

ASCAP

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"The dream shows the inner truth and reality of the patient as it really is: not as I conjecture it to be, and not as he would like it to be. I have made it a rule to regard dreams as I regard physiological facts: if sugar appears in the urine, then the urine contains sugar, not something else that might fit in better with my expectations".

Carl G Jung¹

Newsletter Aims

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

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ASCAP Society Mission Statement

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

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

ADDRESSED TO & FROM...

BIOLOGY OF HOPE

Herewith my subscription. It remains far and away the best of my annual expenditures. The only thing which runs anywhere near it is the annual license fee I pay for BBC television. Praise indeed!

By the way, I am taken with the idea of "a biology of hope" to which you referred in the October issue of the Newsletter. To me it is the not always effective means of reconciling the irreconcilable: a brain which (a) must get firmly to grips with reality in order to do its job effectively and therefore comes to realise our ultimate cosmic insignificance; and (b) needs to maintain our sense of "personal worth and importance" if it is to avoid the abyss with which I am so obsessed. I am reminded of the old rhyme:

*Between optimist and pessimist
the difference is very droll.*

*The optimist sees the doughnut,
the pessimist sees the hole!*

Mike Waller
Worcestershire, ENGLAND

WINNING RESPONSE

I enclose a quarter-century old article on "Manic Games".¹ I feel that it bears out ideas about the relationship between dominant and manic behavior;² it refers to the usefulness of a therapist usefully taking a dominant stance with the manic patient.

The excerpt is from the end of the article:

Expecting the manic patient to divide staff members, assault self-esteem, progressively test limits, project responsibility and distance himself from family members, allows anticipation of these activities, with the possibility of formulating concrete responses and plans. It is most important for those in therapeutic positions to consider their own roles in interacting with manics. How they may unwillingly allow the manic to manipulate their self-esteem or how they may become defensive when the manic attacks their self-image is worthy of consideration.

We feel it is important to acknowledge conflicts when dealing with the manic patient, thus deflating his tendency to manipulate. Frequent staff meetings, centering around manic interactions, may undercut the ability of the manic to divide; for it is in the context of faulty communication that he is most effective. It may be useful to view the manic's ability to perceive covert conflict as a positive attribute, to be used as a diagnostic tool to unearth and externalize interpersonal dissension.

It is worthwhile to focus on the feelings, realities, and affects which underly a manic's behaviour, rather than to become caught up in a characteristic battle of semantics. When a therapist agrees to engage with the patient in semantic quibbling, he has, a priori, abdicated his objective usefulness to the patient by

allowing a shift of focus to an arena in which the manic will be successful in avoiding therapeutic work.

Finally, we have found that the unambivalent, firm, and rather arbitrary setting of limits and controls is most useful in decreasing manic symptomatology. It seems that when the manic is unable to successfully divide staff members, exploit areas of conflict and vulnerability and exceed set limits, manipulative and uncontrolled behavior decreases. It may be that the psychotic manic patient hears most easily the nonverbal communication implicit in the setting of limits - the statement that indeed, the patient is controllable and that the therapist cares enough and is powerful enough to protect him from his self-destructive activities.

At the Toronto meeting of the International Society of Human Ethology (Aug, 199), Russell Gardner (RG) described alpha individuals including Lyndon B Johnson and Eleanor Roosevelt, and suggested that the concept of human alpha may help to understand improvement in people who suffer from an involuntary subordinate strategy (ISS).

I make a distinction between personality and state. For example, an alpha personality enters agonistic encounters with self-confidence arising from many previous successes (and, one

might add, a history of a secure attachment to the mothering figure). Then the same alpha personality rejoices because he wins and faces up to challenge with a triumphal enjoyment. In the case of RG's patient, who suffered from depression and anxiety etc., she reexperienced earlier traumatic experiences and learned to react to significant others in a less subordinate manner. RG implied this increased self-assertiveness bore a similarity to the behavior of alpha personality. One may note that when we endeavour to assist our patients in giving up excessive subordinate behavior and thereby exhibit more alpha type behavior, we also might wish to improve their capacity to be able, when appropriate, to submit and accept their loss. Self-assertion can facilitate progress of the hierarchy, but the successful individual needs to know when to bide his time and also when to yield.

There seems to me to be a parallel between the ISS and the "winning reaction" in that one is triggered by failure and the other by success; both could be said to have the similar function of turning off the individual's own aggression while, at the same time, sending a message to the adversary that signals the end of hostilities. Both of these two communicational propensities contribute to the maintenance of the stability of the hierarchy.

You have focused on the commonality between manic behavior and the alpha personality. I wonder whether there might be a

closer link between manic behavior and the "elation of winning". In that case one might speak of depression as, at times, being associated with an over-reaction to losing (via the ISS), and mania being related to an over-reaction to winning (via the involuntary dominant strategy). I know your data indicates a link between alpha personalities and manic behavior. However, I wonder if the criteria that you have used for selecting the alpha individuals could have automatically selected for those who had experienced more successes so that you might have been measuring a "winning reaction".

One can differentiate a number of mechanisms associated with losing, namely escalation, the ISS, acceptance and submission. Might one be able to differentiate a number of communicational propensity states that are associated with winning?

Leon Sloman
Ontario, CANADA

LEON'S QUESTIONS

You provocatively extend the idea of alpha state. Let me summarize and slightly extend your questions: (1) Is the alpha personality an extended alpha state? (2) Is an alpha state the product of winning? (3) Echoing Darwin's principle of antithesis, you ask if the involuntary subordinate strategy is parallel to, but in reverse, to a "winning reaction"? (4) Does the elation of mania possess the same neurophysiology as that of winning? (5) Does the "feeling better" of a person

formerly incumbered by an ISS result from an activated winning reaction? (6) Does the concept "over-reaction" help us understand how depression and mania are pathological? (7) How does secure attachment seem to produce the alpha personality? (8) Are there many components to winning reactions?

Halfway to any answer is posing the question. With queries, you have accomplished the difficult task of putting interpersonal relations into a personal physiological context. This addresses the problems that people have in other venues with the inheritance of dominance - how, they ask, can one inherit a relationship?³ You illustrate with your questions that one may inherit a propensity towards winning — a propensity towards a particular role in relationships.

To address #7 briefly, is the key to secure attachment good "audienceship" on the part of the parent? A painless way of winning (there is no loser) may be to have a good audience - this may be key to good psychotherapy also. When one listens very carefully and pays close heed to what the patient is saying, this is allowing the patient to be relatively alpha to one's audienceship -- one is not submissive nor subordinate except in a very playful manner. The audience member is not submissive, but "lower" in a desirable way.

Russell Gardner, Jr.
Galveston TX, USA

ARTICLE: Views on the race: IQ controversies (Excerpt with permission from Email)

by K MacDonald

It seems to me that our field is essentially split in the following manner: on the one hand are those who follow the Tooby and Cosmides' point of view which proposes that the only important goal of the evolutionary field should be to understand the normative, species-typical adaptations (especially domain-specific cognitive mechanisms) which evolved to solve adaptive problems in the Pleistocene. Hiram Caton points out, and I agree, that this position is nothing more than a re-labeling of the traditional ethological approach, expanded now to include what I predict will be a relatively delimited subset of the mechanisms studied by cognitive psychologists.

The other point of view is represented by a number of people, obviously including Caton and me,¹ but also people like Phil Rushton, whose research on racial differences in intelligence and other attributes has resulted in him being anathema-in-principle to many in the society (not simply someone doing honest but misguided research).² This other point of view proposes that genetically-influenced differences in intellectual ability as a set of domain-general mechanisms (most paradigmatically the g factor in intelligence tests) is critical in understanding the evolution of human culture as well as for understanding an important set of within-culture dynamics. My view is that it is impossible to understand the vast majority of historical phenomena without such a perspective, and without it evolutionary perspective in this area (as well as much of evolutionary anthropology) will be entirely impotent. However, as Hiram Caton notes, this point of view tends to be "elitist, selectionist, implicitly eugenicist and withal Murrayesque".³

As an explicit example, a major theme of my book on Judaism as a group evolutionary strategy is that Judaism can be characterized in ecological terms as a high investment/high intelligence reproductive strategy which facilitates resource acquisition.⁴ I argue that success in mastering the vast and complex Jewish religious writings was strongly associ-

ated with prestige within the Jewish community and was ultimately linked rather directly to control of resources and reproductive success. Jewish religious and social practices also fostered the development of high investment patterns of childrearing necessary for successful resource competition and a role in society above that of primary producer. Finally, and most importantly, Judaism has been characterized by eugenic processes, including assortative mating, and cultural and natural selection for intelligence and other traits related to obtaining resources within stratified human societies. Because of the domain-general nature of the g factor of general intelligence, selecting marriage partners on the basis of scholarly ability also selected for resource acquisition ability. And this higher level of intelligence among Jews has led to their extraordinary success in a wide range of economic and intellectual activities in both traditional and modern societies.

But a most controversial point that Hiram Caton made in an earlier Email was the suggestion that the impotence of evolutionary psychology results from a political agenda. He asks "*What to do [to combat this elitist, selectionist viewpoint]? Devise a heuristic that disguises the massive fact of elite dominance, e.g., by inventing normative theory sociology as an intellectual counterpart to lotto pot of gold*" - a brilliant metaphor which I interpret as meaning that normative evolutionary psychology implicitly proposes that elites have simply been the fortunate winners of an evolutionary lottery (as a result of their luck in possessing all of those genes which are really there only to combat pathogens rather than the result of a rationally interpretable evolutionary process of natural selection.⁵⁶)

The evidence that evolutionary psychology is politically motivated is, of course, circumstantial. The imputation of political motivation is made on the same basis that people routinely impute political motivations to people like Rushton: their research seems more highly compatible with a certain political

perspective. As Hiram notes, the evolutionary psychology perspective has been used by people who are obviously politically motivated to criticize The Bell Curve by elevating normative social intelligence to a level of supreme importance in understanding human evolution. One might also note that the media, which is notoriously politically biased, has certainly taken sides on these issues. Contrast the very negative attention (or no attention at all) given

to people like Rushton with the generally very positive media exposure in nationally-circulated newsmagazines as well as the recognition given to evolutionary psychology by professional organizations such as the American Psychological Association. Does anyone else have a better theory for what's going on?

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ARTICLE: **Response to Cortina: Selection theory revisited**

by M Waller

When first granted the privilege of becoming an ASCAP contributor, I learned I had a colourful, robust style of presentation that I have come to curse. In responding to Mauricio Cortina's original critique of genic theory,¹ I allowed myself full flow.² As an (entirely justified) result, I now find myself having to cope with a counterattack³ which requires me not only to defend my particular version of genetic theory but, *inter alia*, to explain the triumph of Japanese industrial practice over "Taylorism" as well as significant differences in fertility choices made within two Mexican villages. I shall attempt all three, but I hope Mauricio will find it acceptable if I deal with issues two and three somewhat briefly.

I brought the management theorist F W Taylor into my initial response simply because he espoused an approach to industrial staffing which directly parallels Darwinian natural selection, i.e., he recommended identifying the attributes which made for outstanding job performance, dismissing all employees who were in any way deficient, and then replacing them with others who met the standard. In the case cited he was dealing with female employees engaged on inspection work, weeding out sub-standard ball-bearings. The key attribute he was seeking was the visual-manual ability to make and act on correct choices very quickly. If we give him the benefit of the doubt and assume that this is a skill you either have or you do not, I know of no managerial philosophy, Japanese or otherwise, that would recommend a fundamentally different approach. More kindly

regimes might look for alternative work for those displaced and in some cases this pays economic dividends; but, knowingly or otherwise, all effective organisations follow the Darwinian principle: determine what it takes to do a particular job well and then seek to ensure that all job-holders have the skills identified.

The only novelty I am adding to this is to challenge the general assumption that staff-selection processes and stockbreeding practices differ from natural selection in that the first two employ intelligence whereas the latter relies solely on chance. My contention is that the sexual selection element of natural selection theory already implicitly acknowledges a "natural" use of intelligence in selection. Comparator gene theory takes this one stage further by arguing that our brains are programmed further to assist natural selection by "deselecting" ourselves if what Leon Festinger called "the drive for self-evaluation" tells us we are consistently underperforming in relation to significant others, be these our peers or our parents.

I see no problems with Darwinian theory and the Mexican villagers. As evolutionary theorists we are interested in long term survival rates rather than bald fertility rates. I would guess that if in the poorer of the two villages the women's economic contribution was reduced by increasing the time they spent weaning or carrying, the consequential reduction in already restricted resources would result in a de-

crease in the infant survival rate. With the richer village the comparative ready availability of resources makes it possible (though in both my and Mauricio's view, highly undesirable) to use the women as breeding machines. Viewed in this way there seems to be no grounds for distinguishing between the "fitness" of the two groups of women. In the ruthless world of natural selection the roles of both are equally well fitted to local resource availability. Horrible although this fact is, lack of emotional enrichment and feelings of unhappiness only become relevant to fitness when they impact upon gene frequencies. However, eliminating this type of exploitation may entail recognising its biological origins and, more specifically, the putative role played by comparator genes. If females are told in every conceivable way from birth onwards that they are inferior to their male equivalent, this is highly likely to induce the low self-esteem and persistent low-level depression which make them amenable to exploitation in the way described. Those to whom maternal roles offer no fulfilment whatsoever will be driven out or utterly destroyed. This will result in a selective bias towards those who find the roles tolerable, if not enjoyable. Because of the lethal effects of self-loathing some degree of self-respect is essential to long term survival. Almost inevitably, this is channelled into peer competition in areas such as sexual attractiveness, domesticity, and maternal competence. Obviously there is nothing new here for feminist theory, other than for the genetic basis upon which I am attempting to place it.

**... those to whom maternal
roles offer no fulfilment whatsoever
will be driven out or
utterly destroyed...**

Turning to the manifold defects Mauricio finds in my own ideas, I have to acknowledge the following hostage to fortune in my original letter, from which I now quote:

*Mauricio goes on to suggest that those who believe in the selfish gene also believe that genes "cause" the selection process. As a dyed-in-the-wool genic theorist, I can say that this is nonsense. Genes no more cause evolutionary change than differences in the durability of different types of rock cause the landscape. In both cases the positive role is performed by environmental change no more than differences in the durability of different types of rock cause the landscape. In both cases the positive role is performed by environmental factors acting on natural variability. However, if I might turn the question back to Mauricio, would there be any evolution if genes were not continually presenting themselves, via organisms, to have their relative strengths and weaknesses so rigorously assessed."*²

Mauricio infers from this that I deny the central role genes play in the selection process. As I am later correctly reported as asserting that "genes are the be-all and end-all of natural selection" something has to be wrong. All I was seeking to do in the above paragraph was squash any suggestion that genic theorists believe (a) that genes have the capacity to act purposefully in seeking out their own salvation and (b) that the gene/environment interaction is a direct one. Both are obvious nonsense and perhaps unnecessarily raised in the first place. *Mea culpa!*

There are, however, several serious points of difference between Mauricio and myself which do require straightening out. The first arises from our self-appointed roles as surrogates for the good Doctors Sober (Mauricio) and Dawkins (me). In playing his part Mauricio paraphrases and quotes Sober as follows:

Even if we accept the arguments as valid ("genes are for ever", the fact that natural selection can be represented in the idiom of gene frequencies or the parsimony argument), the arguments say nothing about whether group adaptations are common, rare or nonexistent.^{4p. 403}

I believe that the wrong-headedness of this claim can be illustrated by summarising Dawkins' well known attack upon the group selectionist, V C

Wynne-Edwards. Wynne-Edwards' offence arose from decades spent studying the behaviour of the red grouse. He noted that the number of individual breeding territories within a given area appeared to be determined by overall optimisation of resources, and not the number of males in competition for them. Once all the available, optimally-sized territories have been occupied, the unsuccessful males seem quietly resigned to a probable death by slow starvation. Because this so greatly enhanced survival prospects for the group as a whole, Wynne-Edwards concluded that it was the reason it has been favoured by natural selection.⁵ To Dawkins this is nonsense. He suggests that a male who sits and starves is a product of countless evolutionary experiments which have shown that his best strategy is "to wait in the hope that somebody (i.e., a successful male) will die, rather than squander what little energy he has in futile fighting."^{6 p.118} It is not that Dawkins thinks Wynne-Edwards is wrong in suggesting that there is an overall advantage to the group. His attack is based on the assumption that this cannot be the reason why this behaviour has been favoured by natural selection. As groups, as opposed to their individual members, lack corporality, they must also lack genes. Group benefits cannot, therefore, be selected for and Wynne-Edwards' position is logically untenable. In Dawkins' view the explanation for self-sacrificial behavior has to be kin selection, reciprocal altruism or some other subtle form of self-interest built into the genes of individual organisms. As those who benefit from the deaths of the unsuccessful males - their successful rivals - are, in the main, genetic strangers, kin selection cannot be a significant factor. As the probable outcome for the starving males is death, there can be no element of reciprocity in the straightforward sense of foregoing immediate advantage in the expectation of a future pay-back. *Ergo*, making the best of a bad job by sitting, waiting, and hoping has to be the underlying rationale.

Dawkins seems to be offering an explanation couched in terms of organismic adaptation in place of the Wynne-Edwards' group adaptation proposal; but, at root, the whole debate is about genes. Dawkins is saying that any gene which codes for the

behaviour "forego your own reproductive interests in favour of those of the better fitted strangers" buys for itself nothing more than a one-way ticket out of the gene pool.

In contrast, a gene which codes for "conserve energy and hang on in" is likely to sweep to fixation. The bedrock strength of Dawkins' argument arises from the harsh, but irrefutable fact that it is at this level, and only at this level, that the final debate has to be conducted. This means that examples of what Sober calls organismic adaptation or group adaptation can either be explained in terms of the persistence of the genes which set up the characters in question, or they cannot be explained at all. In short, genic selection is not just one of three processes of natural selection; it is *the* way in which natural selection actually works. It therefore follows that if the group benefit element of Wynne-Edwards' argument is to be vindicated, and I believe my notion of a contingent comparator gene does this, the vindication has to take the form of a "selfish" genetic strategy which favours the fixation within individual birds of the gene (or genes) which code for the apparently altruistic behaviour Wynne-Edwards observed. Seeking to resolve this kind of issue by granting organismic and group selection equivalent and autonomous status in relation to genic selection, simply will not do.

When Sober does attempt to do this, the evidence he offers will not bear the interpretation he places upon it. As in the case of Wynne-Edwards' red grouse, group selection calls for altruistic behaviour for which Dawkins provides a clear cut definition: "*An entity ...is said to be altruistic if it behaves in such a way as to increase another such entity's welfare at the expense of its own*".^{6 p.4} Significantly, Sober offers us something rather different. "*A defining characteristic of evolutionary altruism is that altruists are less fit than selfish individuals within the same group*".^{4 p.98} To Dawkins the only participants in a race who can properly be called altruists are pace-makers who sacrifice their own chances of winning in order to help another competitor. Sober's definition also embraces those who lose despite doing their best to win. Taking this line enables him to draw on

work carried out by Lewontin in connection with the supplanting, in Australian rabbits, of virulent strains of the myxoma virus by much less virulent ones.⁷

The key fact is that myxoma is transmitted by a fly which only bites live rabbits. The virulent virus kills its host so quickly that there is very little time for the fly to transfer some of its infected blood to another rabbit. The weaker virus either does not kill, or kills much more slowly, and this gives the fly much greater scope in which to operate. As a result, the mild strain has grown and prospered whilst the virulent strain nose-dived into near terminal decline. Sober quotes approvingly Lewontin's claim that this process "involves group selection"^{4p.109} and

then goes on to confirm his own view that "*If low-virulence viruses replicate more slowly than high-virulence strains, lower virulence is a form of altruism*".^{4p.110}

I take a polarly different view. I draw a parallel with advice which I am told is frequently given by experienced fraudsters: "little, but often". They mean that if a cashier working for a company steals £1000 in one week it is sure to be missed; but if he/she takes £10 per week for 100 weeks, nobody will notice. This, surely, is the "strategy" adopted by genes responsible for the less virulent virus and in terms of the standard genetic metaphor, what they are actually displaying is not altruism, but intelligent self-interest, i.e., smart selfishness. The fact that the less virulent groups prosper and virulent ones do not, can be quite satisfactorily explained in terms of successful and unsuccessful selfish genetic strategies. It offers no evidence whatsoever of the long-term viability of altruism or of the existence of discrete group selection processes.

Again Sober seems greatly to under-rate what Dawkins is talking about. In what I take to be a dismissive comment, he speaks of "*defin[ing] altru-*

ism as what cannot evolve".^{4p.110} Yet, as the Wynne-Edwards debate makes clear, this is precisely what Dawkins is interested in. The unsuccessful red grouse do not replicate more slowly than the successful ones; they do not replicate at all. This is the real challenge Sober fails to grapple with. Wynne-Edwards tells us that the effects at group level are clearly beneficial. Yet, inevitably, the genes which specify the behaviour perish with their carriers as a direct consequence of its enactment. Fudging the

issue by redefining altruism does not help. The only way this problem can be satisfactorily resolved is by proposing a strategy at gene level in which the elimination of losers is part of a wider pattern which is of overall benefit to the long-term survival

of the genes which specify it. Achieving this requires re-examining Dawkins' selfish gene in the light of Sober's overwhelming evidence that the evolutionary interests of genes and the interests of the organisms which carry them are not identical; and as Dawkins, Williams, *et al.* seem to wish to continue to insist that for all practical purposes the genic and organismic approaches are identical, this is where I part company with them.

The inherent limitations of their approach can be illustrated by what is sometimes called the "queen of evolutionary problems": the evolutionary persistence of sexual selection. To those who espouse the organismic approach this is seen to be deeply problematic because any hitherto sexually reproducing individual who switched to asexual reproduction "*would be at a huge advantage. It would contribute twice as much to the next generation and would soon be left in sole possession of the genetic patrimony of the species. Sex therefore carries a twofold evolutionary cost*".⁸ Yet, self-evidently, sexual-selection not only persists, in the right conditions it thrives.

I believe this theoretical problem arises solely

because of the way it is formulated. Translated into the metaphor (I stress: "metaphor") of the selfish gene, sexual selection can be seen for what it is. A strategy, suited to volatile environments, whereby elements of the brains and bodies of their bearers are defined by sexual-selection genes to ensure that (a) the sexual selection genes are always carried by the evolutionarily most successful members of any breeding line in which they are found; and (b) genetic diversity is maintained in order to give the sexual selection genes the best possible prospects for long-term survival. Proportionate transfers of parental genetic material have no relevance whatsoever. The fundamental evolutionary effect of sexual selection is the perpetuation of sexual selection genes. Individuals are puppets, not puppeteers. Think, for example, of that ancient species of small fish, which progressively mated itself into becoming a reptilian species, then a land mammal, only to return to the sea eventually to become porpoises. The individuals at each stage are unrecognisably different from their forebears, reflecting the fact that the great majority of the defining genes have been dropped in favour of diverse others, better suited to new conditions. But the sexual selection genes, which drove the whole process, survive, both preserved and unaffected by these multiple metamorphoses. This is why I claim, *sui generis* and proud of it, genes are the "be-all and end-all" of evolution.

All this bears on the final point of contention. Mauricio rejects my notion of comparator genes on four grounds. With the first, which concerns Taylorism, I have already dealt. The second is that, even if at some stage in the past it had existed, socio-cultural evolution will by now have overwhelmed it; the third, that it is highly implausible; and fourth, that it is unprovable. Regarding the overwhelming effects of socio-cultural evolution, all I can say is that I only wish that this were true. We have a rich socio-cultural inheritance because, in evolutionary terms, we are general purpose devices, designed to learn about and capitalise upon new threats and opportunities. Because we must at all costs be flexible, unlike, say, chickens or chimpanzees, we do not come pre-equipped with a notion of what constitutes ideal behaviour or even an ideal sexual partner.

Instead, much of this is learned during our enculturation. Whereas Wynne-Edwards' loser-grouse have been failing against much the same criteria for millenia, humans have to cope with ever changing yardsticks. In 1968 the procession of liberal values was something to be admired; in 1988 it was a term of abuse. Flared trousers, once the height of fashion, are, for the moment, the sartorial pits. In some countries being a Catholic is almost a requirement for securing high office; in others a liability; in yet others an absolute bar. We may, in terms of Edelman's neuro-Darwinism, "make up our own minds" by retaining ideas and actions which work and rejecting those which fail, but to do this we have very quickly to identify the local (i.e., cultural) indicators of success and failure. The drive to do this, and the way in which we use the results, shows the comparator mechanism at work. Subconsciously as well as consciously we are continually casting about to establish what currently constitutes success in our neck of the woods. If we excel we feel marvellous; if our performance is so-so, we feel so-so; but if we consistently fail, not only do we feel depressed, we start to undergo physiological changes which ultimately drive us out of the gene-pool. Far from being swamped by socio-cultural evolution, this ruthless treadmill has driven our race through kaleidoscopes of socio-cultural change (and countless episodes of individual human misery) in our unending quest to keep up with, or do better than, our own particular Joneses. Yet in the long-term its primary effect is merely to perpetuate the genes which specify the mechanism. As with sexual selection, part of the individual's own brain is used in the service of genetic perpetuation. Both mechanisms show a total disregard for those bearers who in each generation make a poor fist of their opportunities, be they self-assessed failures or sexual also-rans. And, both, by augmenting natural selection with cerebral effort, react to changing circumstances with a rapidity which leaves others, devoid of such augmentation, trailing in the evolutionary dust.

And why should this seem implausible? The existence of the "up" side is already acknowledged. Dawkins coined the phrase "The Duke of Marlborough Effect" to describe the increase in

(natural!) testosterone found in victorious male tennis-players and victorious male crickets.⁶ⁿ²⁸⁶ In both cases losers enjoyed no such boost to their procreative potential. Nor is the idea of contingency novel. I have previously cited the face plates which only appear in alpha-male orang-utans. If social status can determine physiognomy, proposing that it also impacts upon emotional state and physical well-being seems a very modest step. Similarly, the notion of carrying out self-appraisals in terms of personal fitness should not be seen as outlandish. It's only sexual-selection turned inwards.

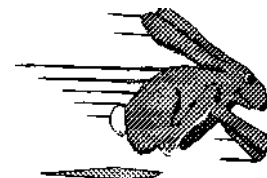
The real difficulty (and I think this is emotional rather more than intellectual) is the idea that we and other sentient beings might be programmed to switch ourselves off if this suits the wider interests of the defining gene. And how might I set about proving the existence of such a mechanism: I might start by treating laboratory animals in ways that would destroy their confidence as problem-solvers. My prediction would be that they would be reduced to a traumatised state that would be a death sentence in the natural world. As we know, this is what Seligman and Maier did, and they called what they found "learned helplessness". I could also look for evidence that traumas such as divorce and unemployment - both with clear connotations of having been judged and found wanting - lead to markedly increased morbidity. Regarding divorce I would not have to look far. A US-based study, recently successfully replicated in the UK, showed that divorced males were twice as likely to die of heart disease, almost five times as likely to die of TB, and well over three times as likely to commit suicide.⁹ Unemployment has also been shown to have *"very undesirable consequences for most people. Many are unhappy, bored and apathetic, and have low self-esteem. Mental health is worse for many, with increased depression, alcoholism and suicide rate. Physical health is worse, with increased cholesterol, and the mortality rate is typically 36% higher than average. These effects have all been shown to be caused by unemployment"*.¹⁰

Another line of inquiry might be to look at indicators of socio-economic status in relation to health and

mortality. Height of commemorative headstones,¹¹ size of dowries,¹² organisational grade,¹³ and income¹⁴ have all been used in this type of study. In every case it has been shown that *"those in more favourable social and material circumstances enjoy substantially lower rates of premature mortality than those in less favourable circumstances"*.¹⁶ This is not just a question of the rich having a healthier life style. In Western countries at least *"it looks as if what matters about our physical circumstances is not what they are in themselves, but where they stand in the scale of things in our society. The implication is that our environment and standard of living no longer impact upon our health primarily through direct physical causes, regardless of our attitude and perceptions, but have come to do so mainly through social and cognitively mediated processes"*.¹⁶ In short, feeling a relative failure kills.

My final speculative *tranche* of evidence would be to ask whether anybody has a better all-encompassing explanation for the evolutionary persistence of disabling conditions such as chronic depression, schizophrenia and stress-related illness? Not only have we so far failed to find the damaged "part" in what Andreasen calls "broken brains", a recent World Health Organisation (WHO) study suggests that *"the origins of psychosis are in some sense intrinsic to human nature, and as... hard evidence of an environmental (pathogenic) contribution is absent, the paradox that the disease persists, in spite of a substantial fertility disadvantage, must be confronted. The gene (or genes) for psychosis must have a selective pressure in its favour and, given that some of the populations in the WHO study had been separated for hundreds of generations, this pressure retains its force"*.¹⁷ Perhaps schizophrenia is, like sickle-cell anemia, just the downside of an otherwise beneficial, yet to be discovered, genetic endowment. But taken along with everything else is it not rather more likely to be exactly what it appears to be? A cruel device which pursues the wider interests of the genes which define it by cutting down those made emotionally vulnerable by the vicissitudes of life.

References: page 20



ARTICLE:

by T Miller

The Big Five: Five factor personality theory (Excerpt with permission from Email)

The "big five" is the five-factor model of personality, best exemplified in the highly productive labors of Paul Costa and Robert McCrae.

From the 1920s to the 1970s, personality psychologists dreamed that they might discover a few "primary colors" of personality, which, mixed in varying proportions, might produce all the other possible colors of personality. A mathematical procedure called factor analysis, it was hoped, would reveal them. Factor analysis looks for regularities in large correlations matrices.

Finally, in the 1970s, personality psychologists pretty much gave up, except for a few, obscure holdouts. Around that time, it was seriously proposed that there is no such thing as personality. Rather, apparent regularities in mood, interpersonal style, interests and tastes, habits, and so on were supposed to be partly the result of regularities in situation and partly an illusion produced by the expectations of the observer.

This was about the time that the standard social science model was really starting to crystalize, ossifying most of clinical psychology. This was about the time that E O Wilson was being attacked by Politically Correct mobs.

During the mid-eighties, it started to be widely recognized that the holdouts had discovered the "primary colors" of personality after all. The evidence has accumulated since then and is now almost overwhelming. If you start with a large and diverse group of subjects and a large and diverse group of personality descriptors, you will almost inevitably come up with five, broad robust personality factors that account for almost all the variance in personality descriptors. These five factors are quite stable over long periods of time, have been cross culturally validated in quite a variety of cultures, hold up equally well with either self-report or observer report,

correlate well with reasonable external criteria, have demonstrated predictive validity for all kinds of interesting things, and are orthogonal - that is, none is correlated with any of the other four. They are all moderately heritable. They account for almost all the variance in almost every widely used test of personality and psychopathology, and account for almost all the variance in popular, narrower personality constructs such as Machiavellianism, self-monitoring, assertiveness, androgyny, and so on. It turns out that the well known "interpersonal circumflex" is a subset of the five-factor model, as is the Jungian typology (exemplified by the Myers-Briggs Type Inventory, and others). It also turns out that Eysenck's two-factor and three-factor models are subsets of the big five. All personality-descriptive terms in English and several other languages cluster into the same five tidy factors, e.g., people who are described as "ebullient" also tend to be described as "gregarious" and "vigorous", but not "cool", "detached" or "bemused." These would be personality descriptors characteristic of the extraversion factor.

There is some dissension. Eysenck and some others insist that a three factor model fit the data better than a five factor model. There is some disagreement regarding which kind of factor rotation is optimal. Some psychoanalytic types feel that the five factors are just a "superficial" description of personality, which can overlook "deep pathology." Characteristically, they have practically no data to support their position. Rorschach inkblot indices are generally unrelated to the five factor model, but that's probably because the Rorschach test is well known to have reliability but little demonstrable validity.

The five factors are:

1. Extraversion (low extraversion is sometimes called introversion). People high on extraversion are gregarious, cheerful, talkative, assertive and vigorous, interested in people. People low on extraversion are cool, detached, deliberate, slow-paced,

interested in things and ideas, etc. Extraversion is a major element of occupational preference.

2. Neuroticism. People high in neuroticism tend to have frequent and/or intense unhappy moods such as anxiety, depression, self-doubt, irritation, frustration, etc. People low in neuroticism experience these feelings less intensely and/or less frequently. The lowest scorers very rarely experience such feelings, and only under extreme circumstances. The term neuroticism can be misconstrued. It is not intended to suggest internal dynamic conflicts. High neuroticism is clearly what motivates people to seek psychotherapy. The therapy patients that seek treatment most compulsively and stay in treatment the longest are the highest in neuroticism.

Neuroticism is very highly correlated with psychosomatic concerns and complaints, and moderately predicts medical treatment-seeking. A lot of people have trouble understanding the power of neuroticism, because it is somewhat counterintuitive. Low neuroticism people with really severe difficulties in life are often only mildly distressed, not only by their own account, but also according to reasonable objective indicators. High neuroticism people with very minor difficulties in life are often extremely distressed.

(Keep in mind that, contrary to intuition, Extraversion and Neuroticism are "uncorrelated".)

3. Openness to novel experience. People high on openness are curious, imaginative, creative, interested in art, music, literature, like to try new stuff, non-judgmental about people different from themselves, unusual experiences, etc. People low in openness like tradition, convention, predictability, regularity in their worlds, etc. Openness is modestly correlated with educational level and IQ, but not with socioeconomic success.

4. Agreeableness. People high in agreeableness are cooperative, friendly, forgiving, and somewhat gullible. People low in agreeableness are antagonistic, skeptical, hold grudges, prefer competition over cooperation, look out for number one, etc.

(Agreeableness and extraversion form the two poles of the interpersonal circumplex. Keep in mind that these two are also uncorrelated, as are all pairs and combinations of the big five.)

5. Conscientiousness. People high in conscientiousness are diligent, prompt, productive, set goals and stick with them, and tend to be somewhat moralistic. They see life as a series of tasks to be accomplished. People low in conscientiousness are pleasure-loving, often late, lax about the small moral details of life like paying bills late and telling little white lies, tend to avoid hard, sustained work, give up on goals they set, etc. People high in conscientiousness are perceived by others as more intelligent, though in fact conscientiousness is uncorrelated with IQ. Conscientiousness is a pretty strong predictor of most forms of practical success, and predicts academic success at least as well as IQ. (If Murray and Herrnstein had combined IQ and Conscientiousness in *The Bell Curve*, they would have blown the roof off!)

Keep in mind that because these are orthogonal, all possible combinations need to be considered. That is mind-boggling, and we still know very little about the implications, but we know a few things.

The happiest people are high E, low N. The most tormented people are the other way around.

The most complex and emotionally intense people are high E, high N. The most emotionally bland people are low E, low N.

The most productive and vigorous people are high E, high C. The least productive and vigorous people are low E, low C.

The people most likely to be regarded as "leaders" are high E, low N, high C.

The most popular people are high E, high A. The most dominant people are high E, low A.

High E, high O people are imaginative and talkative. Make great therapy patients. Low E, low O people

are not talkative and when they do speak up, speak about very mundane, practical things. They drive therapists crazy.

People who seem to have little or no conscience are typically very low on A, very low on C, and the scariest ones are either very low on N (which makes them fearless and incapable of remorse) or very high on N (which makes them emotionally unstable, like Tony Perkins in "Psycho").

There is a little sexual dimorphism. Females score half a standard deviation higher on neuroticism than males. They score a quarter of a standard deviation higher on agreeableness than males. Relative to males, females have more openness to feelings, esthetics and fantasy. Relative to females, males have more openness to values, ideas, and variety in daily experiences.

Neuroticism scores in both men and women gradually decline by about half a standard deviation from the teenage years to about age twenty-four, after which they remain stable.

The interesting thing about the big five is that they are so stable. We don't know yet how often, how much and under what circumstances psychotherapy changes them, if at all. However, getting more education, getting sick, getting well again, having children, getting married, getting divorced, going up or down in socioeconomic status, getting jobs, getting promoted, losing jobs, getting demoted, and so on have no consistent effect. That suggests that psychotherapy may also have little consistent effect.

Some mental disorders are probably brain disorders which most people don't have. These are probably irrelevant to the five factor model. These probably include schizophrenia, schizotypy (subclinical manifestations of schizophrenia, often found in close relatives of schizophrenics), obsessive compulsive disorder, perhaps bipolar mood disorder, and a few others. On the other hand, the DSM personality disorders are almost certainly subsets of the big five. The DSM personality disorders are essentially arbitrary historical accidents and unnecessarily

pathologize some of the extreme ends of the five bell curves, in varying combinations.

My guess is that ADHD (attention-deficit-hyperactivity disorder) is probably very high E combined with very low C, with varying degrees of low A, high N, and low IQ mixed in to make it interesting. Stimulants seem to raise C in most children, whether or not they have ADHD.

Evolutionary psychologists are interested in the five factor model because it's hard to avoid the conclusion that in the EEA they represented five independent stable reproductive strategies that had counterbalanced advantages and disadvantages. (IQ can reasonably be considered "the sixth factor" though it is slightly correlated with Openness.) Why five and not three or thirteen? That is an intriguing question. Theoretically, we might use the five factors to make some inferences about the EEA, though it would be hard or impossible to confirm such inferences. However, the five factors might go way beyond the EEA. Do some or all of the five factors exist in other primates in recognizable form, or even other mammals? Probably, but the research just hasn't been done, as far as I know. Once again, it would be very hard to confirm that "neuroticism" or "extraversion" in, say, dogs would be the "same thing" as neuroticism or extraversion in humans. If they involved the same regions of the brain in both species, or the same neurotransmitters, that would be good supportive evidence.

Several published psychological tests operationalize the five-factor model to varying degrees. The best is the NEO-PI-R, in my opinion. It's published by Psychological Assessment Resources, in Florida.

The discovery of the five factor model of personality is one of the most important events in clinical psychology that has occurred in this century. Yet few clinicians know about the five-factor model. Few *want* to know. It conflicts with too many vested interests; it's incompatible with the standard social science model; it interferes with the favorite self-deceptions of too many clinicians and clinical scientists.

ARTICLE:

by J Birtchnell

A rather long response to Mike Waller

Mike Waller need not have feared that his intervention into what he called "*the Birtchnell-Sloman exchange*" would be unwelcome. I was grateful for it and I thought he made a fair appraisal of the dispute. I would not disagree with his opinion that my ideas are "*more than a systematic structuring of the world of interpersonal psychology*" but I was encouraged by his suggestion that, if I took up his challenge, they "*would powerfully illuminate the evolutionary debate*". I developed my theory from a purely interpersonal perspective, and by the time I met up with people like John Price, Michael Chance and Paul Gilbert, it was quite well advanced. They helped me to set it into an evolutionary context. Whilst, perhaps I remain, first and foremost, an interpersonal psychologist, I have found evolutionary ideas increasingly relevant. Before the evolutionary input, the theory was simply a description of how things were, but after it, it became also an explanation of how they came to be the way they were. There is quite a lot of evolutionary theory in my book and I hope that such of it as there is, is correct. I asked Russell Gardner to check it and so far, he has not come back to me with any serious objections.

It may be the case and this could be what Mike is getting at, that my interpersonal background has contributed to a kind of hybrid theory which may help to advance the evolutionary argument. I appreciated his elegant representation of my objection as evolutionary theorists attempting "*continually to shoehorn the rich variety of social life into an exceedingly narrow theoretical base*." I am aware that my own theoretical base is also narrow. Perhaps, in order to be applicable across all species, evolutionary theories have to have narrow bases. I am willing to accept that, at the end of the day, living organisms have only one objective, namely the perpetuation of the gene pool; but what use is this in explaining the rich variety of our social life? Suppose we call this our first order objective. We can then postulate the existence of second order objectives, and possibly third, fourth and fifth order objectives, which all

ultimately lead back to it. I would suggest that my theory is concerned with the four second order objectives of closeness, distance, upperness and lowerness. In my book, I describe first the advantages these have for most animal forms, and then the particular advantages they have for humans.

Mike wrote of what he called my eight "states", four of which are positive and four negative. Though he may consider there to be eight states, there are in fact only four objectives. These I liken to hungers. We become hungry for them. We strive for them. We get them. We hold on to them. We indulge in them. What I call a state, or more correctly, a state of relatedness, is analogous to food. It is that which we have striven for and got. A state and an objective therefore are more or less the same thing, so there are really only four states too. For each of the states there are strategies and competencies. In my last article I used the term "negative" mostly to describe certain strategies for attaining states, rather than the states themselves. When I write, say, of negative closeness, I am mostly referring to negative ways of getting or keeping close, rather than to negative forms of the state of closeness itself, though I can see that the one might sometimes run into the other. In that article, I avoided exploring in any detail what I mean by the term "negative" relating. Initially I used it rather loosely to refer to the more disagreeable ways of relating, but subsequently I broke it down into particular categories. I will not consider it in any detail here either. It is covered fairly adequately in the September and December, 1991, issues of The ASCAP Newsletter, but you really need to read the book to understand it fully. Mike implied that it would be to the advantage of the species if there were no such thing as negative relating. Although I mentioned that I had written a paper called "Mental health as positive relating" and that psychotherapy helps to eliminate negative relating, I would not say that it is necessarily disadvantageous, either to the individual or to the species. After all, it usually does get you to your desired state of relatedness.

In his last paragraph, Mike seems to equate negative relating to emotional disturbance and asks "Why are we not all paragons of calm, energetic happiness?" I would not consider that negative relating has very much to do with emotional disturbance. At the LSE conference last June, I was much impressed by Randy Nesse's idea of the positive function of many of the physical symptoms, such as fever, diarrhoea, vomiting and coughing, for which doctors try to treat us. I feel the same way about the emotions. I am sure I have said this before, but it is worth repeating. I consider that happiness is our response to attaining and maintaining our states of relatedness and doctors are all too ready to medicalise them and suppress them. We need the entire range of emotions and it would be quite maladaptive for us to remain eternally calm and eternally happy. As someone else said at the LSE conference, sometimes adaptive mechanisms don't work properly, and I think this applies to the emotions. Snake phobia and spider phobia, which are normally quite adaptive, are sometimes excessive and have to be treated; but it is better to treat them by cognitive re-adjustment than by suppression by drugs. Sometimes, too, the mechanism for triggering depression (which is normally quite adaptive) is too sensitive and we become too frequently or too deeply depressed. Perhaps I should add, as a postscript, that the emotional responses I have described do not just guide us through the successes and failures of relating. They guide us through all kinds of successes and failures.

Reading between the lines, what seems to worry Mike most is the idea that lower can be a good place to be, and when he writes the word "lower", that other word "subordination" is never far behind. He considers that positive lowerness can only be a transient state *"for just so long as this is prudent and then allows a smooth shift into some other mode..."*. He seems unable to take on board the idea that lowerness has just as many advantages as upperness. It certainly does not have to be short term. What about life-long religious belief? As long as God is up there, it feels good to be down here. Subordination is but one of the many forms that lowerness can assume and it seems to veer danger-

ously close to a negative form. It is similar to that other negative term "submission". As I have said many times before, lowerness has really come into its own in humans, and if we are talking evolution, it seems to have evolved out of the relationship that young animals have toward their parent, and not out of the backing down component of the ritual agonistic encounter. Within civilised societies the parenting tendency seems to have opened out in all kinds of directions and people perform all kinds of parent-like functions upon each other. In turn, people behave in a child-like (receptive) way towards those who parent them. Having things done for you is a really nice experience. Admittedly it involves relying on somebody and this requires a degree of trust. There has to be a lot of trust in civilised societies.

One way of viewing positive relating is as a form of what one might call civil relating. Usually, in order to attain a particular state of relatedness, a person has to enter into some kind of interaction with another person. When people behave in a civil way toward each other, they try to be reasonable and understanding and to reach a mutual agreement which serves their respective purposes well. When they don't behave in a civil way, one of them may simply go in and grab the particular state of relatedness s/he needs with little concern for what this may do to the other. This is one form of negative relating and is more the kind of way that animals behave. Humans have developed, more completely than any other species, that form of interaction which is called interdependence. This has come about because humans have so many different ways of being helpful to each other, so they trade one form of helpfulness for another. In these kinds of exchange relationships it is difficult to tell who is being upper and who is being lower. In primitive societies there is a lot of bartering. In civilised societies the same kind of exchanges are made easier by the introduction of money.

One thing which never gets written about in the pages of [The ASCAP Newsletter](#) is that, over the past thousand years, humans have evolved at a phenomenal rate, but the evolution has not been biological (the gene pool has remained virtually

unchanged), it has been sociological. What passes from generation to generation is not changes in our genes, but the ever increasing complexity of society itself and all its structures, inventions, institutions, mores, language, accumulated wisdom, literature, culture, morality and somewhere in amongst all this, ways of relating. The survivors of a nuclear holocaust would be at an enormous disadvantage. It would take them many generations to recreate the kind of society which we have today. Evolutionists are over keen to make simplistic jumps from the relating of animals to the relating of humans, without taking account of the many changes which have gone between.

I suppose my response to Mike's challenge, or my answer to Mike's question, is that life isn't that simple. I have gone to some lengths to explain that, in most situations, humans are not either up or down. The complexities of human life are such that there are perhaps a hundred criteria by which one can judge whether a person is in an upper or a lower position, and that he may be upper on sixty of them and lower on forty. Also, it is not a matter of up being good and down being bad, or of up equalling elation and down equalling depression.

One thing I frequently say is that loss of upperness does not necessarily lead to lowerness. Loss of upperness is just loss of upperness and one feels depressed because one has lost upperness, not because one has found lowerness. Another thing I say is that loss of lowerness can be just as depressing as loss of upperness; that is, losing someone you have come to look up to and rely upon. I remember John once saying that releasing a slave from bondage is not depressing. I might add that it could be, if the slave had become dependent on his master.

I have to acknowledge that some forms of lowerness are associated with depression, but it is not so simple as to call these negative forms of lowerness, for some forms of negative lowerness are not depressing. Take someone who pleads to be looked after. This is what I would call unilaterally grabbing lowerness with no regard for what it may be doing to the person who is being forced into upperness. In fact such lowerness may make the upper person depressed. Being tortured, insulted and humiliated by an upper person clearly is depressing, as is being disapproved of, judged as being wicked and being punished. But this is material for another article.

ABSTRACTS & EXTRACTS...

Birtchnell J: The interpersonal octagon: An alternative to the interpersonal circle.

Alonso SJ, Navarro E & Rodriguez M: Permanent dopaminergic alterations in the n. accumbens after prenatal stress.

Mayberg HS: Functional imaging studies in secondary depression.

Perusse D, Neale MC, Heath AC & Eaves LJ: Human parental behavior: Evidence for genetic influence and potential implication for gene-culture transmission.

Adolphs R, Tranel D, Damasio H & Damasio A: Impaired recognition of emotion in facial expressions following bilateral damage to the human amygdala.

Birtchnell J: The interpersonal octagon: An alternative to the interpersonal circle. Human Relations 1994;47(5):511-529.

Abstract: If humans have evolved from earlier animals, there must be a common core of relating which runs from the simplest to the most complex, which is capable of multiple adaptations and variations. This is represented by the interpersonal octagon, constructed around the two nodal points of a dimension concerned with regulating distance, the two nodal points of a dimension concerned with relative power, and four intermediate points. Each point is associated with a relating objective called a state of relatedness. This is attained or maintained either by relating or being related to. People acquire relating competencies and establish sources and stores of each state. Emotional responses are linked with the successful attainment, danger of losing, or actual loss of states. Maladaptive forms of relating may be egocentric, insecure, or avoidant. Interrelating is the process by which two people reconcile their respective relating objectives.

Alonso SJ, Navarro E & Rodriguez M: Permanent dopaminergic alterations in the n. accumbens after prenatal stress. Pharm Biochem & Behav 1994;49(2):353-358.

Abstract: It has been suggested that stress during the initial stages of human life may serve as a predisposing factor to mental illness. Recently, we reported that in pregnant rats, stress induces an increase of behavioral depression in the female offspring when adult. This article describes the effect of prenatal stress on central dopaminergic transmission during adulthood. The offspring of stressed mothers showed an increase of behavioral depression in the Porsolt test and a reduction of DOPAC, HVA, and DOPAC/DA index in the n. accumbens. The effect on the right accumbens was more marked than on the left. A great body of information exists to suggest that depression is related to a decrease of dopaminergic neurotransmission, and the present data provide new evidence in support of the hypothesis that maternal stress during gestation increases the risk of depression in the offspring. We are also reporting a hitherto

uncommented relationship between behavioral depression in the Porsolt test and the decrease of dopamine transmission in the n. accumbens.

Extract: Maternal stress during pregnancy alters behavioral development in the offspring and may even serve as a predisposing factor to mental illness. The biological basis of this phenomenon remains unknown. Recently, we found in two different animal models that maternal stress during gestation induces an increase in depression-related behavior in the female offspring during adulthood. Among the various behavioral models of human depression, the Porsolt *et al.* test and the modified version of Hilakivi and Hilakivi were used for these studies because they are, nowadays, the animal depression analogs of depression most widely used and bear important similarities to human depression. However, the validity of animal models for human mental disorders should be assessed by the criteria proposed by Goodwin and Bunney, one of which is that the brain biochemistry in the animal model should be similar to that reported in humans. In this article, accordingly, we study if the prenatal stress that induces behavioral depression in female rat offspring also modifies brain biochemistry in the same way as has been reported for depressive patients.

A great deal of data has been adduced to support the hypothesis that human depression is related to the alteration of monoaminergic neurons. Although initially the monoamine hypothesis of depression was associated mainly with 5-HT and norepinephrine brain neurotransmission, over the last years the idea has been mooted that alteration of central dopamine (DA) also is involved in the pathogenesis of some of the major symptoms of depression. Thus, clinical and experimental data in animal analogs strongly suggest that brain dopaminergic neurotransmission is decreased in depression. Although the exact location of dopaminergic alteration in the brain in depressive patients has not yet been ascertained, studies on animal analogs suggest that DA alteration takes place in the mesolimbic system, particularly the DA innervation of n. accumbens.

... Rats forced to swim in a confined space assume an immobile posture after an initial frenzied attempt to escape. On subsequent immersion, the onset of

immobility is more rapid and marked. Porsolt *et al.* named this phenomenon behavioral despair and offered this phenomenon as an animal model of depression. Among the various animal models of depression this test has the following advantages: a) the antidepressant procedures useful in humans (including atypical antidepressant drugs such as iprindole and mianserin, electroconvulsive shock, deprivation of REM sleep, etc.) delay the onset of immobility; b) there is a significant correlation (not found in any other model) between clinical potency and potency of antidepressants in the behavioral despair test; c) it is widely used and much information is now available about it. So, in the present article we used the behavioral despair test.

Mayberg HS: Functional imaging studies in secondary depression. Psychiatric Annals 1994;24:643-647.

Abstract: Depression is common in certain neurological diseases and is clinically indistinguishable from mood symptoms characteristic of primary affective illness. The association of depression with diseases involving the basal ganglia is particularly well recognized. While the specific mechanisms of mood disorders in these neurological patients are unknown, selective neural pathways affected directly and indirectly by basal ganglia injury provide a strategy for examining these patients with functional imaging techniques. Glucose metabolism has been measured with ¹⁸F-fluor-deoxy-glucose (FDG) and positron emission tomography (PET) in depressed and nondepressed patients with Parkinson's disease, Huntington's Disease, and caudate strokes. These studies have demonstrated bilateral hypometabolism of orbital-inferior pre-frontal cortex and anterior temporal cortex in depressed subjects, independent of disease etiology. This pattern is similar to that seen in patients with primary unipolar depression studied using comparable acquisition and analysis strategies. These findings suggest that disruption of paralimbic pathways linking frontal cortex, temporal cortex, and striatum may contribute to depression in patients with both primary depression and depression associated with basal ganglia disease, and support the concept of a neuroanatomical locus for mood regulation.

Perusse D, Neale MC, Heath AC & Eave LJ: Human parental behavior: Evidence for genetic influence and potential implication for gene-culture transmission. Behavior Genetics 1994;24(4):327-335.

A large sample of adult twins (1117 pairs), who were concordant for having had children were asked to report on their child-rearing practices. A 14-item version of the Parental Bonding Instrument (PBI) was used to assess rearing practices of parent twins. The two factors of Care and Overprotection, commonly found in other studies, were recovered from this analysis of the PBI's parent form. Model-fitting analyses indicate that human parental behavior is under significant genetic influence. Findings further suggest that this influence is sex limited, with a higher heritability in mothers than in fathers, and that it may result partly from the expression of dominant genes. For both PBI factors and both parents, the best-fitting models invariably assumed sex-limited genetic effects and unique environmental influences only. Broad heritability ranged from 19% (father overprotection) to 39% (mother care). These results are interpreted in the broader perspective of gene-culture theory.

Adolphs R, Tranel D, Damasio H & Damasio A: Impaired recognition of emotion in facial expressions following bilateral damage to the human amygdala. Nature 1994;372:669-672.

Studies in animals have shown that the amygdala receives highly processed visual input, contains neurons that respond selectively to faces, and that it participates in emotion and social behaviour. Although studies in epileptic patients support its role in emotion, determination of the amygdala's function in humans has been hampered by the rarity of patients with selective amygdala lesions. Here, with the help of one such rare patient, we report findings that suggest the human amygdala may be indispensable to (1) recognize fear in facial expressions; (2) recognize multiple emotions in a single facial expression; but (3) is not required to recognize personal identity from faces. These results suggest that damage restricted to the amygdala causes very specific recognition impairments, and thus constrains the broad notion that the amygdala is involved in emotion.

ANNOUNCEMENTS...

A People That Shall Dwell Alone: Judaism as a Group Evolutionary Strategy by Kevin MacDonald

Praeger, October 1994: ISBN # 0275948692 Price: \$57.95. Order from Greenwood Publishing Group, address below. See article by Kevin MacDonald on page 4 of this issue for description.

The Decline of Intelligence in America: A Strategy for National Renewal by Seymour W Itzkoff

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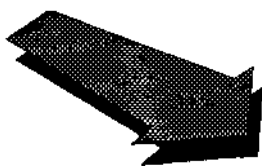
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