

ASCAP NEWSLETTER

Across-Species Comparisons And Psychopathology Newsletter

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A preliminary but growing body of evidence supports the existence of genetic and biological substrates of personality, suggesting the utility of a psychobiological perspective on the personality disorders.

The ASCAP Newsletter²
is
a function of the

International Association
for the Study of
Comparative Psychopathology
(IASCAP)³

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

IASCAP 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 that focusing on cellular processes to that focusing on individuals to that of individuals in groups.

- Features: Our prolific new IASCAP Vice President, John Pearce, has the first and last words this issue, firstly reporting on Albert Ellis at McLean Hospital (Boston) p3 and lastly commenting on cognitive therapy and biology. p8
- I report on the World Congress of Cognitive Therapy and a companion conference at the Clarke Institute of Psychiatry (Toronto). p4
- A quote from Scientific American features newly discovered stone makers in New Guinea. p5
- V Diane Garrett comments on Beck's evolutionary essay (Apr issue) p6 as does Kalman Glantz. p7

Report from IASCAP Board by RG
Given our far-flung geographic distribution, the IASCAP board now a year old has met segmentally. Michael Chance, John Price, and Paul Gilbert meet regularly in the Birmingham Group. John visited Galveston in March and I visited Leon Sloman and Paul Gilbert in Toronto in June. But we made decisions reported here:

John Price is succeeding Michael Chance as President and Paul Gilbert formerly Vice President becomes President-Elect. Leon Sloman and I retain our present positions. We are pleased to announce that John Pearce

of Cambridge, MA, USA, has agreed to become the new Vice President.

We noted a problem in the name of ASCAP; the use of "psychiatry," only one of several disciplines involved in the broader issue of psychopathology potentially overlimits the description of our interests. Note that in the above masthead, we have substituted "psychopathology." Are there objections to this? The change is tentative, being tried out.

This question exemplifies another issue: for decision-making, the board desires input from ASCAP Newsletter readership/IASCAP membership on development and leadership. Consider who future leaders should be: nominate likely candidates; feel free to nominate yourself.

Letter:

June 5, 1992

After faxing my reaction to an eventual comparison between the Bickerton and Bichakjian approaches to languages [June issue], I have been mulling over your question about laughter. It is a difficult question. To me, speech, facial expression and laughter are homologous means of communication. As you observe the evolution of speech, you witness a steady development from cognitively-inspired to mentally-determined features. Let me give two examples to illustrate this shift.

(i) The ancestral lexicon was essentially made of iconic items (words that imitate the sound of the object, e.g., the sound *g* connected with the 'throat' as in Fr *gorge*, Sp *gargania*, Eng *gargle*, *gulp*, *gullet*, etc.), whereas modern words are purely arbitrary--the sounds of the word *bird* do not evoke the notion of flight, nor does the acoustic impact of *dog* approximate the effect of barking.

(ii) The ancestral sentence was built around the cognitive roles of agent and patient, whereas the modern

sentence uses the mentally-determined functions of subject and object, which allow a whole range of syntactic possibilities. Of the following sentences,

1. The organization gives assistance to the needy.

2. Assistance is given to the needy by the organization.

3. The needy are given assistance by the organization.

4. The needy receive assistance from the organization.

The ancestral language could *mutatis mutandis* produce only 1 (this situation is found today in Basque), whereas most modern languages have 1, 2, and 4. English has pushed the development of this part of syntax even further by allowing 3.

The point that I am trying to make with these data is that languages have become more functional by shifting from cognitively to mentally-determined features (lexical items and structural strategies). This shift represents an increased power of abstraction or a growing intellectualization process.

Now, I wonder whether the use of laughter has not evolved along with speech within this general intellectualization process. Today, we generally use ridicule instead of physical force, or a smile instead of a more invasive bonding action. My hunch is that speech and laughter and for that matter sign language and facial expressions are on parallel tracks. Language is by far the most functional, though in specific circumstances the other means of communication could be quite effective or even more so.

Thanks for faxing me the exchange of letters between Bickerton and Marantz in The Sciences.⁴ Marantz's concluding remark, "I feel free to shelve his Roots of Language with Kipling's Just so Stories, as another piece to be included in the anthology of humor." Bickerton's scenario for

the origin of language is a "just so story." It cannot not be otherwise when you base your conclusion on creole languages and ignore all the developmental evidence that historical linguistics can provide. For those who have reflected on the evolution of language, Bickerton's scheme is as credible as Piltown "fossils."

In a more recent issue of The Sciences, there appeared a short report that you probably knew of. I am sending it just in case, along with Gopnik's original papers.

Finally, thanks for mentioning my account of language evolution in the ASCAP Newsletter. I am looking forward to the reactions it'll get.

BH Bichakjian, Nijmegen, Netherlands

Announcement: A Troisi and MT McGuire have written in the Arch Gen Psychiat (June) on "Evolutionary biology and life events research." They suggest that such research has so far depended on common sense more than science. Rather, they note, a more rational view of stress should build on two basic principles: "(1) any life experience that interferes with the achievement of biologic goals is likely to have pathogenic potential; and (2) the causal relationship between life experiences and maladaptive consequences may be either direct and easily understandable or indirect and apparently puzzling."

They note that phobias of the dark that children have and which Bowlby noted are understandable in view of increased risk of danger in the dark. They cite Marks on the ancient dangers of snakes and heights making sense of phobia-specific content.

Moreover, 37% of women but only 1% of men are psychologically disturbed in infertile marriages. This relates to women not men having more involvement with babies.

They point to the relevance of such data for a new DSM-IV.

Report on First Boston Public Program on Evolutionary Psychology (4/11/92)

by John Pearce

It was a big success--sold out, 140 people. Of course, most of the people came to hear and see the famous Albert Ellis, but they did seem attentive and enthusiastic about the evolutionary stuff.

A special treat: the great evolutionary biologist Ernst Mayr came. He had kind words to say, and a special interest in the problems of mass society in a species (ours) that evolved in hunting/gathering bands.

Some words on Albert Ellis's ideas: He focuses on modifying black and white thinking, and rigid emotional stances. He ferrets out his patients' convictions that they *must* be loved, rewarded, accepted, etc. He disputes the *musts*, arguing that while being loved is preferable, it is not absolutely necessary. We can all endure life without what we want. Then he urges patients to encounter their emotional *musts* and convert them to healthy emotions--regrets, or preferences. "I would have preferred to win a Nobel prize. I regret impulsively blowing up the administration building..." He models realistic acceptance of self and others. "I am not a shit and neither is the administration..."

His language ("psychoanalysis is crap!") and judgmental stance models *dismissal* as a way of managing odious relationships. He dismisses, and urges us to dismiss others, but does not say we are thereby superior. All humans are flawed. He invokes stoic philosophy and bids us detach from the illusion of superiority and seek what is good for us. He may believe that his philosophy is superior, but that doesn't make him superior.

Ellis dismisses what is odious, advocates active confrontation, and demands changes in ways of thinking

and feeling. As a psychotherapist he is like an obstetrician, delivering his patient from a noxious womb. He assures us that we can stand the pain of loss, even if it takes a long time to find another relationship. Having relationships may be preferable, but you can do without.

As a person, Ellis seems to embody his doctrine. He is polite and interested, but not particularly friendly. He does not seem to have much of a taste for warm personal relationships. Ever it was thus - therapists are best at advocating what suits them personally.

I thought that Ellis's tactics of dismissal were particularly interesting. Leaving is a problem for most animals, certainly for primates, certainly for us. All primates must cope with shifting alliances within bands, and most (usually the males) must cope with moving between bands in order to find mates. Humans in modern societies must make and break many relationships. The role of dismissal and the degradation of others as a method of managing emotional boundaries has not been given much thought--probably because it is so nasty. (An exception, Goffman has written about "degradation ceremonies" in which persons are redefined as contemptible classes of persons--like "rapist", or "murderer".) People don't want to admit how much they look down their noses at others, and how much they enjoy it.

By the way, our species' ability to decide just who is in our "band" and who isn't may make it possible for us humans to endure crowding that kills off other animals. We can decide that those other people don't matter--they are landscape and can be ignored.

Kalman Glantz and I talked about evolutionary psychology and what we said seemed to be well received. We are encouraged by the response and intend to put on another program with a more consistent focus on evolution-

ary psychology. Though Ellis affirmed that speedy predator avoidance is the evolutionary reason that humans are so given to black and white thinking, he otherwise gave his standard talk, not much addressing evolution.

Report on The World Congress of Cognitive Therapy (WCCT) June 17 through 21, Toronto. by RG

Because Leon Sloman invited me and since Paul Gilbert was coming from England to give two presentations, one at the WCCT and one at the Clarke Institute of Psychiatry, I made last minute travel plans and went.

The congress was wonderful fun, full of youth, enthusiasm as well as some hardearned and scholarly wisdom, as revealed, for example, by Michael Mahoney now in Denton, Texas, who advised against the mode of two talking heads (without the remainder of the bodies) in the same room talking intellectual stuff only: he pointed out that that is not what cognitive therapy is. Indeed, at times I must admit that I was hearing as new-found truth what had been strongly entrained in my residency training about patient history, sensitivity to feelings, resistance and transference. But as I mentioned to someone, rediscovering the wheel isn't bad: better wheels may result, as in natural selection where better bodies get formed and reformed in the real world.

Paul's presentation at the Clarke was well received; the idea that depression might represent a defeat state seemed a comfortable idea to the audience there, especially with some reverberation of John Price's emphasis on the idea that a defeat state may be more persuasive as a capitulation if indeed the defeated one is convinced. That is, if one is sure that the future is dismal and one is ineffective, what better demonstration to an antagonist that

one is no threat. Defeat outweighs death any day, but one has to deceive oneself to be fully persuasive. So persuasive indeed, that generations of depression researchers may have been deceived as well!

Randy Nesse was a discussant who provided Paul a "feminist challenge." Is not this emphasis on power a distinctively male thing to do? Women in this era are very concerned about male power! Paul replied that women who have talked to him have pointed out that bringing out power as a factor is very important; they have appreciated the point. Covert power is no less power; does keeping it under cover, allowing no discussion of it, mean that it would be misused less?

A WCCT symposium on evolutionary issues featured Leon Sloman as chair with participation from Randy Nesse, Paul, and Aaron Beck (in addition to himself). Leon articulated extensions of the competition model of depression well known to ASCAP readers, emphasizing the need to make the transition out of a defeat mode. "Giving way" vs resentfully giving in or yielding is far preferable. (He also publicly mentioned ASCAP, noting there were issues for distribution should audience members desire. Those issues with me vanished!)

Nesse and Beck both emphasized a resource planning model for depression. Beck seemed to disagree with the competition model because patients don't talk of fight!

Whatever the specifics, Dr Beck at this time and in his earlier formal address emphasized that a biological understanding of the disorders with which cognitive therapy is concerned are of first importance. We learned that he has a life-sized picture of Darwin in his office. His cheerful red bow tie decorated the conference and was echoed by other cognitive therapists who wore the same Beckian badge, indicating his successful leadership of this group.

Contemporary View of Stone Age from Toth N, Clark D, Ligabue G: The last stone ax makers Scientific American 1992;267:(July issue)88-93

[The authors visited] a group of horticulturists of Langda village, in the central mountains of...New Guinea. These people had made and traded stone axes in almost complete isolation from the outside world until 1984...

The craft of ax making confers high status to the male specialists who practice it and to their sons, who traditionally learn the work in lengthy apprenticeships. Today every man...owns at least two stone axes and each woman at least one. Most children older than five years also tote an ax to the fields...

A man may work alone or sit with other ax makers, creating an occasion for talking, singing and showing off one's handiwork. Members of such groups invariably sit in a line and face in the same direction so that sharp waste will not fly into anyone's face...

Women...most often relatives of the stone workers, typically transport rough-outs from the valley to the village...They put the implements in carrying nets...supporting the load on a strap that loops around their forehead...

Aesthetic considerations also motivate the...grinders, otherwise they might not bother to polish more than a few millimeters from the edge. In fact, they polish nearly to the point where the head disappears into the binding of the haft...

A...villager equipped with such an ax can fell a tree as thick as a telephone pole in five to 10 minutes...

Broken-off tips may be lost in the field, but interestingly, most worn-out or broken specimens end up in the village. The ax makers say they "feel sorry" for their handiwork and take pains to bring it home for final discard. Although such personal attachment to tools figures in the Iliad and the Odyssey, few anthropologists probably have suspected that it might explain distribution patterns in prehistoric sites...

Feasting villagers often exchange axes to cement their social bonds, and men give them in payment of the bride-price...before the days of cash economy intruded, a stone ax could be traded for a pig, a most prized food. Today three stone axes can be traded for one metal ax.

The...people trade their axes to other villages that lack suitable stone...Some six days northward,

the people of Bima barter their goods for Langda axes...In the past the Langda axes were traded as far away as the southern coast, mainly in exchange for shells. Traces of such far-reaching trade networks become obvious in the prehistoric record only after about 35,000 years ago...

Response to Beck by V. Diane Garrett

As a cognitive-behaviorally trained psychologist, I would like to respond to the essay by Dr Beck published in the April issue. My comments regarding Dr Beck's contribution are confined to the sections entitled "Evolution of Personality Disorders" and "The Environmental Niche."

My first comment concerns the specificity with which Dr Beck suggests each personality disorder develops. A less specific proposition regarding the development of normal personality would make more sense phylogenetically. Dr Beck suggests that primitive interpersonal strategies exist on a continuum, that is, dominance/submission, competition/cooperation, dependence/nurturance, and assertion/avoidance. Rather than "selecting in" specific interpersonal strategies, the *flexibility* to use strategies effectively in appropriate situations was more likely "selected in." The concept of "strategic flexibility" may be of heuristic value in explaining the development of normal personality.

Perhaps, individuals able to exhibit flexibility of action or problem-solving would be more likely to survive and pass on their genetic heritage. Similarly, those persons unable to exhibit pliability of behavior or cognitive processes (ie, those with personality disorders), would be unable to function effectively as members of social groups and therefore less likely to fulfill the mission of the selfish gene.

Individuals with personality disorders have problems with social and occupational functioning. Therefore,

from a phylogenetic standpoint, they may be less likely to: a) procreate, b) parent effectively, or c) provide for their family (whether by making money or by killing/procuring food). Any one or a combination of these factors makes it less likely that their offspring would survive. Further, any surviving offspring might be expected to be more likely to exhibit the behavioral/cognitive excesses or deficits of their parents (secondary to a learning component). The offspring, then, would pass these "traits" on and the development of abnormal patterns of behavior would appear to be genetically controlled. In conjunction with an environment that is a poor fit, one would expect an exacerbation of these difficulties and greater expression of the maladaptive behaviors/cognitions (ie, the Evolutionary Friction Rub proposed by Dr Beck).

According to this conceptualization, the maladaptive behaviors, irrational beliefs, and poor problem-solving abilities of persons with personality disorders would be "selected out" of the genetic pool. If evolution holds predominant inclusive fitness, then these maladaptive aspects of behavior/cognition would seem to be "selected out" not in, as Dr Beck proposes.

A more parsimonious explanation might be that maladaptive ways of thinking and behaving are learned at the idiographic level and result from exposure to certain environmental contingencies and belief systems to which individuals are exposed during their personal history. This way of conceptualizing personality disorders is not inconsistent with Dr Beck's report of some patients continuing to exhibit signs of personality disorders after primary Axis I disorders has remitted. In fact, it is entirely consistent.

Viewed from this perspective, it is the behavioral excesses/deficits and

beliefs of individuals with personality disorders that result in chronic difficulties with social interactions thus leading to the chronic anxiety and depression seen so commonly in these populations. The associated depression and anxiety result from a simple reduction in positive reinforcement. Persons with personality disorders are unable to effectively manipulate their environment to have their needs met. They are unable to cope with the demands of everyday life because of the influence of their early learning history and therefore become depressed.

Response to Beck by Kalman Glantz

John Pearce said you'd like to have my reaction to Aaron T Beck's article on the evolutionary basis of personality disorders. Please note that I had the opportunity to read and comment on this article before it was published.

The article, which shows what can be accomplished when a brilliant and trained mind begins to integrate the evolutionary paradigm into his/her area of expertise, has the potential to make evolutionary concepts relevant to all clinicians. It is therefore an extremely useful contribution. I disagree with Dr Beck on a few points, but I must say in advance that many contributors to this journal won't agree with me and I do not claim to represent a consensus.

To my mind, Dr Beck does not sufficiently distinguish between symptoms and adaptive traits. For example, he says that "acute anxiety and continuous vigilance, the expression of our hypersensitive alarm system, became the tribute we had to pay in order to stay alive...." He calls this hypervigilance a "strategy." Is it? Or is it a design failure? Rabbits must be extremely vigilant. Yet one can easily imagine a rabbit so

vigilant that it wouldn't be able to forage. An agoraphobic rabbit would not last long. Therefore, I consider anxiety to be symptom, not an adaptive strategy. Anxiety is not vigilance; it is the inability to relax when there is no danger.

Similarly for depression. Dr Beck says "A defeat, for example, would lead to loss of status and consequently reduced access to resources. A loss of close relation would represent a deprivation of resources. Consequently, giving up, and withdrawal (in other words, depression) appeared." Why "consequently"? One would think, rather, that evolution would provide the individual with the means to struggle even more. Why give up (yield, in the language of Price, Sloman, Gilbert, et al)? There is, of course, a reason to give up the struggle under some circumstances, so we have systems which lead us to avoid fights with stronger individuals, to conserve energy and/or to elicit help. These systems adjust mood to current circumstances in order to produce adaptive behavior. Depression obviously derives from the existence of such systems. Depression is the inability to change over to more aggressive or active behaviors when the opportunity arises. Therefore, I consider depression to be a symptom, not a strategy.

Symptoms appear when adaptive coping mechanisms don't work. There are at least three reasons for the appearance of symptoms: a) because genetic defects exist; b) because social events in childhood alter normal functioning of biological systems; or c) because the environment produces stressors that evolutionary mechanisms were not designed to cope with.

Dr Beck's analysis of personality disorders, as chronic maladjustments, is far more congenial to me. However, I disagree with him on some important details. For a variety of

reasons, I don't think that one can make a one-to-one relationship between the personality disorders defined in DSM-III-R and adaptive strategies.

1. What is the authority of DSM-III-R for evolutionists? Why should we believe that "entities" exist? The personality disorders represent constellations of separate traits that can be combined in many different ways. This is why a) the "diagnoses" contain a list of traits some *but not all* of which you have to have; and b) individuals do not present with exactly the combinations described in the manual.

2. It follows that we should not expect a one-to-one correspondence between a disorder and a strategy (page 6). Rather, we should expect that chronic maladjustments should contain a variety of strategies (some or all of which are probably being used out of context). The weakness of the connection between strategies and disorders is to my mind best exemplified by the attempt to relate Antisocial Personality Disorder to predation. Predators are often highly cooperative and social with their own kind. Predation and intra-specific aggression have been shown to be different systems in various animals, including cats. Similar remarks could be made about most of Dr Beck's other one-to-one correspondences between strategies and disorders.

3. This analysis suggests that each personality disorder does not have one single "core belief." I just believe that it will prove more fruitful to identify the core belief that goes along with each strategy within a chronic maladjustment (personality disorder).

In commenting on my letter, John Pearce suggested that Beck's approach had another weakness. The concept of personality disorders belongs to "trait psychology", a tradition in

which traits tend to be treated independently of context. Focusing on the strategies within the personality disorders eliminates this problem. No strategy can be understood except with respect to a particular context. Nevertheless, we would agree that an excessive reliance on certain strategies, especially in inappropriate contexts, does represent chronic maladjustment such as Dr Beck describes.

Despite these disagreements, I believe that Dr Beck is on the right track. We need to look for the (various) adaptive strategies that are malfunctioning in the personality disorders. When we find these and can identify them to our clients, I think we will be able to normalize and depathologize their behavior more effectively.

Cognitive Therapy And Evolutionary Biology

by John Pearce

Knowledge in biology is blossoming today the way knowledge in physics blossomed in the middle of this century. This knowledge is transforming our understanding of human psychology. As yet, the new biology has not been widely understood, particularly by social scientists, but that will change. College undergraduates are learning what's new, even if their future graduate-school teachers are behind the times, and public television is constantly bringing up-to-date information about biology to the attention of huge audiences.

Happily, the new biology helps us to understand psychotherapies. In particular, cognitive therapy, as exemplified by Albert Ellis, is in harmony with the new knowledge. This is an essay about cross-links between biology and cognitive therapy.

All plants and animals are the products of evolution. Usually, but not always, evolution produces increasing complexity from simple begin-

nings. As complexity develops, the old is not lost. New structures are layered atop old. Although the new structures may look very different, they are caused by tiny changes in the same genes that made the old, simpler structures. As a result, biologists find a host of similarities between different animals and between different organs in the same animal. The brains of all animals are similar, their intracellular processes almost identical. Redundancy is everywhere: the same peptides that act as chemical messengers within the brain are intracellular messengers within cells everywhere in the body. Natural selection chooses what's best for current conditions and life evolves.

Evolution is conservative and quirky. We say that evolution is "conservative" because it hangs on to the same basic biological structures and mechanisms. It is quirky because no biologist can predict what odd animal will be discovered next.

I said that evolution usually produces increasing complexity. Parasites are the exception. Some parasites evolve to become less complicated; they simply live inside other animals and concentrate on laying eggs. For them, simple is better. Evolution has no inherent direction, it's all a matter of chance. When a niche is available, if the genes can make a somewhat "better" animal, then a new species evolves. Evolution is a historical process, involving constant interplay, on a time scale of millions of years, between changing genes and changing environments. Every species, including us, is a compromise that best fits an historical situation.

What we have learned changes our view of ourselves. We now know that all living creatures are more closely related than we had thought. We know that all mammals are more closely related to us than we had thought.

Other primates are very closely related to us indeed. We share 99% of our genes with our nearest relatives, the chimpanzees.

So, biology is fundamentally a comparative science. Psychology *should* have always been a comparative science. Psychology should have compared different animals in their natural environments, but academic psychology got off to a bad start--academic psychology studied animals in laboratories. Animals look bad in labs.

Every animal (humans included) comes with a suite of behaviors that evolved to make it possible for the animal to choose to do sensible things in the environment in which it evolved. Choice is by no means uniquely human. In labs choices presented are artificial--often meaningless to the animals. As a result, animals do not seem bright or interesting; in natural environments they are bright and very interesting.

The history of psychology would have been entirely different if animals had always been studied in their natural environments. It would have been taken for granted that human beings, like other animals, must be understood in the environments in which they evolved. Evolutionary psychologists do take this for granted and are accustomed to understanding human behavior in the context of pleistocene hunting and gathering bands (not cities, not villages, not farms, not isolated nuclear families). This turns out to be a radically different way of looking at people, radical at least compared with conventional psychology--both academic and psychoanalytic. However, evolutionary psychology is not scientifically radical; it is based on conventional, main-stream, modern biology.

In the past, only one research psychiatrist, John Bowlby, has based his work on ethology and up-to-date

evolutionary science. He studied attachment, separation and loss, primarily in children. Now, evolutionary psychologists are rethinking psychotherapy. This essay explores the links between biology and cognitive therapy.

Cognitive Therapy How do we link modern biology to cognitive therapy? Let's begin with dominance and submission behavior in reptiles--lizards. Lizards are actually fairly advanced animals. They are social animals that do many of the things that people do. They have a "pecking order"; they recognize status, try to improve status with threats, bluffs, strategic yielding, and occasional fights. They prosper when victorious and suffer when defeated. Like all animals, lizards choose what to do, but we don't think they have a lot of feelings.

Feelings are an evolutionary step forward. Feelings improve the integration of behavior. Mammals invented feelings. The mammalian limbic system, layered atop the reptilian brain, made happiness, sadness, and depression possible. Moods organize behavior over considerable stretches of time--at least as long as a mood lasts. When you are mellow, affectionate or angry, you will act in ways that are consistent with that mood. (Depression is thought to have adaptive functions, e.g., energy conservation in hard times, or triggering giving-up when conditions are hopeless--such as hunting when game is exhausted.)

Atop both the reptilian brain and the mammalian limbic system, is the cerebral cortex. In primates (like us) it is huge. The cerebral cortex makes talking, map-making, and story-telling possible.

We humans, species-chauvinists as we are, make too much fuss about the cerebral cortex. In fact, most brain processing occurs elsewhere. Consider the brain processing of status: our

reptilian brain handles status--both victory and defeat. The limbic system handles the elation of victory and the dysphoria of defeat. What does the cerebral cortex do? It produces commentary. The cortex talks over experiences, decides if it's fair, and plans what to do next round.

However, it turns out that the cortex is no mere kibitzer. The cortex is able to decide when a status defeat is not really a status defeat. The cortex can redefine experiences and suppress natural limbic system emotions. Herein lies a link between biology and cognitive therapy.

Again: the reptilian brain knows loss and the limbic system feels rejection dysphoria, but the cerebral cortex can suppress the pain. People can learn to ignore defeats.

How do they do it? They decide the defeats don't matter. Salesmen learn to protect their sensitive feelings by cursing uncooperative customers. For example, stock-brokers who make cold-calls get rejected repeatedly. They learn to dismiss the customer covertly with a curse--something contemptuous, like "Stupid ass-hole!" They don't actually say this to the customer of course--they are required to be polite. Covertly, after hanging-up the phone, they curse. After cursing they feel better.

How are we to understand this? When they curse they are dismissing the entire matter. The customer is put outside of the circle of people who matter. A salesman who could not do so would find the job unbearable. Each defeat would hurt--rejection dysphoria. After a string of such defeats the salesman would be likely to become depressed.

Cognitive therapists do the same thing. They help people to choose what relationships matter, or should matter, and what relationships can be dismissed. They teach people to dismiss noxious relationships. This does

not always mean a cut-off. Sometimes people can merely stop seeing the noxious person as important. Sometimes they must avoid contact altogether. In either case, they must in some way dismiss the other person.

Denigration seems to be an essential element of this dismissal. Almost all people orient themselves to what's good. They want to get what's good, discard what isn't. When they discard, they usually feel superior to what they discard. Can this ceremony of dismissal be understood simply as dominance? ("I'm ok and you're not!") Certainly, dismissal does involve the assertion of dominance, of superiority, but it is different from dominance within a band. In hunting and gathering bands, dominance in one area of life, say mate-choice, usually alternates with interdependence in other areas, like hunting. No, the salesman's dismissal is more drastic, like throwing someone out of the band.

Understandably, people do not appreciate being denigrated and dismissed. Many, if not all, will be annoyed. Even by-standers will have mixed feelings. They may enjoy witnessing the dismissal of the unworthy, but they know they could be next. It is a touchy business. Stock-brokers work in settings in which they enthusiastically support each other in dismissing the jerks who don't buy. Without such unquestioning support, dismissal is usually covert.

Albert Ellis openly dismisses authority. He stimulates the usual mixed feelings in bystanders--rebellious pleasure in some, uneasiness in others. He invites you to dismiss irrational authority--meaning, authority that does not help you. Although his tone is iconoclastic and authoritative he advocates a common-sense pragmatic rule: decide what helps and what doesn't--dismiss what doesn't. You are the final authority.

He models the dismissive stance.

Cognitive therapy openly invites people to do something fundamental: choose your band. Leave the band in which you were miserable. Find the band that suits you.

Reciprocity One feature that evolved in the cerebral cortex (not lower centers) is reciprocity--the capacity and fondness for making fair exchanges. Most animals gather food for themselves alone (or their offspring) and don't need to be able to figure out exchanges. Reciprocity only occurs in higher primates.

chimpanzees, primates who share 99% of their genes with humans, have a capacity for reciprocity--though it takes careful statistical analysis of their social behavior to prove it. It works like this: If I groom you, you'd better do something for me before I share my food with you.

Pygmy Chimpanzees (they are only a little smaller than regular Chimps) are even more like us; they even divide some food handling tasks between males and females--females are more skillful at cracking nuts with rocks. Males bring them nuts to crack and females get a share of the nuts in exchange.

Reciprocity comes naturally to humans. All people want to be treated fairly (especially kids). It can be demonstrated that humans have an exquisite ability to judge fair treatment. That ability comes wired in. Notice how indignant kids get if they feel they have gotten a raw deal. Getting a fair deal becomes a goal in the same way that getting food or status is a goal. This complex of calculation, motivation, and satisfaction is thought of as an *evolved module*. In evolutionary psychology, the brain is thought of as consisting of a number of rather loosely connected evolved modules.

The reciprocity module is designed for life in hunting and gathering bands. (Chimps live in such bands.)

It gets people into a lot of trouble in the modern world.

This is the problem: When the reciprocity module is switched on, people try to get fair treatment. Alas, they want corporations to be fair, divorced ex-spouses to be fair, even God to be fair. Lots of luck! They don't get fair treatment. Reciprocity only works in intimate relationships similar to hunting and gathering bands--the environment in which humans evolved. The band is small enough that people care about everyone, and large enough (more than 2, 3 or 4) that there can be some stable consensus about what constitutes fair treatment. Nuclear families are on the small side for reciprocity to work properly, though they often do work well, and most other modern school and work places are much too large.

Reciprocity reasoning gets people into a lot of trouble. If people are treated badly in intimate settings they often (but not always) decide they actually deserved bad treatment. Their desire to be treated fairly is so strong that they invent faults to make their bad treatment seem fair. It is the law of reciprocity!

Cognitive therapists teach people to turn off their reciprocity thinking when it does not work. Good idea! Reciprocity thinking is not inevitable. It can be switched on and off.

Black and White Thinking In all animals, fast thinking is essential. We are all both predators and prey. The slow are eaten (with the exception of animals that have made a specialty of being slow and unnoticed, like sloths). The brain itself is not spectacularly fast, so evolution favors mechanism of data assessment that go to the heart of self-defense needs. As a result, it goes against the grain to stop and think. When we are pressed we will find that hasty, black and white

thinking comes naturally. Cognitive therapists teach people to stop and think. Therapists are going against the grain of what comes naturally, but they do their best to encourage complete assessment of problems.

Running From Fears and Fearsome Feelings Evolution is not interested in happiness, only reproduction. If fears keep people from being eaten--hurrah! Evolution does not require that everything that is feared be actually dangerous. When cognitive therapists encourage people to face their fears they are, as usual, going against the natural grain. Good thing that people want to get over their fears. In part they do so to avoid being devalued by others who are not impressed by timidity. Oh well...any motivation will do. Cognitive therapists guide people in confronting their fears, a method that usually works.

Goal Directed Behavior Human beings evolved in hunting and gathering bands. They have always been animals on the look-out to get good things. They still are. They like to get good stuff. They can never get enough because they evolved from animals who did not store goods. Therefore they must get new stuff all the time. We envy the rich because we are envious animals who want to get whatever is gettable, but the rich are just the same. They have to find what they value and get it.

Pleasures are evolution's way of getting animals to do things that promote survival and reproduction. We love sweets because we evolved from fruit eaters. Young men love to be brave and fierce because it attracts sexual partners. Both men and women love to look good because it attracts sexual partners.

This does not mean that people have the ultimate goals of reproduction in mind (though sometimes they may). They are usually thinking about how good it feels. Pleasure is the goal.

Of course, pleasure is not the only goal in life. Getting skilled at some sort of work is a goal. Getting skilled at a game is a goal. Finishing a job is a goal. Having children and helping your children is a goal. Then, moving towards a goal is likely to be a pleasure, though it may often be a pain and strain. Achieving goals is a pleasure, at least for awhile. Goals, striving for goals, and achieving goals are all tied up with pleasures.

Happiness We often find we are happy when we are making good-enough progress toward a goal. Some of us may be happiest when we do so in collaboration with other people--as in a hunting or gathering band. Some of us want to do it alone. However, finishing may be a disappointment; the goal is not likely to be as satisfying as the struggle. When we attain a goal the satisfaction may even last a few days, but then, we need to be off again--headed for another goal. (Writers of books finish one, and are soon off writing another. This annoys their publishers who want them to take out time to help sell the book they just wrote, not do another that the publisher is then going to be pressured to publish.)

Of course, life is not ordinarily made up of the pursuit of big goals, like professional status. Big, long-term goals are more a feature of modern life. Hunter and gatherers worked on short term goals, daily food and shelter.

Still, even today, even when working toward big long term goals, most of life is a tangle of little goals. We choose to change directions many times in the course of a day, chasing after one goal or another.

Cognitive therapists understand the importance of goal directed behavior and try to direct their customers toward the ones that seem to work best--short term and long term.

Constructive Feelings Thinking gets

people into a lot of trouble. They suffer from misguided reciprocity thinking, from black and white thinking, from absurd expectations about themselves and others, and from unreasonable expectations about the world. This does not exhaust the possibilities of misguided thinking. In comparison, the mammals who do not speak (actually, they all speak, but not so much) may have a good deal. They have their feelings, which blow over with time.

It can be helpful for people to sometimes imitate other mammals--turn off their heads and experience their feelings. It can be helpful to experience sadness, regret, and loss. Cognitive therapists know this and encourage people to give themselves over to appropriate feelings with only minimal inner speech, ie, no blaming allowed.

People who are phobic of feeling, and are being coached to confront their distress, may also need to learn how to have more appropriate feelings--feelings of regret and sadness. Cognitive therapists coach them to do so.

Freud's psychoanalysis was first built on turn-of-the-century biology. Then, when psychoanalysis became a movement, Freud cut himself and psychoanalysis loose from biology. He constructed a movement that was a cross between a science and a religion; psychoanalysis became a fixed doctrine. Cognitive psychologists gave up on Freudian doctrines for good reason: their experience showed them that the psychoanalytic model was clearly wrong. They were left with no theory of mind. Now, modern biology has created a modern synthesis, a new theory of mind that fits the ideas of cognitive psychologists hand-in-glove. We can be confident, as this new synthesis develops, the cross-links between biology and cognitive therapy will grow ever stronger.

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At this time this "informal" organization has no official budget.

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