# ASCAP NEWSLETTER

Across-Species Comparisons And Psychiatry Newsletter
Volume 4, No. 4, 15 April 1991

"What is the use of such general ideas? Obviously they are speculative and so may turn out to be wrong. Nevertheless, they help to organize more positive and explicit hypotheses. If well formulated, they can act as a guide through a tangled jumble of theories. Without such a guide, any theory seems possible. With it, many hypotheses fall away and one sees more clearly which ones to concentrate on. If such an approach still leaves one lost in the jungle, one tries [another idea]... to see if that fares any better. F Crick[1]

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For the philosophy guiding this newsletter, predicated upon combinations of top-down and bottom-up analyses, see footnote on p12[3]

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.



## Proposed Agenda for Basic Plan Group in July as well as for a Sociophysiology Research Program.

*Tentative items* 1. Investigational plans of the Basic Plan Group (BPG) should be stronger than the first proposed across-cultural comparisons of depression (discussed in earlier meetings).
2. Basic plans are an integrating concept on both molecular and behavior levels of analysis and BPG interests involve communicational behavior and its molecular analysis.
3. E O Wilson is correct: analysis of behavior needs biological anchors and strong inference science.
4a. E O Wilson is insufficiently correct: our focus should be on somatic not population biology, b. Is sociophysiology a subset of sociobiology?
5. Behavioral and molecular analyses should include basic plan analysis, perhaps well named spandrel analysis but without pejorative connotations.
6. Analysis of communicational behavior should overlap analysis of molecular actions that mediate them.
7. Clinical experiences and clinical syndromes offer natural experiments.
8. How can we proceed from ancestral structures forward rather than consciousness backwards?
9. Communicational behaviors need across-discipline standardization.
10. Outcome of BPG deliberations may include a document in which the goals and strategies of a sociophysiological research program are outlined.

*Background.* Yesterday (5 Apr) I spoke by telephone to Leon Sloman and learned that for him at least, the agenda was not very clear for the Sussex-London meeting of the Basic Plan Group that will include John Price (7&8 July 1991). I told him

briefly what I thought the agenda for our group might be and he said that this made the meeting more attractive to him. But if *Leon* of all people was unclear, it occurred to me that other ASCAP readers might be unclear as well. He agreed with me, so now you see me dominate this issue with my ideas and background concerns.

*Program not project.* I realized that I had not continued with the idea of comparing depressive states across cultures as the only way to go about fostering basic plan research relevant to psychiatry. Perhaps our earlier basic plan conferences had dissuaded me. Reading on cross-cultural comparisons of patients, observing/working in the clinical setting, and absorbing carefully the observational work of Schelde have all emphasized to me the plasticity of current definitions of depression and the need for a broader conceptualization of our group's purpose. The approach may be one course of action, but not the only one.

In these beginning and end essays, I offer *my* current views, for something for us to start working on, for those coming to the July meeting as well as those reading this issue without coming. These are preliminary thoughts expressed quickly and in the best spirit of ASCAP. I expect challenge, debate and modification.

The agenda of the BPG should be to formulate related research projects on both top-down and bottom-up levels. These would focus on basic plans that underlie psychiatric illnesses and states of psychological distress as well as states that give rise to therapeutics -- from psychopharmacology to psychotherapy. Normal as well as abnormal states and communications should be focused on.

*Basic plans.* These are plans not in the conscious sense of the human thinking but in that their existence causes ranges of certain inherent events to happen as a result: DNA programs biology. Mayr noted that biological vs nonbiological forms are inherently different for this reason. Phylogenetic inertia and evolutionary constraints have been terms that also describe this concept, but with negative connotations.

To prove that basic plans exist would be trivial. We know that they do from the two realms of evidence that interest us: molecular and behavioral. These domains, very separate from one another conceptually and practically, possess in common that reliable observations can be made: by biochemists on the one hand and by psychologists, ethologists and psychiatrists on the other.

What these two realms do not yet possess is how the phenomena of one can be understood in terms of the other. There is no common language of description nor even a Rosetta stone to as yet provide cross-translation.

Even the fact of this being an important frontier seems only vaguely perceived, although no one doubts that our molecules are active when our brain works and our bodies move and in turn those workings and movements affect how the molecules are arranged. I think we in the BPG assume that explorations in each will over time approach the other, like the French and British under the English Channel. That ambitious aim was finally realized. This can too. *How* these explorations will generate information meaningful to both realms is a creative challenge and a fundamental BPG goal.

Bottom-up, we know there are conserved DNA, RNA and protein molecules. Growth factors, proteins that carry out cellular housekeeping tasks such as winding the DNA on spools in tight spirals, and adhesional molecules that stick cells together — all exemplify such molecules that are *very* basic plans, the ones that keep our cells going. Less basic molecular plans are hard so far to charac-

terize, eg, few proteins are specific to brain only . Some molecules are important as inter-cellular messengers, eg, serotonin, norepinepherine, dopamine, endorphins, and many many more. Elaborate and complex codings of these are probably the way that less basic plans are expressed.

But how do sequences of DNA influence all variations of submission and low profile on the one hand and high profile displays with upright posture and intrusiveness on the other? Our challenge to find molecular variations that link up with behavioral and communicational variations may be helped by clues from psychiatric and mental retardation disorders, especially when these are associated with molecular deviations.

From the top-down view, basic plans show themselves in the form of behaviors that resemble each other even though there are adaptive and non-adaptive variants. Turtles, for instance, lay eggs in the sand and thereby show part of an old basic plan of turtle reproduction. When some would-be-egg-layers cross the road to get to the sand but then get crushed by cars, they show a maladaptive variant of the same basic plan — same plan, just badly implemented by the unlucky females who moved out as usual to do what they had to do.

So we're not out to prove the obvious, but we plainly don't know most details of how cells activate and mediate the sensing, planning, behaving whole organism and we don't know the details of how some similar behavior patterns are separately evolved from different forebear patterns (convergence) vs those evolved from the same ones.

*End-of-issue essay.* Other issues summarized in the remaining agenda items need discussion. Since in many ways EO Wilson legitimized the formalized study of these phenomena in his monumental book Sociobiology. I have used it as a starting point . He provides important guidelines as well as points of departure for our work.

Vignette of Depressive Yielding by J. Tierney (Price-Tierney/Leon Exchange sent by Robert Leon).

The following is a case vignette of a woman suffering from a clinical depression, a case with striking parallels to the hypothesis of "Depressive Yielding." This woman was a successful school teacher, housewife, and mother who was presented with a life situation in which her means of "submission" and/or "escape" were blocked. Furthermore, once "blocked", she continued to receive "professional punishment" and to "lose" until her final escape manifested as clinical depression. In her depression, she seems to have manipulated or controlled her environment by escaping the agonic, unfavorable work place while still attaining the hedonic ministrations of husband and family.

Mrs B is a 36-year-old, married, white female hospitalized in December 1988 after she became bedridden with profound neurovegetative symptoms of depression. She had no previous psychiatric disorder. Mrs B had been an extremely successful school teacher who consistently received outstanding performance evaluations. She left work for two years to care for her infant daughter. On returning to teaching, Mrs B's one stipulation was that she did not want to teach special education. She accepted an offer by her old district when personnel staff assured her it would not involve teaching handicapped children. When Mrs B arrived for work on the first day of the fall semester she found that she was teaching an experimental special education class mainstreaming severely handicapped children. Her first class would include children with severe epilepsy, physical handicaps, and retardation.

Her complaints to school personnel and union representative were largely unanswered, and she was reminded that to quit her job would be a breach of contract. Mrs B continued to honor her contract despite feeling increasingly overwhelmed by the nature of work and while still clinging to the hope the school would offer her an alternative class before the end of the school year. Meanwhile, her attention to her daughter and her housework faltered (though she continued to receive outstanding performance evaluations at school). During the school Christmas break, Mrs B was bedridden for days without eating; yet, she still planned on returning to school after the Christmas holiday to fulfill her contract obligation and complete the school year. Mrs B's husband intervened and took her to the hospital. Over the course of the next eighteen months and several inpatient hospitalizations, Mrs B was treated with adequate clinical trials of numerous antidepressant regimens without any significant improvement. Now after 8 months of psychotherapy, Mrs B remains housebound, ruminating on the guilt of her "failures" as a teacher, mother, and wife.

Mrs B's case seems to be one of an exaggerated form of depressive yielding. Her avenues of submission and escape were continually and repeatedly blocked even after she began to lose. In many instances, she continued to receive "punishment" until an apparently unconscious, irrational yielding reaction was triggered. For example, at school she signed a contract and felt she had no "escape" from the untenable work situation of special education for severely handicapped children. Her efforts to "submit" in the agonic work place and seek some quarter from her fellow teachers were rebuffed with continued punishment such as, "You're the teacher who won't teach!" At home, the previously successful housewife was unable to balance the demands of home and profession and was increasingly overwhelmed by the needs of her small daughter. During a hospitalization over Christmas, Mrs B's cry for help was rebuffed by a husband who threatened to divorce her as soon as she got better. The "losing individual" continued to receive emotional punishment from her mother as her mother failed to acknowledge the legitimacy of the depression and continued to expect Mrs B to get better on her own. Finally, her medical insurance lapsed and Mrs B was ultimately punished by the bill collectors representing the medical community where she finally sought help. Yet, there is evidence that even through all of this, Mrs B's depressive yielding has enabled her to manipulate her surroundings.

Mrs B demonstrates several examples of paradoxical power and capability for manipulating her environment. For example, in the threatening (agonic) work place of her school, Mrs B's depressive yielding offers her an escape. In the yielding metaphor, Mrs B is allowed to remain a group member collecting disability insurance from school while remaining at home and escaping a school situation unfavorable to her. At home, Mrs B may manifest even greater paradoxical power; specifically, in her depressive yielding, she has manipulated her husband's behavior such that he has postponed divorce and in a nurturing (hedonic) sense she is pampered, and nurtured to the point her daughter goes to day-care. Her paradoxical power may rival the Birtchnell observation of "... the whole depressive stance as an attempt to control the marital relationship."

To extend the metaphor to therapeutic implications is difficult. The hypothesis suggests to look for areas in which the patient is losing but not yielding voluntarily and then work to settle the

conflict by peaceful means. For Mrs B, such conflict may be occurring in work place and a peaceful settlement may be negotiated. However, at home as a parent and as a wife finding a way out seems more difficult because in spite of her overt humility and submission, there is still much anger and indignation and like Freud's description in mourning and melancholia "...they (depressed patients) give a great deal of trouble, perpetually taking offense and behavior as if they have been done a great injustice." This sense of injustice is an obstacle to Mrs B's insight into her anger and therefore an obstacle to overcoming her depressive style of manipulating her environment.

Tierney-Sloman Exchange by L Sloman

Tomorrow I am off to London and will spend a few days with John [Price] before going off to Cape Town. ...

Before I leave I thought I would make a few brief comments on the case of Mrs B...there is one particular area that could be a fruitful area to explore. This is the conflict that Mrs B. was experiencing between her wish to fight on and her need to submit. I speculate that when she arrived at school the first day and found that she had been assigned a class of multiply handicapped children, even though she had been promised she would be assigned normal children, she must have been really furious. She would then have been torn between her wish to express her anger by walking out and the strong sense of obligation, both moral and contractual, that would have compelled her to yield. I would imagine that she would have been torn by these conflicting attitudes and that the intensity of her rage would have been fueled by the frustrations of the job which would have created increasing difficulty for her as she tried to manage her rage by yielding or "giving in". As a result of this escalation, her increasing anger would have elicited a yielding response of increasing intensity. This yielding response would finally have escalated out of control and culminated in a severe depression. Whereas ETC may have been the appropriate treatment in the acute phase, a psychotherapeutic approach might have been helpful buy providing her with the opportunity of becoming more aware of this internal conflict. The therapist could aim at alleviating her depression by punctuating the altruistic element in her submissive response. That is to say, she was prepared to respond by feeling helpless, hopeless and inadequate in order to try to fulfill her obligations - both to the school system and to her children. I don't know how good a candidate she would be for psychotherapy, but if she was, a cognitive therapist might be best able to deal with some of these issues. ...

Tierney-Price Exchange by J Price

Thank you for sending me the very interesting case by J Tierney. I had an opportunity to discuss this with Leon Sloman when he was over here recently. First of all I should say that I have run across many cases of severe depressive illness following a putting down (catathetic) experience at work. Just off the cuff I can remember the following. A cheese salesman worked on a geographical basis, and then a "super salesman" was appointed to cream off the good accounts and he was left with the rest. A tax inspector who had graduated to doing the high income accounts, and the system was changed to that of alphabetical order so that she was reduced to doing a proportion of low income accounts as well. A construction manager who due to the in-

sertion of a new level of management no longer had direct access to the boss. Two cases in which a man went into a family firm and was demoted because of the rise of a son of the family in the work situation, one of whom recovered and the other had to be retired on medical grounds. A man whose firm was taken over and the new managers regarded him as worthless and tried to push him out.

In principle there are three ways of dealing with involuntary depressive yielding in these situations:

*1. Help the patient to win.* It may be that with advice and training and good professional help, the battle can be won. In the case of Mrs B, it might be possible to lobby the Board of Governors and have the headmaster censured for not keeping his promise to reinstate her into her former teaching position. This would depend on written evidence of the headmaster's promise. The basic agonistic encounter is between the patient and the headmaster and if the latter can be forced to yield, then one would anticipate that her depression would remit.

*2. Help the patient to yield voluntarily.* This might be achieved either directly, by getting the patient to accept that after two years out of teaching she no longer had her previous skills and it was reasonable for her to resume teaching at an inferior level. Or it might be done indirectly, by persuading her that teaching handicapped children requires much more skill than teaching normal children, so that in fact she had been promoted instead of demoted.

*3. Reframe the situation in such a way that the agonistic encounter with the headmaster is minimalised,* for instance, to emphasise that her main role is with the family and that her teaching career is relatively unimportant. This may well come down to her sources of self esteem, why is it that it is so important for her to be a good teacher, and in particular to be a teacher of bright children. We do not know why she was so averse to teaching handicapped children, whether this represented something from her past or just represented a demotion, like my tax collector or cheese salesman.

I think your suggestion of ECT is a good one because until she can get out of the depression she may be unable to tackle the whole problem; as it was said of Hamlet, his melancholy took away the ability to deal with the situation which had caused the melancholy in the first place. In that case, the melancholy has to be dealt with first, and the situation afterwards.

I think often that dealing with people who have been grossly insulted or abused is easier dealt with by religion or philosophy than by psychotherapy. This is where Christianity can be particularly powerful. To be crucified by the world makes one closer to Christ and therefore raises one's RHP rather than lowering it. Clearly not everyone is able to avail themselves of this comfort.

If Mrs B had had a manic rather than a depressive response to her insult, she might either have attacked the headmaster and got him sacked because of his perfidy, or she might have developed a fantastic career in the treatment of handicapped children and become another Montessori.

I think on the whole the best strategy with Mrs B would be to minimalise the matter by moving away from the area, developing a new career (as she is obviously a talented woman) and make the whole thing appear to be some nightmare in the past which has not relevance to her current activity, but of course this may not be possible for the family or other reasons. Also for psychological reasons, as it may be that in any new environment, to see a school would remind her of her degradation and ex-

acerbate the depression.

P.S. It is interesting to note the fact that she gained power in her family due to the dependency signals which she was emitting. This clearly depended on the fact that her husband and children loved her and were willing to respond to them. If she got too much satisfaction from this it might be less easy for her to resolve the issue with the headmaster which is clearly the primary problem.

Sociophysiology. by R Gardner

Sociophysiology refers to the scientific discipline that studies the biology of communicative processes in the soma of the single individual. This refers to the adaptive and non-adaptive functions of communicational processes for the behaving individual on the one hand and the biochemistry of the origins and regulation of these processes on the other hand.

*Suicide and sociobiology.* Suicide illustrates psychiatry's troubled relationship with sociobiology. EO Wilson does not refer explicitly to psychiatry in his 1975 epoch-marking volume, but he alludes in his very first sentence to suicide[5,p3]. Suicide, a major problem for psychiatrists, also represents a resistance to the idea that evolutionary factors play roles in the psychology and psychiatry of humans.

The sentence is: "Camus said that the only serious philosophical question is suicide." Wilson rejects this, arguing that the truly serious philosophical question deals with constraints on knowledge that stem from emotions (flowing in turn from hypothalamic and limbic centers). These flood the thinker and distort intuition. Such interference with thinking makes necessary research programs that firmly constrain emotional effects on reasoning.

Point granted and I feel that we need to observe his cautions against bad science. This echoes tentative agenda item #3, EO Wilson is correct: analysis of behavior needs biological anchors and strong inference science. The science we do needs to be good science. EO Wilson devoted a section to methodology and we need to integrate the thinking of such figures as he and Francis Crick into BPG thinking[1]. Strong inference methods use disproof of competing hypotheses as powerful techniques to persuade the consumers of scientific information that conclusions are valid. Otherwise indeed the floods Wilson postulates may prevail. This dovetails with "consciousness" as an evolutionary late arrival later in this essay. Now we return to discussion of tentative agenda item #4, (a) E O Wilson is insufficiently correct: our focus should be on somatic not population biology.(b) Is sociophysiology a subset of sociobiology?

Wilson stated that "Sociobiology is defined as the systematic study of the biological basis of all social behavior." He rejected psychology and ethology because he feels they rely on intuition for their models of explanation. But for him the mysteries are resolvable more with how groups are organized and how population biology (using mathematical formulae) can describe the phenomena." He paid some heed to the role of cells and molecules, but he focused most on population biology.

Suicide and its causes are problems that Wilson fails to address, not surprisingly as he had much to deal with in this landmark volume. Moreover, as a population biologist, he focused on what he saw with clarity: how populations vary to produce behavioral changes, "...in evolutionary time," Wilson notes, "the individual counts for almost nothing."

*Our* daily fact as psychiatrists, however, is that people do kill themselves and society sees suicide as a problem of troubled feelings and mental illness and we *must* deal with it. Moreover, we need to know more about

it and we have a stubborn faith in the relevance "of biology in ways as yet incompletely discovered.

In a 1983 lecture I gave at Cornell Medical School in New York, a critical question put to me after was: "How does sociobiology handle suicide?" implying that without an adequate answer, sociobiological thinking applied to these complex human decisions could not be sustained. (I recall X had an answer but also that the questioner didn't believe it good enough!)

Thinking about this now, I believe that the meaning of sociobiology for the questioner implied that evolutionarily derived traits must be adaptive, that the "adaptationist program" prevailed, an assumption that in their influential paper, Gould and Lewontin (G&L) labeled and took to task in their now well known spandrel image: the mosaic images on the underside of cathedral arches (spandrels) were not the reason the arches originated; rather structural support that the columns and arches provided was the originating motive .

G&L used an architectual simile for the obviousness of it. They used the metaphor with devastating effect. The mosaic pictures provided a creative — even ingenious — visual display for viewers in the cathedral, but the art came plainly after the arch: the arches did not originate from the need for the function that such communications accomplished. We see the need after the fact and there is error to think that something got there *because* it has a function.

Biological opportunism means that many important functions stemmed from nascent structures that got going for other reasons, eg, before helping with flight, outgrowths that later became insect wings probably cooled the ancestral animal long before the structure was a flight organ.

*Basic plan (spandrel) analysis.* The above concept is important for basic plan thinking and bears on tentative agenda item 5, Behavioral and molecular analyses should include basic plan analysis, perhaps well named spandrel analysis but without pejorative connotations. G&L used their image to attack the "adaptationist program" that they ridiculed as the "Panglossian paradigm." They made an important point but failed to note that it also implied a methodological approach: analysis of what originated from what is consequential data.

A decade after the spandrel paper, Leo Buss asserted that "Molecular biology has suddenly become a comparative, and inevitably evolutionary, discipline. A new "fossil record," writ in the genome, is now accessible and is being read in a necessarily piecemeal fashion."[7] Biochemically (bottom-up) we will eventually determine something of how the genome worked from early devices to fashion phenotypic/somatic differently adaptive later ones. Knowing how molecules become modified from architectual columns to become spandrels gains importance.

Knowing this to be true, I argue that we should work on hypothesizing from top-down approaches which somatic functions to examine. In my insect flight example, flight is the spandrel and the hypothesized air-conditioning function the column. Teasing apart which DNA sequences got modified by later derivations will interact with the functional analyses in this field.

In his canny wording of a statement on adaptation, Wilson noted that "...each phenomenon is *weighed* for its adaptive significance and then related to the basic principles of population genetics [italics added] "[1,p4]. In other words, there should be no automatic assumption of particular adaptive functionality, but rather investigative questions. I interpret his "weighed" as meaning that for function x, its resemblance to spandrels vs support is grist for

the research mill. Moreover, the adaptive capacity of spandrels should be less an issue than the origin of the trait: messages on campus posts *are* important even if the post was put there for telephone wires.

*Emotions as social communication.* Tentative agenda item #6 reads: Analysis of communicational behavior should overlap analysis of molecular actions that mediate them. In his response to Camus on the first page, Wilson refers to "...all the emotions, hate, love, guilt, fear, and others," and to their "emotional control centers" in the hypothalamus and limbic system, pointing out that "They evolved by natural selection." This seemed to be an important point in his raising suicide at all.

Of course, with hate, love, guilt, and fear, Wilson refers to social phenomena. They are experienced personally and are mediated by the cells of the single individual, but occur with reference to other people. *Of course* (we say in 1991), hate, etc are fostered in some way by natural selection, but why and how did these *social* emotions get fostered and what genes and neurons underlie and mediate this very stuff of psychiatry and allied disciplines?

I have no trouble with being skeptical of intuitive "models of explanation" — but, please, let us not throw out the directly observed data of ethology and psychology at the same time! Schelde's observations exemplify this in previous issues of ASCAP. We need even more, eg, miniaturized devices to measure movement such as those developed by NASA to be applied to psychiatric patients, as well as to the astronauts. This happening now at UTMB[8]. Dr Santy wonders how simple measurements (made simpler with computer technology) might help us characterize diagnoses.

This bears on agenda item #7, Clinical experiences and clinical syndromes offer natural experiments. To follow, in the tradition of John Price and nicely highlighted by Dr Tierney from San Antonio, are my last two work experiences that featured suicide as a clinical problem.

*Suicidal patients.* As you read the case of OC below, do some spandrel analysis: was his push to do something to himself analogous to the supportive arch *vs* the mosaic? Was it basic or add-on?

The story: three days ago, 3 April, I told a talented but anguished patient that I hoped to help him prevent his suicide because after similar crises of other suicidal patients, they were grateful later for changing their plans. OC replied that he was a loser but would be less so if he killed himself (implicitly he could triumph some by dying).

I said that I was not interested that he be a loser. (My argument did not make it explicit that if he died he would fail to be a winner because I did not want to force my point. I sensed that he may have felt it necessary to prove me wrong in forceful communicative action!)

After some discussion, I finally felt that OC had agreed meaningfully to be ok until I saw him again and did not cause him to be hospitalized against his will to prevent his suicide (as I would have done if the urges were in my judgment still strong. I have no desire to see my patient dead and society agrees — I can indeed get sued for such death if proper precautions that reflect usual standard of practice are not taken. Moreover, such patients often feel cared for by such clinician action.)

Near the end of the session, however, he said resignedly, "I hate it that you got me to agree." I said "You feel a loser still?" and he said little but looked thoughtful and seemed relieved. He insisted on an end-of-session handshake. I yielded to his request. I felt reasonably comfortable that he would be safe.

Two days later, he stated — in a

manner that caused me to believe him — that he felt "grounded" after the session in a way he not felt for some years — in contrast to a sense of being adrift, confused, ashamed, disconnected from other people.

My sense of the suicidal part of OC's ideas have them more as communications to others that happened to get posted as a spandrel, not analogous to columns. Basic to their existence, I believe were OC's need to deal with other humans. OC was basically thinking of other people as he thought of suicide: how to deal with others? — including during the session, with me? — how could he avoid being a loser?

Having an ally instead of an antagonistic relationship was crucially important for OC, but not something he felt often successful at — at least from the viewpoint of his present discouraged state of mind. How he felt with respect to winning *vs* losing was more important than the abstract notion that he might die. Losing meant suffering and the fantasy of dying seemed a plan to relieve that suffering. Effective intervention with suicidal patients entails alliance formation, reduction of loneliness, alteration of the patient's maladaptive plan.

The next clinical experience dealing with suicide in my day-to-day clinical work occurred in rounds on 11 April: a student presented the case of JT who had taken a severe drug overdose the night before. She survived but not without considerable emergency intensive medical attention. JT's suicide note, "I CAN'T FIGHT ANY MORE I LOSE," as well as her clinical history, suggested that she agonistically struggled with other people in a way similar to OC, but for her with near lethal result.

Wilson's point about Camus made suicide biological; these spontaneously arising cases in the course of everyday psychiatric practice illustrate the biology of it differently: that suicidal thoughts and actions are a kind of verbal and nonverbal language of power-related social communicational behaviors.

Suicidal ideas, with death sometimes the outcome, may be like Simon's docility , a proximate mechanism like that of the egg-bearing turtle crossing the road. From the practical clinical point of view, we need to learn more about the basic plan — in my opinion communicative in nature — that underlies it.

Also bearing on item #7, is Angelman syndrome which features unusual and disconnected expression of laughter (and other indicators of positive mood such as smiling and lack of bad temper) associated with a deletion of a particular segment of chromosome 15. Future work needs to determine the products of that DNA sequence and how they usually work to regulate the communication of mirth. I've been excited by the implications of this linkage between the realm of communication (behaviorally recorded, disassociated from other mentation) and the realm of biochemistry.

*Consciousness seems less likely to be coded in DNA ancestral to humans than other attributes?* We've agreed above with Wilson's skepticism about the emotional floods that interfere with science (tentative agenda item #8 reads How can we proceed from ancestral structures forward rather than consciousness backwards? Top-down-only approaches often consider conscious emotion (or other mental attributes) as fundamental.

But is consciousness-backwards a best ploy for investigation? Human conscious feeling may be species-specific, the DNA coding for which occurs only in humans, like the shape and characteristics of the human larynx, in other words, spandrel not architectual support. Of course the larynx being a spandrel doesn't make spoken language communication less important. That the vocal apparatus

may have come after oral and breathing machinery doesn't trivialize the trait nor reduce its adaptive capacity.

Actually human language may or may not be a part of a basic plan concerning mouth-related structures and rhythms. Newly gathered data on the acquisition of sign language by non-oral means bears on this[10]. *How* these mental attributes are spandrels *and* columns seems intensely important and bears on parallel questions with other communications, eg, emotional signals, and their being experienced. For example, instead of communicational processes being "influenced by emotion state," communicational state may more fundamentally influence feelings, counter-intuitive though this directionality may seem[11].

Consider J Price's comparisons of the human experience of depression to low rank in chickens. Some have trouble taking this seriously because the common ancestor of birds and humans was ancient and that two such different creatures should have the same experience has seemed counter-intuitive. The mentality of chickens and humans is "obviously" different. And of course they are; the key is to *how* they are also the same. But strong investment in how we think and feel make it hard to consider such communalities.

Other approaches to going investigationally ancestral-forward includes across-species comparisons since characteristics that varied species share are obviously more basic (less spandrelish?) than those contained only within a species.

We recall Zhdanova's approach of asking whether CSF from patients affects the social behavior of rats. Sorensen and Randrup investigate motor stereotypies in caged animals. Another example may include the defeat states in animals called "learned helplessness" which may be less "learned" (or spandrel) than a stimulated ancient pattern .

*Example of facial communication.* Finally, back to practicalities and tentative item #9 (Communicational behaviors need across-discipline standardization.)

A model arises from the psychosomatic literature. M Chesney and her associates had worked on the operational definition of Type A behavior. They teamed with P Ekman *et al* who had determined the muscle actions that give rise to the varied facial constellations and had characterized the seven basic emotional expressions, which they verified as congruent over many cultures in superb research . Their joined research teams then determined which facial expressions most correlated with the Type A pattern (disgust and glare) and even more importantly provided translations in which the facial sign from the Type A literature was compared to the relevant facial activity scored and then in turn to the interpretation from facial expression literature. Thus, the Type A "hostility in the eyes" was mediated by "the upper lid raised by upper lid levator and lower lid tightened by orbicularis oculi pars palebralis muscles" and this indicated according to the facial expression researchers, "anger, if brow lowered and/or lips pressed or tightened."

*Conclusion.* Communicational processes are social functions somatically expressed. I propose that we do pay attention to Wilson's broad definition of sociobiology but not to the practice of counting the individual as nothing. We need to think of sociophysiology — the social psychology, physiology and biochemistry of communication — as a subset of sociobiology in order to foster a basic science for the clinical sciences of psychiatry and clinical psychology. Molecular and behavioral analyses of basic plans may provide ways these two realms of evidence can approach each other.

1. Crick F (1988) What Mad Pursuit: A Personal View of Scientific Discovery NY: Basic Books, p109

2. For ASCAP Newsletter Volume 4 (Jan through Dec, 1991) please send $18 (or equivalent) for the 12 issues. Hake checks or money orders out to "Department of Psychiatry and Behavioral Sciences, UTMB."

3. ASCAP philosophy and goal. High scientific importance rests on comparing animal behaviors across-species to understand better human behavior, knowing as we do so that evolutionary factors must be considered for understanding properly such behaviors. To accomplish these comparisons, very different new ways of viewing psychological and behavioral phenomena are required. This in turn explains why we need new words to define and illustrate new dimensions of comparisons across species. We expect that work in natural history biology combined with cellular-molecular biologic research will emerge as a comprehensive biologic basic science of psychiatry. Both top-down and bottom-up analyses are needed. Indeed, this must happen it we are to explain psychiatric illnesses as deviations from normal processes, something not possible now. Compare to pathogenesis in diseases of internal medicine.

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