

ASCAP NEWSLETTER

Across-Species Comparisons And Psychiatry Newsletter

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"therapy, even in the classic sense of the 'well-polished mirror', is...relationship; all the events which lead...to therapeutic changes in the patient's mind are initiated by events happening in a two-person relationship, ie, happening...between two people and not inside only one of them." Balint, 1968.¹

The ASCAP Newsletter²
is
a function of the

International Association
for the Study of
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(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.

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Publications: 1. Price JS: Accentuate the positive, eliminate the negative: the role of boosting and putting-down signals in mental health. Chap 11 in Trent DR (Ed) Promotion of Mental Health Vol 1 Aldershot UK & Brookfield USA: Avebury, 1992, pp 89-101
2. Price JS: Change or homeostasis? A systems theory approach to depression. Br J Psychol 1991;64:331-344
3. Gilbert P: Depression: The Evolution of Powerlessness. NY: Guilford Press, 1992. (continued)

4. Badcock CR: Essential Freud, 2nd Ed. London: Basil Blackwell, 1992.

5. Nesse RM: What good is feeling bad? The evolutionary benefits of psychic pain. The Sciences 1991; (Nov-Dec issue):30-37.

Comment: John Price's visit to Galveston sparked exciting times for UTMB. His two figures simply explaining his shivering model meant, it turned out, that I had a document--in the manner pioneered by Beck--to hand to patients directly. *Cognitive* engagement of the patient should reduce their involuntary reactions.

Then a treatment-resistant manic-depressive patient was referred and I wished to apply the model again, again including a user-friendly hand-out. But for this application, I found that JSP's second figure--and concepts--needed revision. I worked on a replacement (see #3 below, p7) and found myself also interpolating a figure on reactions to danger.

The model now potentially extends beyond depression not only to mania but to anxiety and impulsive anger as well, separately and in various combinations. Altogether these include many of the troubles of patients with personality disorders with some of whom I also used the new document.⁴

So without planning it this way, this description addresses issues raised by Dr Beck in last issue dealing with evolutionary models of personality! I believe his model to be less "sociophysiological" than the model of Price, Sloman and Gardner. Beck does not consider basic plans (nor does his first critic Mike Waller--#6, pl3). Dr Beck pays excessive attention to distinctions among personality disorders. Factors causing differentiations probably evolved recently, in contrast to reactions to danger and to matched adversaries.

Now, over six weeks later, the two-level shivering model, an amalgam of

social competition theory with other models of psychotherapy has been given more patients, eg, see #5, patient AU on pl3. It seems useful, not dramatically different from ongoing therapeutic methods, but an extension of theory about clinical effectiveness. It outlines thoughtful plans about automatic reactions.

In #2 of John Price's new publications, he makes an acknowledgment:

I thank Dr Paul Gilbert, Associate Editor, and one of the referees of the British Journal of Psychology for constructive criticism; and Professor Russell Gardner, Jr., MO, University of Texas Medical Branch at Galveston, for including some of the text in his Across Species Comparisons and Psychiatry (ASCAP) Newsletter, and to Carolyn Reichelt and Lubo Kanov who replied with helpful suggestions.

This represents what we had hoped most for this newsletter: springboard and testing grounds for new ideas.

Lightman and Gingerich contribute a provocative article to the 7 Feb 1992 issue of Science (255:690-695) entitled "When do anomalies begin?" They point out that scientists fail to see anomalies until after an explanatory theory has been put forth. They use examples principally from the world of physical sciences (only after the tectonic plate theory of Wegener did their "fit" of the continents despite distance from one another become seen as an anomaly, a puzzle to solve). However, David Barash, in the 3 Apr 92 Science (256:18) provided an application of the idea to sociobiology: until Hamilton presented the idea of inclusive fitness, the "anomaly" of altruism was not a problem worthy to address.

Perhaps "adaptation functions" of depression are similar--a puzzle to solve--in light of the social competition theory of depression and mania.

The letter to follow from Professor Bichakjian is the beginning of a longer exchange that will be continued next issue reflecting other facets of bottom-up and top-down analyses of human communication.

Letters;

January 8, 1992

...Though your concern is with the initial development of the genetic correlates of the human potential for language [referring to chromosome 15 deletions causing absence of language and dysregulation of laughter in Angelman Syndrome], I believe your approach and the one I have taken from a linguistic vantage point do perhaps complement each other.

In a nutshell, my point is this. The biological underpinning of language acquisition is genetically programmed for its expression and regulation. When the growth rate is reduced, producing the well-known neoteny process observed in morphology (cf. Gould, 1977) and gradually supplant the ancestral ones that generally required a longer ancestral period. I have shown that the Indo-European languages, which make up the largest language group in the world and the one with the best researched history and prehistory, have evolved during the last six to eight millennia by continuously shifting to features that children learning their native languages learn earlier. My view is that this is the result of phylogenetic change in the regulation governing the biochemical events conditioning cerebral plasticity and thence language acquisition. Such an evolutionary process would stand to reason since early-acquired linguistic features would provide the individual with selective advantages, namely stronger neural pathways, earlier and better established socialization, earlier and fuller mental development. ...

Bernard H Bichakjian, U Nimegue,
Nijmedgen, The Netherlands

... To learn if I understand your theory as stated in your letter, let me try paraphrasing it: (1) In surveying Indo-European languages over six to eight thousand years, you have com-

pared those that are ancient to those that have originated more recently. In comparing the progression, a feature in common of languages that have evolved from their precursors is that the new language incorporates the earliest learned portion of the preceding language into it.

(2) This relates, you feel, to neoteny, that is, to the continued expression of juvenile features of an ancestral species into the adult life of the successor species. In turn this provides a mechanism for the runaway process of language evolution: the much larger brain and increased facility that social communication provided has resulted in the capacity that humans have exhibited in occupying numerous niches.

(3) Evidence for this postulated neoteny process is seen in the continued evolution of the Indo-European languages. Evolution didn't stop some millennia ago, but is continuing into modern times, quite rapidly in fact!

My reaction to this evidence and conclusion is that your ideas (as I have understood them) are very intriguing and original. I am highly interested in your publications (especially those in English as I am not multilingual), and would be grateful to you for sending them to me. We can reference them in the Newsletter if you wish and thus give them wider circulation for a group that is interested in related matters.

How does your work relate to mine? My approach is gross whereas yours is fine-tuned; mine involved with chromosomes, yours with language. In the language of sociophysiological and other theory, mine is "bottom-up" whereas yours is "top-down." This means that I am interested in noting a molecular change and wonder with what it correlates "up at the behavioral level" whereas you have defined some behavioral changes (language change patternings) that you suggest, "down at the anatomic

and physiological levels" might correlate with "cerebral plasticity" and "stronger neural pathways". I feel that both are valid and interesting approaches complementary to each other that both need further work.

Shivering Model in Two Figures

by John S Price (3/24/92)

In trying to present a social competition model of depression at UTMB Grand Rounds on 3/23/92, I used two figures to illustrate the model.

Figure 1. Dealing with cold.

<u>Brain levels</u>	<u>Alternative strategies</u>	
	Increase heat	Reduce heat loss
Higher brain level (voluntary)	Go jogging Switch on central heating	Wear more clothes Install double glazing
Lower brain level (involuntary)	Shivering Non-shivering thermogenesis	Vasoconstriction Lower setting of body temperature

In particular, I was trying to get across the point that depression as a basic yielding strategy is our alternative yielding strategy in two different ways. In one way, it is an alternative strategy to elevation of mood, and these are genuine alternatives in that any intermediate strategy is likely to be less effective, and there is (probably) a single decision-making process which chooses between elevation and depression of mood. In another way, it is an alternative strategy to voluntary yielding, but these are not true alternatives as they can both be implemented at the same time and probably potentiate each other; the decision-making processes are to some extent independent and operate at different levels of the nervous system.

To help people think about these

unfamiliar and difficult concepts, I used the analogy of reaction to cold. I think the relation of shivering to switching on the central heating is a good model for the relation of involuntary yielding (the basic yielding strategy) to voluntary yielding (giving way), but the relation of increasing heat production to reducing heat loss is not a good model for the relation of depression to mood elevation because the cold strategies are not really alternatives, but could well be used together in a complemen-

Figure 2. Dealing with an evenly matched adversary

<u>Brain levels</u>	<u>Alternative strategies</u>	
	Escalate	De-escalate
Higher brain level (voluntary)	Attack Fight to win Go for it	Back off Submit Give way Swallow pride
Lower brain level (involuntary)	Elevate mood (augment fighting capacity)	Depress mood (adopt ritual incapacity or Basic Yielding Strategy)

tary fashion. Can anyone think of a better analogy than dealing with cold? Are there any other suggestions/criticisms of the illustrations or model?

Discussion of terminology used for the social competition hypothesis articulated first by John Price in 1967

by J Price and R Gardner

At Odintune in July 1991, and in other discussions, we have debated extensively about the best terminology to describe and formulate John's hypothesis that activation of a vertebrate basic plan for a communicative state occurs when ritualised defeat has resulted in low ranking as a means of coping with agonism

(instead of physical defeat and death). His hypothesis included that this is seen in humans as "depression" and is a biological explanation of that disorder. Implied in this hypothesis is that the basic plan originated 300 million years ago because birds demonstrate its hallmarks as do reptiles and humans.

At Odintune, "yielding" was replaced by "losing" for reasons that we now can't recall. In some iterations of a Leon Sloman draft stemming from that meeting, he used the term, "losing reaction" and Leon has striven for development of a best term as a means of settling the issues that we who are concerned most about the hypothesis need to resolve.

In a March 16, 1992, communique stemming from a conference that he had with Paul Gilbert, Leon states: "One of the things we decided was to re-label some of the terms I had been using. Instead of "losing reaction" we decided to substitute "defeat reaction."

We now have five terms that have been used for this same state: involuntary yielding, yielding subroutine, depressive yielding, losing reaction, and defeat reaction. We note in reviewing these that only three of the five contain a noun that describes the kind of process that we suggest that depression is and that is shared by other animals. The three have only two nouns: subroutine and reaction. Other terms used are *psalic* (RG), *psychobiological response pattern* (PG), *evolved biological process* (RG), and *innately probable strategy* (Brant Wenegrat).

What we are searching for is a particular variant of a basic plan, at about the level of hibernation. Before we discuss that state, let us review the concept of basic plan:⁵

Basic plans are an integrating concept for both molecular and behavioral levels of understanding, stemming from an old biological concept of Bauplanne that depended on an architectural

metaphor and that referred only to the structural plans, for example, leg-number. Vertebrates always have four and insects always six.

Basic plans as used here are plans not in the conscious sense of human or supernatural thinking, nor with the expectation of teleologically ideal forms, nor in the restricted sense of Bauplanne only, but plans in that their existence causes ranges of certain inherent events to happen as a result: plan is here a blueprint, program, outline, draft, map, scheme. DNA programs biology. Biological vs non-biological forms are inherently different for this reason.

Basic plan analysis deals with origination of biological features over the course of evolution. There are layerings of basic plan upon basic plan. The so-called "housekeeping genes" that insure cellular function are more basic than are multicellular genes. The vertebrate basic plan is more fundamental than the mammalian basic plan which has been modified in a particular way in primates which in turn has been modified still further in humans.

Language is a late arriving device but must have stemmed from an altered already existing genomic sequence. If evolution were to be anthropomorphized, Jacob has noted that it would be a tinkerer, taking old genetic structures with their somatic consequences, then fitting them to new purposes like Grannie making a curtain from bedsheets.

Hibernation is a midrange basic plan, an option for some animals confronted with climatic adversity. No zoological term covers the type or category of process that hibernation represents and which we might borrow to describe the process of depression and its adaptive counterparts in other animals.

We now provide a discussion of those terms that have been used: *Plan* is a candidate single word but we feel should be reserved for the more general use that it has in the quote. *Subroutine* hasn't caught on although it has been used by John and Leon. It had the virtue of using a computer metaphor: the subroutine states the basic plan as a set of instructions similar to a computer program. *Program* and *process* are in our opinion terms that are too general, similar to the problem with "plan."

Reaction has the problem in that the program or process under discussion might be set in motion independently of external stimuli (it is proactive as well as reactive); also it suggests a short-lived event but the operation of the program or process may take place over considerable time. The acronym *psalic* ("programmed spacings and linkages in conspecifics" and "propensity states antedating language in communication") may be the best but also hasn't yet caught on; as yet it is an obscure term and therefore un-descriptive.

Psychobiological response pattern has the same problems as "reaction" and also perpetuates the mind-body split. It is not a single noun. *Innately probable strategy* has the virtue of keying on Maynard Smith and the mathematical formulae of game theorists (it sounds like "evolutionarily stable strategy" and other such). However it is restricted to those with that sophistication and is not a single word.

However, *strategy* is a single word with a venerable biological history. It emphasizes that the process, program or plan is a choice-making device that chooses among two or more options.

We now discuss the modifiers: *involuntary*, *yielding*, *depressive*, *losing*, and *defeat*. Objections to involuntary arise because it is ultimately subjective. Moreover, John Richer pointed out that unconscious and conscious and involuntary and voluntary are terms used by actors concerning the motives and behaviors of each other, rather than scientific statements about the description of events. *Yielding* has the virtue of referring to the second part of the following statement, "Depression incapacitates the patient, and the patient signals incapacity to those around him" which we feel to be core to the theory. Yielding is a signal that can be defined reasonably well.

Leon Sloman makes the point that: "Depression facilitates voluntary yielding."

Depressive restricts the state to what is seen in the human and doesn't refer to animal counterparts; moreover, it assumes that the hypothesis has been proven. *Losing* connotes what happens to the loser but it does not connote what the loser does; the same applies to *defeat*. Neither of these terms imply the ritualised nature of the communicative state that the animal deploys when the basic plan with which we are concerned is activated.

There is no word currently in existence that inclusively covers the escape, flight and submission components of agonistic behavior. JSP has suggested previously that *yielding* might accomplish this task as closely as any word can. "Yielding" connotes that a signal is given to the specific or general antagonist (in contrast to "losing"). A problem with it is that it implies limitation to the voluntary level of interaction. To some extent, the concept of "involuntary yielding" is a contradiction in terms. Therefore, if yielding is to be used, an additional term would need to modify it, one that would connote a level of conceptualization similar to "involuntary" but without the problematic features of will or lack of it.

Candidate modifiers include *basic* or *involuntary* (after all). We opt for the moment for *BASIC YIELDING STRATEGY (BYS)*. This has the advantage of locking in with the behavioural ecologist's classifications of strategies into developmentally contingent and concurrently contingent. We can subdivide our hypothesis, suggesting that depressive personality is a *developmentally contingent* basic yielding strategy and that depressive illness is a *concurrently contingent* basic yielding strategy.

Shivering model of anxiety, impulsive anger, depression and mania. Patient centered use of the shivering model.

Drafted by RG (on material given to patients I have indicated co-authorship with JSP and L Sloman. Leon was the first among us to call attention to the importance of voluntarily yielding. I recall vividly Leon's telling me while we walked--his favorite activity--of a woman he knew in Toronto who "gave way" to his advice and to the fact of a job loss that she wished unrealistically to protest. Leon seized on this as exemplary of a therapeutic use of John's theory! This is--to my knowledge--the landmark case in the evolution of the approach).

PART 1. Dealing with cold.

When cold, one automatically shivers. Shivering is an involuntary reaction to cold temperatures. Some shiver more than others. Shivering is prevented by avoiding cold surroundings, turning up the central heating, or dressing warmly.

Figure 1. Dealing with cold.

<u>Brain levels</u>	<u>Alternative strategies</u>	
	Increase heat	Reduce heat loss
Higher brain level (voluntary; thoughtful)	Go jogging Switch on central heating	Wear more clothes Install double thickness windows
Lower brain and body levels (involuntary; thought not evident)	Shivering Increase body metabolism	Vasoconstriction Lower setting of body temperature

See Fig 1 for alternative strategies for dealing with cold. (This is a minor revision of Fig 1 of JSP, p4, col 1).

Of course, doing the voluntary

things after one begins to shiver will work together with the shivering to increase the body heat and thereby stop the shivering response.

PART 2. Dealing with danger.

When in danger, one has other automatic evolved body and behavioral reactions. On the lower brain and body level, these involve body mobilization for escape or retaliation; for example, more blood goes to the muscles and less to the skin. Epinephrine comes from the adrenal.

Psychologically, we experience anger or fear; we are ready for fight or flight. Our reactions are well known: altogether, in the hormone and peripheral nervous system, they are called the fight-flight response. Both primitive and complex animals have such responses. We can acknowledge our kinship with all of them through it (we and they have DNA that must code for it) although dangers for other animals of course have differed. They reacted to predators for example. We worry about public dis-

Figure 2. Dealing with danger

<u>Brain levels</u>	<u>Alternative strategies</u>	
	Increase action	Reduce action
Higher brain level (voluntary; thoughtful)	Plan defense strategy (eg, remove weapons) Gain allies	Avoid dangerous situation (eg, depart the territory) Travel in caravan
Lower brain and body levels (thought not evident; involuntary)	Fight response Body reactions (eg, anger; increase in epinephrine) (Impulsive assault)	Flight response Body reactions (eg, fear; increase in epinephrine) (Panic attack, phobia)

asters or people with guns.

See Fig 2 for a model of responses to deal with danger.

On the higher brain levels, common

sense dictates that we humans can avoid such fight-flight reactions in ways parallel to turning up the central heat system. That is, we may thoughtfully avoid danger so that it doesn't have to be dealt with, such as not living in a flood plain. Or if danger comes whether we do or don't welcome it, we can get appropriately prepared, as with sandbags for a flood or weapons, self-defense methods, police and other support systems if assault is a possibility. Above all, we are likely to be less fearful if we anticipate and plan, if we know that we will give the danger our best challenge.

Activation of the more primitive reactions varies in different species. Within our own species, thresholds to its occurrence varies in different people. Some people avoid anxiety and panic with greater ease than others ("reduce action" strategy). People with disorders in this sphere are individuals who too easily find their involuntary systems reacting to danger with the flight response. Some people, often men, may react with quick anger and retaliation despite highly punishing circumstances, as in prison. This illustrates the "increase action" strategy.

On the higher brain level, taking tranquilizing medications is a planful method to avoid bad feelings stemming from the involuntary levels. Within our own species, when triggering stimuli are present, thresholds to its occurrence varies in different people. Others include relaxation and desensitization techniques. Being cognitively prepared to counter the automatic reaction helps. This often takes time, practice and insight about the sources of the problem. This may occur with psychotherapy.

Again one can combine the involuntary and voluntary reactions to combat the problem. If one planfully decides to fight, then the body is

prepared at the more fundamental level of preparation. If one must run, one can get away faster. If the skin is wounded in a preplanned battle, vasoconstriction means the bleeding may be lessened.

PART 3. Dealing with evenly matched adversaries.

When we are in conflict with another person who is roughly our equal we also react. Some of this is automatic. The model suggests that we can avoid some of the involuntary reactions stemming from lower brain level reactions which evolved long ago. But, for reasons outlined below, these are less obvious and not intuitively true. Hence the above analogies with shivering and encounters with danger are necessary for full understanding.

Figure 3. Dealing with an evenly matched adversary

Brain levels	Alternative strategies	
	Escalate	De-escalate
Higher brain level (voluntary; thoughtful; realistic)	Well assessed planning; very realistic decisions in planning victory; Uses others	Voluntarily and thoughtfully "back off" Give way Planfully submit
Lower brain and body level (involuntary; realistic strategic planning not evident)	Continued fight and attack with energy; must be in charge (Mania)	Give in, give up Signal "no further danger" Defeat posture Basic yielding strategy (Depression)

See Fig 3 for a model of depression and mania that stems from brain and body mechanisms which have evolved to handle conflict between relatively matched adversaries. (This is a revision of Fig 2 of JSP, p4, col 2).

Lower brain-body strategies often occur quickly and without thought. In

the midst of things, thoughtfulness may be rare and difficult, just as shivering may be avoided only with considerable foresight in some cold circumstances, such as coming out of a shower when the room temperature would ordinarily be 50°F.

Many animals besides humans fight with each other. Some are related only remotely to people. Consider male ducks near a fertile female, or female chimpanzees looking out for their little ones when other unfriendly chimps are in the troop. For many species of animal, individuals are competitive with each other when they forage in the same area for food. If an animal finds itself fighting, it automatically tries to win. We people do too, for example, over food if we're hungry or over sports autographs if a particular sports figure is hard to come by.

People when manic don't give up easily. If manics aren't winning, they may have little insight into this and keep on going anyway, not because victory is truly in sight but because that is the way they are programmed. There may be some payoff in the ancient program to keep on going even if the going is tough.

That an adversary may not be immediately apparent when an episode of mania or hypomania occurs should not deter this analysis. Ancient involuntary actions independent of thoughtful plans may have been stimulated according to what got registered in the person; after all, flight-fight responses exist in the face of danger, but what is dangerous for one animal or person may be different to another. One individual's predator may be another's meat; a phobia of heights in one person may be that of a snake for another individual.

Parallel processes may occur in depression. If an individual animal can't escape even though losing, observation shows that it adopts a defeat pose so as to not get wounded

or killed. This may happen quickly. Such reactions may occur in humans without thought.

Depression may be similar: depression may be a defeat signal to an opponent that one is of no further danger to the antagonist. One signals by slowness and slumped posture that one is ceasing and desisting. The signal is more convincing because one believes it oneself. Thus, when the depressed person feels there is no hope, there is a point made about harmlessness. The "infectiousness" with which depressed persons convey depression is testimony to the effectiveness of the communication: when they communicate helplessness and hopelessness, others believe it! This obfuscation may deter even the fact of apparent conflict. There may be payoff in the ancient program to reduce the show of any antagonism as well as any awareness of it. This doesn't make the therapeutic strategy easier of course.

Higher brain strategies for avoiding either the escalating or de-escalating involuntary strategies are similar to those for avoiding shivering: preventing oneself from needing it or using planning and thoughtfulness as the watchwords if situations of conflict are inevitable. Such capacities are fortunately well developed in humans.

But the ancient devices for handling the various stimulus situations are also effective partly because the biochemical reward systems (including those triggered or caused by drugs and alcohol) can also be triggered in the involuntary reaction patterns. In mania, thus, one typically feels good, as when victorious, even when not realistically victorious.

Moreover, just as some individuals shiver more easily than others, and other react to danger more than others, some people are more likely than others to have involuntary victory oriented actions or defeat be-

haviors. Given that mania and depression tend to occur in the same individuals and a susceptibility to the disorder seems to be inherited, thresholds to the lower brain-body level programs in these patients may be lower.

Strategies used by Alcoholics Anonymous reflect upper brain level approaches. The alcoholic in the first step of the 12 step program, for instance, gives way to a higher power. One accepts that one is defeated by the addiction. A realistic victory is implied by "getting through one day at a time."

For anticipating and then reducing recurrent mania and depression, one should consider the individual circumstances of the afflicted disregulated person whose threshold for the triggering of such involuntary reactions seems to be low. Who for that person has been the "evenly matched adversary?" Or if typical persons are hard to determine, who was the conflict with recently? Knowing this may allow some precision about realistic planning or yielding behavior. In cases of long acquaintance, as in treatment taking place over time with the same individual, for instance, the therapist or physician may turn out to be the seeming antagonist.

Also the manic needs considerable help because judgment is poor when the lower brain and body response set are in action. Moreover, there is pleasure in the course of it. Thought does go into the planning of the manic so that help is needed for bringing about reality-focused thought. Others may be needed to check such realities, to enhance good judgment. While the model of turning up the central heat may be a model, implementing it may be more complicated than going to a wall switch and turning it oneself. Several people may be needed with a jointly arrived at method to adjust whatever needs to be adjusted in the more complex

realms of not cold, but the realms of danger and struggles with evenly matched adversaries.

One means of accomplishing this may be to use not only a doctor, but friends and family who know and understand the communicational pattern. The resulting plan should be the consensus of a group of people – but notably including the patient – who have the patient's well-being as centrally important. He or she should trust them. At times the group may be the doctor and patient only. Plans of action once instituted should be adhered to unless there is group consensus about midcourse changes. This is especially true given that manics as a part of their involuntary pattern quickly change plans and act.

PART 4. Summary of procedures to be used if cold, impulsively angry, anxious, manic or depressed.

- a. Patient learns the shivering model with its two levels.
- b. Patient and doctor analyze lower brain-body triggers.
- c. A group (with patient) makes plan for higher level response. This may include a plan for medication (kind, amount, endpoints).
- d. Progress is monitored to assure the model is fully deployed.
- e. Future episodes are assessed and monitored in parallel fashion.

Sociophysiological Therapy: Introduction to shivering model for professionals by RG

Improved treatments are needed for patients who are impulsively angry, anxious, depressed and manic. Such states occur to varying degrees in the course of many psychiatric illnesses and troubled interpersonal relations. Some of the most difficult cases in psychiatry include patients who in our view require medications but feel extremely reluctant to take them, or who overdose on them, or who in other ways, find themselves with

symptoms or troubling behavior patterns which persist although they find them personally distressing or that their behaviors markedly distress others. These often feature struggles with doctors or therapists ('treatment non-compliance'). That antagonisms may be mixed with help-seeking behaviors is central to the two level approach described below. The two may differ, for instance, in how help is to be delivered, some patients desiring more help or at different times than the professional has available; the two may be in major conflict on such issues and a helpful treatment approach is to show how there is struggle about who sets the agenda, doctor vs patient.

The paradigm, workable and effective in practice, and in fact not much different from "on the job training" mixed with family, cognitive and psychoanalytic precepts, has emerged after several decades of conceptual work dovetailed with practical experience. It may inform with a more complete theoretical rationale already ongoing treatment methods and procedures. Compare, for instance, with George Vaillant's superb recently published article using the language of dynamic psychiatry, but which he states can be translated into cognitive terms.⁴ The writings of John Price, Leon Sloman, and Paul Gilbert have been most centrally involved with the definition and treatment of depression. At UTMB, we have expanded it to other conditions, but using the sociophysiological theory which just begins to encompass the phenomena.

The treatment strategy outlined here includes important components from cognitive therapy as pioneered by Aaron Beck and from psychoanalytic therapy with its concepts of transference and resistance. The approach is not counter to pharmacological treatments but rather complements them. Indeed, one indication for it

is unreasoning patient-resistance to taking medications that would probably be helpful if taken. Sociophysiological therapy focuses upon the interactions of the patient with the clinician more than on the drug effects on the patient after the medication is ingested, although the latter is important and certainly reflects physiological processes.

In my practice locally, patients with a variety of diagnoses have been treated with the two level model. They have been helped in ways that extend the methods I had previously learned and used. The concepts in the three figures provided above (#3) have been helpful in dealing with the above symptoms. Formal diagnoses in the patients with these troubles have included patients classified in both DSM-III-R Axes I and II and have ranged from mania, anxiety and depression to dissociative disorder to borderline personality disorder. I believe that the principles transcend current diagnostic boundaries and that the approaches will provide different and helpful classifications of clinical phenomena that will in turn be helpful for treatment guidelines. We are planning to construct practical treatment guidelines of a kind pioneered by Klerman and Weissman so that controlled studies can be done of patients randomly assigned to experimental and control groups.

A problem with the generic term psychotherapy is that it perpetuates a malfunctional split between mind and body. That this can be problematic is exemplified by patient AU described in the next feature. She found her allegiances to two helpful physicians split along such lines.

Psychotherapy heightens the importance of consciousness in our view of the process, but like language it's a late arrival in the biological history of basic plans, in contrast to such attributes as communicational patterns within animal populations

and animal species. Reactions to temperature and dangerousness in the surroundings are even more primitive. Moreover, most people when they get better in fact do so with no conscious awareness of how it happened.

The precision of the name sociophysiological therapy also makes it an approach to therapy that is more comparable to family, cognitive and psychoanalytic therapies for truth in labeling.

Three patients with obsessive compulsive symptoms: descriptions by Liotti, Stevens and Gardner by RG

In a beautifully presented case mentioned last issue that included detailed accounts of specific session-segments, Giovanni Liotti (GL) described a 44 year old woman with treatment-resistant and crippling obsessive-compulsive (OC) symptoms triggered by any glass broken in her home. She was obsessed with the idea that tiny fragments of glass would escape her attention, be inhaled or ingested by her daughter, and thereby cause her daughter's death. She would search exhaustively for any fragments. She also had labile mood, suicidal thoughts, perceptual distortions and blank spells.

GL paid close attention to the blank spells, which he assumed had meaning. During one of these she cried. Noting her tears, he asked questions focused on attachment, since he knew crying to be a "request for help." He learned then about a terrible story in which an infant sibling had died from a fever shortly after their mother had dropped the infant on the sand of a beach, a loss from which the patient (and family) had never recovered. He helped the patient devise new patterns of interpersonal schemata (which puts crudely his eloquently detailed discussion).

In the course of this work some months later, he reacted to another

(now rare) blank spell with a soft tone of voice, but found that the patient reacted as though his tone were distasteful. Focus on this discrepancy produced a memory of a childhood seduction by a softspoken orderly employed by the patient's military parents.

After a treatment of 89 sessions over two years, the obsessive-compulsive symptoms disappeared, as had the blank spells.

Dr Liotti's interest is in mostly top-up (not top-down nor bottom-up) issues. The focus of the chapter is therapeutic. Dr Liotti's case presented with obsessive symptoms that were resolved by appropriate therapeutic work. He touches, however, on across-species comparisons in that he is interested in ethology. His ethology keys on attachment, not on molecular correlates.

However, a sociophysiological explanation of his therapeutic effects is that he helped the patient overcome involuntary lower brain-body level responses so she could use higher level options instead. His empathy, detective work and cognitive methods accomplished this. Sociophysiology may encompass more than that presented in #3 and #4 above!

Now let me present two UTMB cases who exhibited *latent* OC symptoms and for whom a bottom-up strategy is instructive: in both cases the anti-obsessional drug, clomipramine, provided dramatic effects by acting, obviously, on some molecules.

Mark Stevens (MS) is a resident in psychiatry who presented the case of a 56 year woman who had been assumed to have chronic schizophrenia. He noted incidentally that she always wore a small brimless cap ('beanie'). She was without permanent abode, at times living on the streets. He found that she oddly had trouble coming to the seventh floor of the clinic building because she was obsessed (it turned out on inquiry) with the idea that

she would be compelled to find a stairwell and fling herself down it.

Later she came to his attention again when she was hospitalized (still wearing a beanie), considered delusional, and off all medications, as baseline for a new drug trial. Mostly inarticulate, her symptoms included an insistence on sleeping in the quiet room with the door locked, becoming infuriated when the staff avoided locking it! After tough negotiations with the attending psychiatrist who felt she was psychotic and indeed bet a small sum that she would not respond, MS ordered clomipramine, but was disappointed over the next ten days to see no response. His vacation intervened at this time, and when he returned a week later, he learned that she was sleeping in a usual room and otherwise behaving normally, soon to be gone to an apartment and normal life.

She came to a conference slender, attractively dressed, wearing a broad brimmed straw hat, designed, she told us as she removed it with grace, to reduce sun exposure (orders of her dermatologist). She told her story with animation and ease. We were amazed how this deeply tanned (indeed appearing fashionable!) woman could ever have been a homeless person considered psychotic, yet the attending who lost the bet is a respected clinician seldom found wrong.

A second person is a 43 year old divorced teacher (AU) who has been in my caseload for three years. She had been severely anxious and depressed during a divorce process that had commenced five years before and with which she was initially treated with antidepressants and benzodiazepine medications. These alone helped only temporarily and upon assuming her care, my treatment plan consisted of a combination of pharmacotherapy and psychotherapy. She progressed well in sometimes painful psychotherapeutic process as we learned of multiple

deaths during her adulthood, would-be abuse from her stepfather, and deaths during childhood, significantly that of her father when she was five, and his parents in her early adolescence.

But one day recently she complained almost incidentally of a number of procrastinations that she must go through and that encumber her daily schedule. I wondered how I somehow had not thought of some of her symptoms as OC in nature before, and prescribed clomipramine. She felt great relief from the procrastination and related that in addition a number of other rituals that she hadn't previously thought of as such were suddenly different for her: she found herself selecting her dress for the day out of the usual sequence in her early morning ritual and then--almost secondarily--wondering, whether her anxiety would increase as a result of the altered sequence and was relieved to discover that it did not. Moreover, last week, as she experienced a bacterial throat infection, she discovered that she did not need to compulsively overdo a show of health in the face of fever and malaise, contrasting markedly to previous such episodes of illness.

AU said spontaneously that she didn't know whether it was the drug or the psychotherapy that made the difference. But she also appreciated the Shivering Model document (#3 above) which she read during the week of her illness because for the first time it rationalized her experience that *both* medications and therapy are effective, yet they had previously seemed to her (she was knowledgeable of different psychiatric practitioners) to be from discrepant worlds. She asked to give the document to her brother, a recovering alcoholic; she felt he would benefit.

To conclude, as we understand more the mechanisms of how interactions between people have ameliorative effects, including the administration

of drugs effective with particular behaviors, we may better grasp the causations of various behaviors, both on evolutionarily adaptive and proximate levels of analysis.

Mike Waller responds to Dr Beck

I wish to respond to Dr Beck's contribution, published in the April newsletter, at two levels. The first, with respect to the latter half dealing with psychopathology, is unequivocally deferential. Unlike most IASCAP members I am a new entrant to this sphere and I am astonished by the degree of understanding shown of the states of mind which underpin personality disorders. The graphic representation of narcissistic personality disorder (Fig 2) is something that I suspect I will remember for the rest of my life.

However, at the level of evolutionary theory, I have some concerns which are illustrated by Beck's essay but which, dare I say it?, extend even beyond IASCAP'S own Mission Statement. It may seem a semantic quibble, but the "bottom-most" of the bottom-up approaches we list is not genetics but the study of "cellular processes." A quotation from The Selfish Gene seems apposite: "Some people use the metaphor of a colony, describing a body as a colony of cells; I prefer to think of the body as a colony of genes, and of the cells as a convenient working unit for "the chemical industries of the genes." Put another way, to make total sense of evolution we must view it from a gene-centric perspective and recognize that cellular processes and individuals, both in isolation and in groups, are no more than temporary and highly expendable vectors of genetic material.

How does this relate to Beck's essay? It is simply that it seems to me that he grapples with evolution from an individual rather than from a

gene-centric perspective. By this I mean that his core assumption is that evolution equipped our lineage with a superb repertoire of strategies designed to ensure its survival and instances where these appear to have become dysfunctional are to be explained in terms of our genetic material being insufficiently "plastic" to respond to rapid and radical changes in the human environment.

To me, the guiding principle ought to be "never underestimate natural selection." As a first approximation we may usefully assume the interests of genes and the organisms which carry them to be identical; but before we invoke "evolutionary friction rub," we should first look for possible ways in which the phenomena we are observing might work to the replicative benefit of the genes which instill it. The fact that the effects on the individual are disastrous does not necessarily mean that they are without advantage to genes. Dawkins specifies the ultimate case: "The...gene should be quite happy if some of the bodies that it inhabited die, provided that in so doing they help other bodies containing the same gene to survive."

I have to say that my own money remains on a set of particularly unpleasant "master" genes, common to us all. Their evolutionary strategy is to ensure that they are always associated with the best of breed and that these are of such a standard as to preclude replacement by incomers lacking the master genes. They achieve this by setting up psychophysiological structures which continually reward self-assured success and punish self-assessed failure. Hence the vicious cycle that Dr Beck so succinctly captures in Fig 2. Any hardnosed entrepreneur would recognize the technique of giving those whose departure is sought an impossible (ie, succeed at everything) task to perform.

1. Balint M: The Basic Fault: Therapeutic Aspects of Regression. NY: Brunner/Mazel, 1968, 1979.

Interestingly Freud implied the same when he stated in a letter to Jung that "Psychoanalysis is in essence a cure through love." This is quoted in the frontispiece of Bettelheim F: Freud & Man's Soul. NY: Alfred A. Knopf, 1983.

2. c/o R Gardner, 1.200 Graves Building (D29), University of Texas Medical Branch, Galveston, TX 77550 FAX: 409-772-4288. For ASCAP Newsletter Volume 4 (Jan through Dec, 1991) please send \$18 (or equivalent) for the 12 issues. For subscription to the ASCAP Newsletter, make checks or money orders out to "Department of Psychiatry and Behavioral Sciences, UTMB."

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

4. Vaillant GE: The beginning of wisdom is never calling a patient a borderline; or, the clinical management of immature defenses in the treatment of individuals with personality disorders. J Psychotherapy Practice and Research 1992;1:117-134.

5. Gardner R: Are there language-regulating genes on chromosome 15? In press. Collected papers from presentations made at the Language Origins Society's Seventh Annual Meeting, DeKalb IL, July, 1991.

6. Liotti G: Disorganized attachment and dissociative experiences: an illustration of the developmental-ethological approach to cognitive therapy. To be published in (Eds) Rosen H, Kuehlwein KT: Cognitive Therapy in Action. San Francisco: Jossey-Boss