonic periods. This mechanism has evolved in many birds, such as the red grouse, in which fighting for status and territories is restricted to the hour or two after sunrise, and for the rest of the day the birds feed peacefully together without any disputes or fighting.[10] In many lineages fighting is restricted to certain times of the year, usually co-incidental with the breeding season. Thus in wolves a rigid hierarchy is determined during about two months of the year and for the remaining ten months this hierarchy is never disputed, there is a lot

[c] In human societies, agonistic encounters are usually proscribed. But they do occur, in two main forms. In one form, they are permitted by society in culturally ritualised varieties, such as duels, boxing matches and sports. Mere, society prescribes which skills lead to victory. Also, there is a referee to perform functions which in biologically ritualised encounters are performed by psychological processes (e.g., the exercise of mercy by the winner, and the development of an "involuntary subordinate strategy (ISS)" in the loser.[C1] In sports, both agonistic and prestige competition are occurring at the same time. In *Vanity Fair* Thackeray gives a good example of a fight in which the winner benefitted in terms of agonistic competition and the loser benefitted in terms of prestige competition. The balance of the types of competition determines whether the mode of a sporting contest is agonistic or hedonic.

The second form of agonistic competition occurs where society lacks either the power or the will to intervene. In the case of street-corner gangs, prisons and the school playground, society lacks the power to proscribe; and the effect of the bullying which is seen in these places is reflected in high suicide rates. In the case of the marital bedroom, and to some extent the family home, society has neither the power nor the will to intervene. The lack of will, enshrined in aphorisms such as "never intervene between a husband and wife" is basically due to the fact that in society's eyes husband and wife as not in competition, in that, whichever wins the marital dominance struggle, the effect on society's leadership and the selection process is zero. In other words, for purposes of social competition, society treats the married couple as "one flesh". In broader terms, marital conflict is independent of sexual selection.

[D] Michael Chance used the term agonistic mode to refer to a group which was oriented to agonistic behaviour. He then introduced the term agonic mode which had to additional meaning that the individuals were aroused to agonistic behaviour, but this behaviour was largely inhibited. In the agonic mode the dominants could still carry out random aggression against the subordinates, but the latter did not retaliate. Transferred from monkeys to humans, this definition has the problem of determining whether retaliation is occurring, in view of the human capacity for concealed aggression. In fact, most human retaliation is retualised, subject to inhibitation by internal factors, and only invery exceptional towards agonistic behavior could be seen to be occurring or not. In *The Decline and Fat of the Roman Empire* Gibbon speaks of a despotic government as one "where either the subject or the sovereign must continually tremble"; this is the agonic mode.

of social behaviour but no fighting, and during this time the wolf pack is clearly operating in the hedonic mode.

2. Agonistic behavior is abolished by biological mechanisms. This is seen in the chimpanzee. The two mechanisms concerned are promiscuous mating and reconciliation behaviour. By mating promiscuously the chimpanzee has abolished the correlation between rank and reproductive success which exists in other primates, thus reducing the power of sexual selection. Instead of fighting each other, chimpanzees spend their energy on growing large testicles and huge sperm counts, thus ensuring that out of the panmixia it is their sperm which beget the next generation. Even if fighting occurs in the chimpanzee, their enormous (and superhuman) capacity for reconciliation ensures that "the sun never goes down on their wrath" and the hedonic mode is maintained for the vast majority of their time. In this way the chimpanzee is able to maintain co-operative groups; but the loss of sexual selection for behavioral variables probably means that, even without competition from man, this is an evolutionary dead-end.

3. Agonistic behaviour is abolished by cultural mechanisms. This is what we see in the majority of human societies. It can only occur in humans because it requires language and a complex social structure to ensure the cohesion and continuity of culture required to achieve this end. It is not an evolutionary dead-end because the power of intrasexual selection has been maintained. But instead of being mediated by agonistic behaviour, it is mediated by prestige competition, in which individuals display attractive qualities to each other, giving each other pleasure, which is returned to the giver of pleasure in the form of approbation and prestige, so that it is those individuals in the group that are attractive to the majority who rise to leadership positions and amass the resources that protect them and their offspring against the depredations of starvation and disease. And in the case of men, given a polygynous society, it may give them an extra wife and so double their reproductive fitness.[11]

PRESTIGE COMPETITION

Evolutionary adjustment to prestige competition

The evolution of this new attractant type of competition has required several developments in social behaviour. In the competitor, a hedonic "desire to show off or a "desire to be approved of has come to coexist with the agonistic "desire to intimidate". Alongside this motivational element, there is a cognitive apparatus for learning what type of display behaviour is likely to be approved of. This allows the content of the display to be culturally determined, and, indeed, human displays are very diverse.

Then, a whole new role of spectator/evaluator/judge has been developed, in which the group members evaluate one or more performers and respond to them with either approbation or disapprobation. Also, the spectator/judges must learn the criteria on which they are evaluating the performances, and the criteria of evaluation may be varied between groups and handed down from generation to generation. The role of evaluator is one that seems natural to human beings - we all enjoy watching a performance and then either clapping or booing, giving the thumbs up or the thumbs down. We enjoy discussing performance with other evaluators, and in generating the systemic variables of reputation and prestige. The signals of approbation and disapprobation given by the evaluators to the performers are newly evolved; they are designed to raise and lower self-esteem, in the way that the threat and submissive signals of agonistic competition lower and raise self-esteem. But they differ from agonistic signals in having no comparative component; whereas a threat signal says, "I am more powerful than you", and a submissive signal says, "You are more powerful than me", approbation says, "You are good" and disapprobation says "You are no good", but there is no suggestion that the performer is better or worse than the evaluator. The King can evaluate the Cat, and the Cat can evaluate the King.

Then the performers must be sensitive to approbation or disapprobation, so that these signals come to raise or lower self-esteem, and we may say that a new hedonic self-concept (which Paul Gilbert has called social attention holding power or SAHP) has come to coexist with the agonistic self-concept of resource-holding potential (RHP). Every group member performs simultaneously the role of performer in which he or she is evaluated by others, and of judge/spectator, in which he or she evaluates the others. There is no escape from these roles. Just as one "cannot not com-

municate", so, one cannot not evaluate, nor can one avoid being evaluated.

These are enormous changes, which have modified not only social interaction but also individual psychology.

Natural selection in the hedonic mode

The implications for social interaction theory and role theory are obviously great, but the implications for evolutionary theory are even greater.[12] In hedonic "competition by attraction" it is possible to select for any quality the society chooses to be attracted by. Attractive people are given prestige (a systemic correlate of SAHP) and come to occupy leadership roles and also are given more resources so their fitness increases; their children survive because they are better fed, and in many cases a man with prestige is allowed more wives than other men (he is given the resources which his agonic counterpart takes). Whatever qualities form the basis for the allocation of prestige are thus selected for. A group can select for co-operative people and weed out free-riders and any deviates who might exploit the altruism of the majority. It is a paradox that hedonic competition can lead to the selection of non-competitiveness; and when it does so, people are competing to appear non-competitive. This appears to have happened in modern immediate return hunter/gatherer societies, for instance the !Kung, in whom any display of ostentation is rewarded with group disapprobation.[13] In some societies there appears to be an attempt to make hedonic society the very opposite of agonistic society; for instance, among the Chewong of Malaysia displays of cowardice receive approbation, and the boastings of old men tell of times they ran away.[14]

In populations practising prestige competition, the variance of culture is large, because different groups give approbation for different qualities. In a group favouring X-type behaviour, X-types will become leaders, X-genotypes will be selected for, and non-X-types will be selected against. In a systemic "runaway" effect, the more X-types are selected, the more the genetic system will favour their selection, a situation suggested by Scott: "Systems theory emphasises the fact, implicit in Darwin's theory of natural selection, that differential survival not only alters genotypic systems, but that the latter, through the process of adaptation, alter the process of differential survival. Thus, the most general trend in evolutionary change is to negate natural selection."[15] Sexual selection is a mechanism which negates natural selection, and, as I discuss in the next section, intrasexual selection by attraction negates intrasexual selection by intimidation.

It is interesting to speculate how prestige competition arose. Gilbert discusses two possibilities: first, that it is a development of the recruitment of allies; secondly, that it arose when males started to do what females in many primate species already do, to use their influence to make sure an attractive male wins the power struggle.[4]

The proscription of agonistic competition

One liability of competing hedonic groups is the extent to which rank and therefore selection is still determined by agonistic behaviour, because this will dilute the hedonic selection for such things as co-operativeness and unselfishness. However much prestige competition is encouraged, the phylogenetically old tendency to gain power by coercion is likely to persist; after all, this primitive form of competition has been evolving for three hundred million years, and must be deeply embedded in the genome, whereas prestige competition has probably only been around for ten million years, one thirtieth of the time. So competition by intimidation is going to be hard to eliminate. But groups will try to do it, because the more the character of the group is determined by prestige competition, the more effective it will be. Therefore we can expect all groups to have social sanctions against agonistic competition, and that, in fact, is what we find in all human groups except street comer gangs, prison populations, and others who have not had time or the right conditions to develop prestige competition.

This then is the hedonic mode: it is a mode in which not only is competition by intimidation not occurring, it is a mode in which it is not allowed to occur. The members can feel free to let their attention be diverted by whatever interests them, secure in the knowledge that they do not have to attend to the whims of a dominant, and also secure in the knowledge that if anyone tried to behave like a dominant and intimidate them, he or she will have committed a social gaffe and will receive disapprobation from the group and his or her social

rank and power in the group will decline.[E] Thus the hedonic mode is not just the absence of the agonistic/ agonic modes; it is a formal structuring of society which outlaws agonistic behaviour and decrees that, if any competition occurs, it is to be prestige competition.

The proscription of agonistic behaviour begins in childhood. Vaillant, in his study of normal American young men, found that almost all of them had been subjected to strong childhood training against the expression of aggression.[16] The same is true of most primitive peoples.[17] Children are allowed to compete for attention and praise, but, as far as fighting is concerned, they are subjected to propaganda like the following:

Let dogs delight to bark and bite,
For God hath made them so;
Let bears and lions growl and fight,
For 'tis their nature too.

But, children, you should never let
Such angry passions rise;
Your little hands were never made
To tear each other's eyes.

ISAAC WATTS (1674-1748) Divine songs for children, xvi, Against Quarrelling

As they get older, children are trained to restrict their non-violence to members of their own group. Intimidation of the enemy brings prestige, and the most honoured men in many tribes are those with a reputation as a good leader in war.[17] This is the one exception to the rule that intimidation and attraction are incompatible. Providing they are intimidating the enemy, intimidators are attractive.

PROPOSED DEFINITIONS

Suggested definition of two types of competition

It is well known that many useful concepts cannot be defined. And yet, the closer one gets to a definition, the more useful a concept is. Here is a preliminary attempt to define the two types of competition:

Agonistic (or dyadic, or internally mediated) competition is said to occur when the relative social rank (and hence reproductive success) of any pair of group members is being altered by signals (information or messages) exchanged between the members of that pair

Prestige (or polyadic, or externally mediated) competition is said to occur when the relative social rank (and hence reproductive success) of any pair of group members is being altered by signals (information or messages) exchanged between one or more other members of the group and one or both members of that pair

Note that this definition does not mention intimidation or attraction. It is based on the role of the person (or persons) who administers rewards and punishments (boosting and putting down signals) to the competitors. If the rewards and punishments are administered by a rival (in the form of submission and domination), the competition is agonic; if they are administered by a non-competitive evaluator (in the form of approbation and disapprobation), it is hedonic. This is because the only way to get a reward from a competitor is to intimidate him; and the only way to get a reward from a non-competitor is to attract him. So the fundamental distinction is not in the type of signal, but in who has the power to administer rewards and punishments.

A suggested definition of the two modes

If we can accept the above definition of the two types of competition, we then have a simple definition of the two modes:

The agonic mode occurs when agonistic competition is taking place or is likely to take place

The hedonic mode occurs when agonistic competition

[E] An example of this is given in the novel *The Dangerous Edge* by Tim Renton.[E1] The plot concerns the British cabinet's reaction to the taking of two hostages in Lebanon. The Prime Minister and the Foreign Secretary used to have a hedonic relationship, but recently the Foreign Secretary has come to covet his friend's position, and the Prime Minister is nervous of this ambition, and so their personal relationship has become agonic. The Prime Minister, having won his position by prestige competition, resorts to agonistic competition (he humiliates the Foreign Secretary in a Cabinet meeting, and he sacks the latter's assistant in a punitive way). These agonistic acts are unattractive to his cabinet colleagues, of whom he soon ceases to command the support of a majority, and so he loses his place.

is not taking place or likely to take place, regardless of the degree of hedonic competition which may be occurring or anticipated

Although the hedonic mode may be defined by the absence of agonistic competition, it is typified by the presence of affiliative behaviour, which occurs either for its own sake, or in the pursuit of some objective such as a group task, or courtship, or the planning of some communal display. The crucial point is that agonistic competition inhibits affiliative behaviour, whereas prestige competition, if anything, promotes it.

Consequences of the definition

Any social group in which prestige competition is sanctioned but agonistic competition is not, is bound to veer towards the left-hand pole of the various dimensions listed by David Stevens. It is bound to be a group in which most people would like to live; only the most extreme authoritarian personalities, those very high in Social Dominance Orientation, are likely to prefer to live in an agonic society.[18]

Apart from anything else, the hedonic person has an enormous range of choice. Every individual has two concurrent roles in any hedonic group: that of performer, and that of spectator/judge. In both roles he has choice. As performer, he can get up on the stage or he can stay out of the limelight; as judge, he can decide whom he will applaud, and how vigorously, and for what kind of performance.

Nevertheless, there is still a downside to the hedonic mode. What if one's performance is not appreciated by one's peers? What if one receives disapprobation rather than approbation? Then one is receiving the hedonic equivalent of "catathetic signals" or the threats and blows that characterise agonistic competition. When this happens, the average individual will back off, lower his sights and try to play a more inconspicuous part in social interaction. There may be cases where such tactics are not possible, either because of excess of ambition or shortage of resources. In these cases the individual may continue to receive group disapprobation or even rejection, and a whole new armoury of mental mechanisms has evolved to cope with this situation. Shame occurs when the standards of the group are not met, guilt occurs when the rules are broken, and both these emotions are associated with lowering of self-concept (SAHP) and dysphoria. It seems very likely that these responses to failure in prestige competition are evolutionary developments of the primitive anxiety and depression which evolved to manage failure in agonistic competition. Even when a group member is excluded completely, is ostracised from the group, or dies as a result of "pointing the bone", we are still seeing prestige competition and its results, and the reason is that these social activities are the result of the evaluation of the individual by the group as a whole, and are not the result of mutual evaluation as occurs in agonistic or dyadic competition. Even the interaction between an executioner and his victim may be completely hedonic, because it does not address itself to their relative rank.

We must acknowledge that, even in a hedonic group, prestige competition carries with it the implication that some people do better than others, and that some people will fail. The hedonic group imposes sanctions, which are often formalised as customs and laws; and the implication of a sanction is that someone, at some time, will break it. Therefore even in the hedonic mode people are going to be afraid of error and failure, and experience shame, guilt and humiliation, and they are going to be concerned with their self-presentation, especially their power of attraction, and their capacity to be sufficiently attractive to be included in the group, and this means they may be afraid of expulsion. Even attention and the systems-forming faculty may be impaired in the hedonic mode; as Walter Bagehot said, *"A man doubtful of his dinner, or trembling at a creditor, is not much disposed to abstract meditation, or remote enquiries."*

This is the downside of prestige competition. Most people would agree that it is better than the effects of agonistic competition. Nevertheless, it conflicts with the OED meaning of the word 'hedonic' (= pleasurable).

In fact, I think the term "hedonic" is appropriate to the type of competition we are talking about. The purpose of a hedonic display is to attract, to please, to give pleasure to the recipient of the display; this contrasts with the purpose of the agonistic display which is to threaten, intimidate, lower, harm and basically to cause pain to the recipient. The response to a hedonic dis-

play is usually one of approbation which gives pleasure to the displayer in return. The unfortunate but inescapable fact is that hedonic displays designed to give pleasure do not always succeed in that aim, and then the evaluators respond with disapprobation which causes pain in the displayer.

Of course, there are some occasions when no competition is occurring at all. An example is the companionable interaction described by Heard and Lake (1986). Some people have used the term hedonic mode in this sense - an interaction in which there is no competition, no status differentiation and no unpleasantness. We have argued this out in the Birmingham group. There is no disagreement about the facts - that there are:

1. Agonistic/agonic interaction
2. Prestige competition
3. Companionable interaction.

The question has been whether we use the term hedonic to cover both prestige competition and companionable interaction or restrict it to the latter only.

I think the crucial factor is the discreteness of the boundaries between the different types of interaction. There is a reasonably discrete boundary between agonistic competition and prestige competition, but the boundary between prestige competition and companionable interaction is blurred. It is very difficult to tell when prestige competition is and is not occurring.[A] Evaluation goes on all the time, whether we want it to or not. Even in companionable interaction the participants may note outstandingly good or bad performance on the part of other members. Even when we seem to be cooperating most, we may be competing to be seen as cooperative, knowing that society rewards cooperative behaviour. For this reason and others it was decided to use the term "hedonic mode" to cover all interaction in which agonistic behaviour was excluded, and to adopt the definitions given above.

We recognise that a major dimension of variation of competitiveness lies orthogonal to the hedonic/agonic distinction. Agonistic societies may be more or less competitive, and hedonic societies vary from those of avid status seekers to those in which negligible competition occurs. This general level of competitiveness is probably ultimately determined by the degree of asymmetry of payoff between those who are successful and those who are unsuccessful in competition, whatever the form of competition may be.

With agonistic behaviour relegated to the street corner, the school playground and other places where society lacks either the power or the will to intervene, individuals can flourish in the hedonic mode, secure in the knowledge that agonistic behaviour will not occur because it is against the cultural norms of the society. Thus, agonistic behaviour is not just absent and seen to be absent, it is known to be punished by society at large.[D] This leaves human beings free to pursue co-operative activities, and to engage in prestige competition, which, fame being the spur, has resulted in their devotion to art, science and manifold human activities which give pleasure to others. It also means that human beings have been selected to be co-operative, nice, loyal and devoted to the giving of pleasure. Our genes may be selfish, but prestige competition has seen to it that our phenotypes are very different.

Or, at least, our phenotypes have the capacity to be hedonic. The capacity for the agonistic phenotype represented by the "authoritarian personality" is probably still present in most human beings.[19] Given the right upbringing, the child will learn to derive self-esteem from the approbation of others; but, lacking this lesson, he or she may well revert to the primitive source of self-esteem which is the submission of others. This flexibility in development adds poignancy to the fact that so many children in the world today are being raised in families which deny them approbation and in societies which teach them to divide the world into those who are to be intimidated and those who are to be flattered and/or induced to provide agonistic support.

Summary of differences between prestige and agonistic competition:

1. In prestige competition, the display of the competitor is designed to attract; in agonistic competition it is designed to intimidate.

2. In prestige competition, the reward to the competitor comes in the form of applause from a judge or evaluator; in agonistic competition it comes in the form of submission from a rival. In prestige competition, failure to attract results in disapprobation from the judge or evaluator; in agonistic competition failure to intimidate results in defeat by a rival.

3. Submission, the reward of agonistic competition, is a comparative statement, indicating that the signaller is inferior to the recipient; applause, the reward of prestige competition, has no implication for the relative rank of competitor and judge.

Category or dimension

Even if there is a discrete difference in type of competition underlying the two modes, can we demonstrate categorical status, for instance by demonstrating bimodality on some measure applied to large numbers of groups? There are several problems:

1. The two mode distinction is orthogonal to other ways in which groups differ, such as the amount of competitiveness/co-operativeness, and whether behaviour is controlled mainly by rewards or punishments. The variation generated by these dimensions might dwarf the agonic/hedonic distinction.

2. We have talked of simple societies in which agonistic and prestige competition are the only ways to compete. But in modem societies there are many more ways, such as those based on money. Moreover, rank is determined to some extent by inherited social position and wealth. Also, in many human groups, people find themselves in formal hierarchies, determined "from above", and are thus in ranking relationships other than those which might have eventuated according to either agonistic or prestige competition. How do such groups and relationships develop hedonic or agonic properties?

3. I have emphasised the difficulty of knowing whether prestige competition is occurring, but there is also the problem of deciding when agonistic competition is occurring. A "put-down" can be so subtle that it may not even be recognised as such by members of the same group. An oblique reference to some undesirable or discreditable aspect of the other may cause severe put-down, and will only be recognised if others have the same information about the victim. Also, the omission of an expected reward or token of deference can have the same effect as a put-down so the observer of social competition has to record what is not done as well as what is done.

4. In prestige competition, the display of attraction may be to the group as a whole, or it may be to the group leader or to a particular patron. Do these two types of display differ? For instance, a parliamentary candidate displays to the electorate to seek votes, but he also displays to the party leader to seek office. Will such a difference cause inconvenient variation within the hedonic mode?

5. Perhaps the clearest examples of hedonic relationships occur in marriage, and marriage also offers clear examples of relationships which switch back and forth from one mode to the other.[20] But this is a case in which two is qualitatively different from three, because a dyad cannot satisfy our requirements for prestige competition. A dyad is either competing agonistically or co-operating, in which latter case it is in the hedonic mode because agonistic interaction is not anticipated. Should we treat dyads such as married couples separately from our treatment of groups?

I mention these problems because we must accept that to demonstrate the two modes observationally, let alone experimentally, is not going to be easy. Perhaps we need a situation in which there are a large number of homogeneous groups, such as the groups of air crew which were used to study status incongruence. But before anyone is brave enough to start field work on the two modes, it is important for us to try to get our definitions right.

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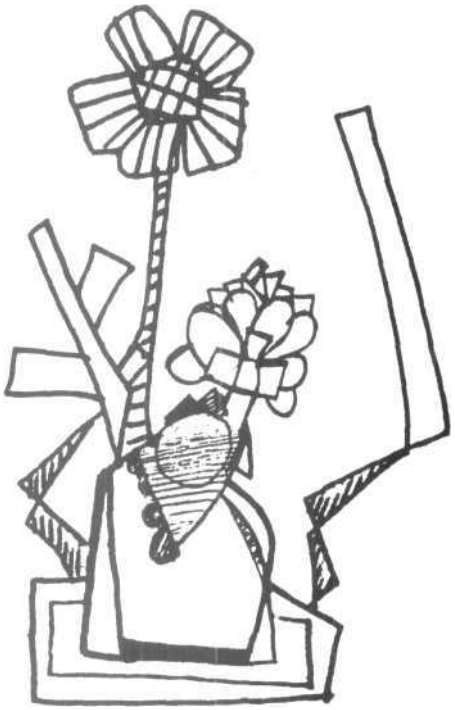

ARTICLE:

by R Gardner
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Donald Klein- watching and other matters

On the problems of a 'GABA system'
Excerpt from e-mail Aug 1, 1995
by Donald Klein
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Acetylcholine causes sweat glands to secrete, but also causes smooth muscle to contract. Given the multiplicity of GABA and serotonin receptors, it seems likely that the neurotransmitters subserve many discrete functions — and this makes the primary task functional analysis and definition, both for normal and pathological functioning. Focusing on neurotransmitters as central seems an error to me.

I have discussed this in Klein D: Testing the suffocation false alarm theory of panic disorder. Anxiety 1994;1:1-7.

Disease-monocorrelate-monomania: problems of Robinsian psychiatry.

My delight in Donald Klein-watching — as in the above — stems from his cutting succinctly to the bone of an issue. He does that in the 57 words of the first paragraph. I'll discuss the issue further with a few more words.

The point he makes has also troubled me for some time. Yet his abounding logic is not shared by the field. Mono-ligand or mono-brain-structure theories continue by some of the field's established names as we see in the *Abstracts and Extracts* of this issue. Mann and Kapur have recently published "A dopaminergic hypothesis of major depression" and Janowsky, Overstreet and Nurnberger, "Is cholinergic sensitivity a genetic marker for the affective disorders?" How good it felt in contrast to see similar oversimplifications concerning the frontal lobe put in their place by the Gurs in their destruction of the hypofrontality theory of schizophrenia in a recent Lancet (see that too in *Abstracts and Extracts* of this issue). They — in addition to Klein — make the excellent point that we require a knowledge of normality before going prematurely after pathology.

I have an example from the May, 1995, issue of the *Archives of General Psychiatry* concerning the imaged volume of the caudate nucleus in obsessive-compulsive disorder (OCD).[1] Nine authors worked to investigate the volume of neural structures in OCD. They found the caudate to be clearly smaller in the patient population in contrast to matched normal controls. They wondered if OCD was a degenerative disorder of the caudate. With Christopher Holzer and imaging expert Terry Early, I have written a just-dispatched letter to the Archives to complain about a methodological error — ignoring potential drug effects — that could easily have been avoided by a greater interest in normality. The error was instead fostered because of what I call disease-monocorrelate-monomania.

Ironically, four of the authors (nearly half) shared authorship in an earlier paper wherein caudate nucleus size was shown to be very sensitive to drug effects[2] Yet somehow the later paper went out with all these names on it, and somehow the Archives allowed it through their peer review process despite the fact that from 77 to 100% of the OCD patients were on drugs — how many exactly the reader can't tell from the article! — and the normal controls had none. The article is an embarrassment to all concerned — especially in view of the earlier study — because there is no way to detect whether the caudate was smaller from the presence of the disorder or because the patients were taking mind-altering (and hence of course perhaps brain-altering) drugs. In these cases the drugs were serotonergic in 77% of cases and and benzodiazepines in 23% — there could have been overlap in that some patients might have taken both classes of drugs and a few therefore none at all; the reader simply isn't provided the information. While composing our reply, Christopher Holzer pointed out that the proper design should have included four groups: (1) with a particular drug class but no OCD (eg, depressed patients on serotonergic agents), (2) with drugs and OCD, (3) without

drugs but OCD, and (4) with neither drugs nor OCD. The particularly interesting feature of this case involves those four co-authors who participated in the finding that indeed drugs make a difference in caudate size, but then not influencing their new co-authors to check out the possibility of the opposite effect with other drugs in the second project, not even referring to it in the discussion section of the article. The authors leaped to pathology and displayed disease-monocorrelate-monomania when of all people they should have known better.

How could the error so obvious once pointed out have been made? Kuhn introduced the word, paradigm, to describe normal science.[3] In periods occupied by such normality, investigators share many assumptions about the nature of what is researched and use the same typical problems as models for their experiments. Most science, he asserts, is mopping up a paradigm, filling in the details. But now and then massive shifts occur in fields of science. When they do, normality shifts its definition. A new, normal science then evolves as more true to its practitioners. The old model becomes a myth. In fact, of course, the new model will in turn also be a myth to the intellectual descendants of present investigators when the new paradigm shifts in the future, as it surely will. What we construe as scientific reality approximates more each go-around how our descendants will appreciate reality. Linguist Derek Bickerton notes that we all have theories believed correct: "a thousand years ago, very little of what we now regard as 'knowledge' was accepted, and the bulk of what was accepted would no longer be regarded as 'knowledge'. Who could predict with any confidence what will be 'knowledge' a thousand years from now? Yet people a thousand years ago were every bit as convinced by their 'knowledge' as we are by ours, and as those a thousand years hence will be by theirs."[4]

I suggest that the OCO-caudate authors would have benefitted from higher interest in the normal physiology from which the pathological varies, like stroke effects stem from interruption of critical CNS structures. If this had been more their focus, the authors as well as the Archives referees and overseeing editors who missed it too might have been curious about the question of 'what are the normal effects of the drugs used in OCD?' The neurotransmitters are hardly independent of each other (actions of one cause changes in other of the now seemingly innumerable ligands) and as Donald Klein points out, each has multiple effects. In discussing the hypofrontality idea, the Gurs advise researchers to "carry out extensive studies in healthy subjects before leaping to patient studies," and to "integrate functional imaging data with clinical variables and other measures of brain structure and function."

Disease-monocorrelate-monomania stems from the now pervasive Robinsian psychiatry (after the late Eli Robins, the anti-Freudian pioneer from Washington University in St. Louis) whose extraordinarily effective efforts have fostered on the one hand the salutory efforts to define operationally the disorders of psychiatry (his teaching was a major factor in forming DSM-III a decade and a half ago). But on the other hand, his rage against deleterious effects of psychoanalysis (which he personally experienced) seems to have affected the entire investigational and practice paradigms of current psychiatry. His followers in the paradigm have been extremely articulate and persuasive; they still talk informally of the pain and humiliation he suffered. In a classic baby-bathwater scenario, all clinical things psychological or mental are to be considered potentially fantasy and worse, mishandled by errant practitioners, until definitely demonstrated otherwise.

In his paradigm-shifting efforts Robins hoped to approximate a new American psychiatry to the rest of medicine with a fresh reliance on empiricism, forgetting or minimizing that normal medicine is critically affected by pathogenetic formulation. He and his followers were principally bottom-down in their thinking. The only salient behavior for them was that of clinical disorder, around which their 'empiric' formulations could hinge. Please understand, this is not an anti-Robinsian statement, just a signal of impatience to move on to the next paradigm nicely summarized by Klein's succinct thoughtful e-mail statement (please note that only I — not he — am elaborating his comment by mentioning Robins in this context; Don Klein and I haven't directly discussed this person-to-person and he may dispute the

importance of Robins in the history of the second half 20th century psychiatry; perhaps Donald will himself let us know what he thinks in a comment for these pages - or perhaps other ASCAP readers will --hardly shrinking violets in their commentary on such issues).

In any event, there is an assumption in what I am calling Robinsian 'biological psychiatry' that disease accounts for much variance in potential cellular, humoral or neural correlates. Psychiatry instead badly needs a systematic science of its basic functions with the behavioral and social variables treated with as much respect as the cellular and molecular ones. We need top-down and bottom-up studies, not Freudian top-up work that ignores the central nervous system in the first half of the twentieth century nor Robinsian bottom-down studies characterizing the prevailing paradigm in the second half. In this, the only behavioral variables that seem relevant are those that divide a person's behavior and mental phenomena into disorders. Perhaps we can enter the twenty-first century with a more realistic and helpful paradigm. We should be working at this apace.

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REVIEW:

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The Wounded Healer

The Wounded Healer is a superb book by David Sedgwick, a Jungian Psychoanalyst and Assistant Professor of Clinical Psychiatry at the University of Virginia. This volume appears to be the first Jungian book exclusively on countertransference, even though Carl Jung was a pioneer in using countertransference as a therapeutic technique. The book is divided into four parts: 1. Introduction, 2. Review of Jungian approaches to countertransference, 3. Two case illustrations, and 4. Discussion of a theory and model of countertransference.

The primary thesis of the book is taken from Jung:"only the wounded [therapist] heals". A further supposition is that the therapist be conscious of his or her woundedness and use this, that is, his or her reactions to the patient, or countertransference, as part of the therapeutic technique. David Sedgwick, models this approach to countertransference by his own personal disclosures. In the two case illustrations, Sedgwick is refreshingly honest about his own process: his wishes, fantasies, wounds, fears, and remorses. He even shared his erotic fantasies and emphasizes the Sedgwick has the courage to be open to incestuous feelings only to sacrifice them through "acting out"—something Jung was involved in and which underscores the pitfalls of self-analysis. Sedgwick demonstrates how valuable the symbolic "analytical marriage" is for healing to occur—but again only if there is awareness of this process by the therapist.

Sedgwick offers the following practical and helpful model of countertransference, which has eight stages or phases:

1. Preliminary (Developing as much self-knowledge and self-awareness as possible).
2. Clearing the field (Establishing an open, centered, meditative, and reflective state).
3. Reception (Accepting and taking-in the patient).
4. Selection (Allowing oneself to be guided by silent responses to countertransference feelings).
5. Containment (Holding the tension of the opposites, for example love and hate, and not acting-out to relieve the tension).
6. Working through (Amplifying and elucidating countertransference fantasies and feelings in the service of the question: How an I reacting to this? Grappling with the basic issue: Is it the patient or is it me?)
7. Incubation (Choosing to sit with anxiety-ridden states and working them through. The question then becomes: Have I changed or has the patient?)
8. Validation (Noting indications of change in the patient, such as direct statements, dream images, and most important behavioral changes. Also, this final phase involves returning to the key question: Is it the patient or is it me?).

Sedgwick's model of countertransference is "a

specific brand of mutually transformative, countertransference-based interaction". He has characterized countertransference in a way that both the therapist and patient can grow and develop. It's a both/and perspective: one that is welcomed and applauded.

Regarding types of countertransference-inducing situations, Sedgwick mentions the importance of countertransference and suicide, but he does not underscore that danger of "countertransference hate" and the inadvertent precipitation of suicide.[1] Sedgwick shares a case vignette of a suicidal patient (p. 138), which fortunately has a good outcome. It seems to me that what Sedgwick did was to help his patient commit egocide and undergo transformation.[2] Most likely, Sedgwick, by attending to his own countertransference issues was able to put into practice his eight stage model which enabled him to "stand by [his patient] at the crucial time (p.153)." Sedgwick cites Hillman's *Suicide and the Soul* as relevant to his patient (also p. 153).[3] However, because of the nature of this case, and its positive outcome, the inherent danger of Hillman's "provocative meditation on suicide" is not outlined (likewise p. 153). Hillman regards suicide as a rational deed to be understood and accepted and recommends that therapists maintain "dispassionate scientific objectivity" toward the action. I disagree with Hillman's perspective, which creates serious problems in clinical treatment. In fact, Hillman's cold and detached view could be interpreted as "countertransference hate" and precipitate actual suicides.[4]

By now readers of *The ASCAP Newsletter* may be asking themselves: What does *The Wounded Healer* have to do with evolutionary biology? The answer is that the underlying principles of countertransference, such as acceptance and empathy are at the core of the healing process for our species and others, such as the primates. Elsewhere I've outlined the innate nature of the healing doctor-patient relationship.[5]

In conclusion, *The Wounded Healer* is well written, concise, and integrity-full. I recommend it wholeheartedly.

References on page 22

ABSTRACTS & EXTRACTS ...

Mann JJ, Kapur S: A dopaminergic hypothesis of major depression

Janowsky DS, Overstreet DH, Nurnberger Jr, JI: Is cholinergic sensitivity a genetic marker for the affective disorders?

Gur RC, Gur RE: Hyperfrontality in schizophrenia: RIP

Mann John J & Kapur Shitij: A dopaminergic hypothesis of major depression *Clinical Neuropharmacology* 1995;18(1):S57-S65

Summary: The dopaminergic system appears to play a role in the etiopathogenesis of major depression that is analogous to the roles hypothesized for norepinephrine and serotonin. Three distinct groups of dopaminergic neurons project via the nigrostriatal, mesolimbic, and mesocortical pathways, and they are involved in motor functioning , major depression, cognition, and a variety of behaviors related to reward and motivation. The five dopamine-receptor subtypes provide an additional level of organization of the dopaminergic system; medications that are direct agonists or antagonists for specific receptors will have more selective effects within the dopaminergic system. A variety of studies of animals, as well as clinical observations, are consistent with a dopamine-deficiency hypothesis of major depression. Depletion of dopamine levels by drugs such as reserpine and tetrabenazine, or through the long-term use of stimulants, has been reported to produce major depressive episodes in vulnerable individuals. The association of depression with Parkinson's disease provides important additional support for the

dopaminergic hypothesis of depression. Electroconvulsive therapy, which enhances dopaminergic transmission, improves both depression and the motor symptoms of Parkinson's disease. The development of more selective medications will help to clarify the precise role of the dopominergic system and specific receptor subtypes in the etiopathogenesis of major depression.

Janowsky D, Overstreet D & Nurnberger JI: Is Cholinergic Sensitivity a Genetic Marker for the Affective Disorders? American Journal of Medical Genetic (Neuropsychiatric Genetics 1994;54:335-344

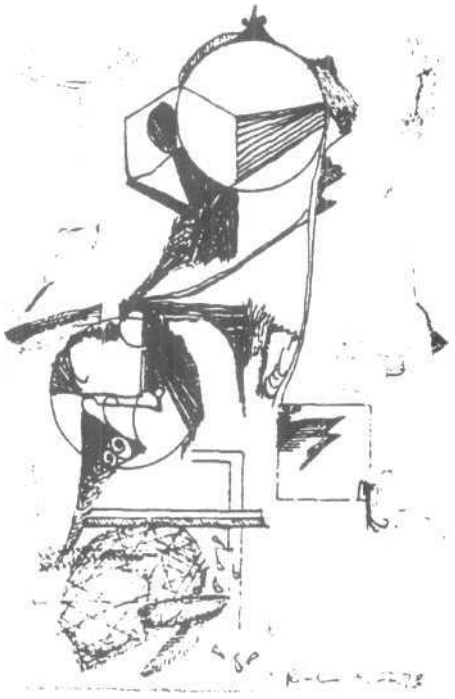
The recent literature on the involvement of cholinergic muscarinic mechanisms and adrenergic/cholinergic balance in affective disorders is reviewed and integrated with the older literature. There is strong evidence supporting the presence of exaggerated responses (behavioral, neuroendocrine, sleep) to cholinergic agents in affective disorder patients relative to normal controls and certain other psychiatric patients. There is also some, albeit less, conclusive evidence that these exaggerated responses may occur in euthymic individuals with a history of affective disorders, or in children at risk for development of affective disorders. Despite these promising results, suggesting a role for acetylcholine in the genetics of the affective disorders, further work in biochemistry and genetics is needed to link specific muscarinic receptors or other cholinergic variables to affective illness.

Gur RC & Gur, RE: Hypofrontality in schizophrenia: RIP The Lancet 1995;345:383-384

Extract: The hypofrontality hypothesis of schizophrenia "has achieved the status of a paradigm in neuropsychiatry. Yet in a careful study, Ebmeier et al find no evidence for hypofrontaility in schizophrenia. This result accords with our own ^{133}Xe CBF[3,4] and positron emission tomography metabolic data.

...Several factors may have contributed to the prominence of the hypofrontality hypothesis despite meager support. Understanding these could help promote progress. The hypothesis is conceptually attractive and sensibly based on clinical and animal studies. The frontal lobes in human beings are highly evolved and regulate complex behaviours, some of which are dysfunctional in schizophrenia. Consequently, the apparently supportive findings with functional neuroimaging buttressed a reasonable expectation in the psychiatric community. The neuroimaging community at the time was impressed by the "hyperfrontal pattern" in normal subjects, and was primed to embrace hypofrontality as indicating a severe mental disorder. The initally limited access by psychiatric investigators to neuroimaging and the expense of such studies have delayed accumulation of large datasets with careful attention to clinical and technical issues.

As newer neuroimaging methods are applied, including functional magnectic resonance imaging, we should be these factors in mind. To shorten the time between applications of a new method to study schizophrenia and finding out what it reveals about brain function, we suggest researchers take note of four principles: (a) carry out extensive studies on healthy subjects before leaping to patient studies; (b) incorporate standard resting values as well as activation measures; (c) suspend judgment until data are available on large well-characterised patient samples; (d) integrate functional neuroimaging data with clinical variables and other measures of brain structure and function.



AS CITED BY...

Cover page

1 Silverman AP: A memoir of Uffculme. In Cooper, SJ, Hendrie, C.A. (Eds.): *Ethology and Psychopharmacology.* New York, NY: John v Wiley & Sons, 1994;pp1.

Coe: Mental models. . . . .p 3

1
2 Freedman D: *ASCAP Newsletter* 1995;8(2):3-11.
3 Crittenden PM: Internal representational models of attachment relationships. *Infant Mental Health Journal* 1990;11:259-277.
4 Bowlby J: *.Attachment and Loss: Vol. 1* Attachment. New York: Basic Books;1969/1982: second edition;80-83.
Rutter M: Clinical implications of attachment concepts: Retrospect and prospect. Paper presented at the Attachment and Psychopathol ogy International Conference Toronto, Canada;August 1994.
5 Birtchnell J: *ASCAP Newsletter,* 1995;8(6):6.
6 Masters R: *ASCAP Newsletter,* 1995;8(4):5..
7
Barkow JH, Cosmides L, Tooby J: *The adapted mind: Evolutionary psychology and the generation of culture.* New York: Oxford
8 University Press; 1992.
Tooby J, Cosmides L: The psychologist foundations of culture. In Barkow JH Cosmides L Tooby J(eds), *The adapted mind: Evolu*
9 *tionary psychology and the generation of culture* (pp 19-136). New York: Oxford University Press; 1992.
10 Bowlby J: *Attachment and Loss: Vol 1, Attachment.* New York: Oxford University Press; 1969/1982; second edition;80-83.
Young JE: Cognitive therapy for personality disorders: A schema-focused approach. Sarasota, Florida: Professional Resource Ex
11 change, 1990.
Schmidt NB .Jointer TE, Young JE, Telch MJ: The Schema Questionnaire: Investigation of Psychometric properties and the hierarchical
12 structure of a measure of maladaptive schemas. unpublished manuscript, 1994.
13 Horowitz MJ(Ed): Person schemas and maladaptive interpersonal patterns Chicago: University of Chicago Press; 1991.
Kirkpatrick LA An attachment-theoretical apporach to the psychology of religion. *International Journal for the Psychology of Religion*
14 1992;2:3-28.
15 Kirkpatrick LA: The role of attachment in religious belief and behaviour *Advances in Personal Relationships* 1994;5:239-268.
Kirkpatrick LA, Shaver PR: Attachment theory and religion: Childhood attachments, religious beliefs, and conversion. *Journal for the*
16 *Scientific Study of Religion* 1990;18:266-275.
Kirkpatrick LA, Shaver PR: An attachment-theorectical approach to romantic love and religious belief. *Personality and Social Psychology*
17 *Bulletin* 1992;18:266-275.
18 Mealey L: *ASCAP Newsletter,* 1995;8(6):5.
19 Fox NA, Kimmerty NL, Schafer WD: Attachment to mother/attachment to father, a meta-analysis. *Child Development* 1991;62:210-225.
van den Boom D: Preventive intervention and the quality of mother-infant interaction and infant exploration in irritable infants. In W Koops,
HJG Soppe, JL van der Linden, PCM Molenaar & JJF Schroots (Eds.), *Developmental psychology behind the dikes: An outline of*
20 *developmental psychology research in The Netherlands.* The Netherlands: Uitgeverij Eburon, 1990.
Belsky J, Rovine MJ: Temperament and attachment security in the Strange Situation: Am empirical approachment. *Child Development*
21 1987;58:471-486.
de Haas MA Bakermans-Kranenburg MA & van IJzendoorn MH: The Adult Attachment Interview and questionnaires for attachment style,
22 temperament and memories of parental behavior. *Journal of Genetic Psychology* 1994;155:471-486.
van IJzendoorn MH, Goldberg S, Kroonenberg PM, Frenkel OJ: The relative effects of maternal and child problems on the quality of a
23 attachment: a meta-analysis of attachment in clinical samples. *Child Development* 1992:63:840-858.
van IJzendoorn MH: Intergenerational transmission of parenting: a review of studies in nonclinical populations. *Developmental Review*
24 *1992,12:76-99.*
25 Bowlby J: *Attachment and Loss. Vol 1 Attachment* New York: Basic Books; 1969/1982.
26 Bowlby J: *Attachment and Loss Vol 2 Separation* New York; Basic Books, 1973.
Bowlby J: *Attachment and Loss Vol 3 Loss* New York; Basic Books, 1980.

Price: Agonistic versus. . . . .p 7

1 Chance MRA: (in press) A socio-mental bimodality: a prehominid inheritance. In Shennan & Steele J (Eds) *Power, Sex and Tradition*
London: Routledge. In *ASCAP Newsletter,* 1994;7(8):3-6(9):4-8(10):4-9.
2 Stevens D: The essential nature of bimodal theory. *ASCAP Newsletter* 1995;8(8);6-12.
3 Chance MRA, Jolly CJ: *Social Groups of Monkeys, Apes and Men* New York: E.P. Dutton; 1970.
4 Gilbert P: *Depression: The Evolution of Powerlessness* Hove: Lawrence Erlbaum 1992.
5 Kemper TD, Collins R: Dimensions of microinteraction. *American Journal of Sociology* 1990;96:32-68.
6 Barkow JH: Prestige and culture: a biosocial interpretation. *Current Anthropology* 1975;16:553-572.
7 Betzig LL: *Despotism and Differential Reproduction: A Darwinian View of History* New York: Aldine; 1986.
8 Sloman L: The adaptive role of maladaptive neurosis. *Biological Psychiatry* 1979;14:961-972.
9 Jacobsson S, Brick O, Kullberg C: Escalated fighting behaviour incurs increased predation risk *Animal Behavior* 1995;49:235-238.
10 Wynne-Edwards VC: Self-regulating systems in populations of animals. *Science* 1965;147:1543-1548.

[11] Perusse D: Cultural and reproductive success in industrial societies: testing the relationship at the proximate and ultimate levels. *Behavioral and Brain Sciences* 1993; 16:267-322.
[12] Price J: Communication from Belize on sexual selection *ASCAP Newsletter* 1992;5(2):5-6.
[13] Lee RB: *The !kung San: Men, Women and Work in a Foraging Society* Cambridge:Cambridge University Press 1979.
[14] Howell S: "To be angry is not to be human, but to be fearful is": Chewong concepts of human nature. In S Howell & R Willis (Eds) *Societies at Peace: Anthropological Perspectives* London: Routledge;1989:235-238.
[15] Scott JP: *The Evolution of Social Systems* New York: Gordon & Breach 1989.
[16] Valliant G: *Adaptation to Life: How the Best and Brightest Come of Age* Boston, MA: Little Brown 1977.
[17] Service ER: *Profiles in Ethnology* New York: Harper & Row, revised edition 1971.
[18] Pratto F Sidanius J Stallworth LM & Malle BF: Social dominance orientation: a personality variable predicting social and politics attitudes *Journal of Personality and Social Psychology* 1994;67:741-763.
[19] Maslow AH: The authoritarian character structure *Journal of Social Psychology* 1943;18:401 -411.
[20] Price JS: The agonic and hedonic modes: definition, usage, and the promotion of mental health *World Futures* 1992;35:87-115.
[A1] Mizener A: *The Far Side of paradise: A Biography of F. Scott Fitzgerald* Boston: Houghton Mifflin; 1949; p 32.
[A2] Chagnon NA: *Yanomamo: The Fierce People* New York: Hold, Reinhart and Winston 1968.
[B1] Chapais B: The role of alliances in social inheritance of rank among female primates In: *Coalitions and Alliances in Humans and Other Animals* ed AH Hearcourt & FBM de Waal. Oxford: Oxford University Press: 1992;29-59.
[B2] Fraser AF: *The Behaviour of the Horse* Wallingford: CAB International 1992.
[B3] Heinze J: Queen-queen interactions in polygynous ants. In L Keller (ed) Queen *Number and Sociality in Insects* Oxford: Oxford University Press 1993;49:334-361.
[C1] Price JS .Sloman L, Gardner R, Gilbert P, Rohde P: The social competition hypothesis of depression. *British Journal of Psychiatry* 1994;164:309-435.
[E1] Renton T: *The Dangerous Edge* London: Hutchinson 1994.

Gardner... p 16

[1] Robinson D, Wu H, Numme RA, Ashtari M, Alvir JMJ, Lerner G, Koreen A, Cole L. Bogerts B: Reduced caudate nucleus volume in obsessive-compulsive disorder. *Arch Gen Psychiatry* 1995;52:393-398.
[2] Chiakos MH, Lieberman JA, Bilder RM, Borenstein M, Lerner G. Bogerts B, Wu H, Kinon B, Ashtari M: Increase in caudate nuclei volumes of first-episode schizophrenic patients taking antipsychotic drugs. *American Journal of Psychiatry* 1994; 151:1430-1436.
[3] Kuhn TS: *The Structure of Scientific Revolutions Second Edition Enlarged.* Chicago: University of Chicago Press, 1970.
[4] Bickerton D: *Language and Species.* Chicago, IL: University of Chicago Press, 1990, pp. 223.

Rosen:... p 18

[1] Maltsberger MT & Buie DH: Countertransference Hate in the Treatment of Suicidal Patients *Archives of General Psychiatry* 1974;30:625-633.
[2] Rosen D: "Egocide and Transformation" in *Transforming Depression* New York: Tarcher/Putnam; 1993:61-84.
[3] Hillman J: *Suicide and the Soul* New York; Harper Colophon Books; 1973.
[4] Rosen D: Inborn Basis for the Doctor-Patient Relationship *The Pharos* 1992;55:17-21.