

Human Ethology Newsletter

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SOCIETY NEWS

Nancy Segal was re-elected as Membership Chair, and Karl Grammer as Secretary. Congratulations to both. Their new three-year terms begin in January. Nancy is working on the Membership Directory, which should be sent to you soon.

Karl has offered to send out invoices to those who have not renewed their memberships for 1995. We hope you will forgive us if we request a payment that you have already sent in--just ignore the notice and please accept our apologies. Please remember, dues are now \$25 for one year, \$60 for three years. Students and emeriti still pay \$10/\$25. Barbara Fuller, as Treasurer, has reorganized and corrected our membership list, as well as handling finances. Please keep her job as uncomplicated as possible by paying on time and at the correct rate.

This is the last issue of the *Human Ethology Newsletter*. Starting in March it will be called the *Human Ethology Bulletin*. However, the sequence of volume numbers will be uninterrupted. The officers think that the new name will be more suitable for what the publication has become: more than simply a society newsletter, but one that includes articles and commentary as well as book reviews and announcements.

This is a good time for you to send me

any criticisms or suggestions for the new publication. Is there a forum topic that you would like to see addressed? Can we provide any information that we now neglect? How can the format be improved?

For the *Bulletin* to be a success, I am particularly counting on the continued services of Linda Mealey, North American Book Review Editor, and Bob Adams, Current Literature Editor. But many others also contribute to this publication--those who send announcements of meetings, who report on meetings, who send items for Current Literature (that have not yet appeared there), who patiently inform us of errors in the membership list, who have asked their library to subscribe (successfully or not), who show the newsletter to colleagues who might join ISHE, and of course who contribute articles and book reviews. For example, the photos on these pages were taken at our Amsterdam meeting in August by Frank Salter.

One point of clarification may be helpful. Acceptance of book reviews or articles is not automatic. Although submissions usually are reviewed by one of us alone, this does not mean that no selection process occurs. Furthermore, just because someone offers to review a particular book does not mean that the offer will always be accepted. Sometimes we already have a reviewer, and sometimes we have someone else in mind that we think will be more suitable. But when we do ask you to write a review, please do so in a timely

fashion. Otherwise the book may not be reviewed at all.

Another point: we reserve the right to edit your review as we see fit without consulting you about the changes. These are usually minor, but even with more substantive changes we simply do not have the time to discuss them. We have had very few complaints about editing; I ask your continued indulgence of us in using this system.

Lastly, it is a great help if reviewers include the publisher's mailing address and the book price. We like to provide this information to readers and you can save us a lot of time by keeping this in mind.

Best wishes to all for the new year. May all your gene-environment interactions raise your inclusive fitness.

ARTICLES

How Are Living Organisms Assumed to Behave?

By Frans Roes, Lauriergracht 127^{II}, 1016 RK Amsterdam, The Netherlands

One can read about the selection of genes, of memes, of genomes, genotypes, clades, individuals, groups and even of species. After I read the fifth chapter of Trivers' book (titled 'The group selection fallacy'), I thought: "Right, this issue is settled once and for all". But in a letter to the editor of the newsletter of the Human Behavior and Evolution Society, we are warned by David S. Wilson that if human evolutionary biologists ignore group selection, it will be "at their own expense".

The relevance of the 'level of selection' boils down to questions such as: Do organisms behave as if they are designed to promote the

interests of their own species or their own group, or do they behave as if designed to spread their own genes, or do they behave as if each of their genes is designed to spread itself, possibly at the expense of other genes of the same organism?

What is seen as the appropriate 'level of selection' determines the answers given to explanation-seeking questions. As explanations may be different and even contradictory depending on the 'level of selection' that is chosen, it seems justified to try to have an explicit view of this subject.

My purpose here is to state how living organisms are assumed to behave from an evolutionary point of view. The word 'assumed' is of course not used as a moral imperative, but as an expectation of behavior, based on our knowledge of how natural selection has shaped living organisms. As I see it, what I will say is

in agreement with what most modern biologists already accept.

A key word in evolutionary theory (besides natural selection) is reproduction, that is, producing offspring or passing on hereditary information. Perhaps some of the confusion about the 'level of selection' stems from the fact that living organisms reproduce in such diverse ways. Asexual organisms simply make 'copies' of themselves, but sexual organisms cannot reproduce without members of the opposite sex. Plants often possess several sexual organs of the same sex that may compete among themselves within the same plant. Workers of eusocial animal species such as honeybees and termites don't have sexual organs at all, yet these species reproduce sexually. Then there are a few species with more than two sexes, there are species that alternately reproduce sexually and asexually, there are species where a change of sex is a common phenomenon, and there are species where members are both male and female. And I am sure one could list several other methods organisms employ while reproducing themselves.

Historically speaking, it seems safe to suppose that asexual reproduction came first. As all other modes of reproduction can therefore be looked upon as adaptations that have evolved at a later stage, I feel free to ignore them here. I do not believe that the

'level of selection' suddenly changed when species evolved that reproduced in a non-sexual manner.

While it is here thus assumed, for reasons of convenience, that organisms reproduce asexually, what then in such organisms is selected for by natural selection? In the first place this is heredity. Organisms usually live in about the same environment as their parents do or did. Those parents succeeded in reproducing, so offspring are likely to reproduce again if traits are shared with the parents. Imagine how ill-adapted organisms would be if their characteristics resulted from a lottery of an endless number of random traits. Natural selection favors heredity, because inherited traits are likely to be adaptive.

Hereditary information is transferred from one generation to the next by genes. A gene is a packet of information, and as such it can be compared with words written in a book. Just like paper and ink are the medium but not the message, DNA is the medium but not the message. "A gene is not a DNA molecule; it is the transcribable information coded by the molecule" (Williams, 1992: 11). All genes potentially transferred by an individual to the next generation may be called the 'genotype' (or the genome) of the individual.

In contrast to what appears to be suggested by the title of the best-sold sociobiological book (Richard Dawkins' *The Selfish Gene*), genes are not selfish. That is, natural selection does not favor genes that try to replicate themselves *at the expense* of other genes of the same organism. This would only result in ill-adapted organisms. "Selection among whole organisms...acts to suppress any...within organism selfishness" (Williams 1992: 41). Compare the genotype with a recipe for a meal, the different genes with ingredients such as pasta, tomatoes and salt, and reproductive success with the frequency people use this recipe to prepare meals. If one of the ingredients (say salt) for some reason or another gets 'selfish' (leading to the prescription to use enormous amounts of salt), the meal as a whole gets distasteful. This recipe will therefore not be very popular (nor will it, for that reason, result in the use of much more salt).

Natural selection also acts against

genes that are benevolent to higher units (such as groups or species), yet lower the reproductive success of the organism itself. Imagine a recipe that results in an awful meal. Somehow, however, this recipe has the effect of people using recipes more often--perhaps because the awful meal reminds people how useful recipes in general may be. This is good for recipes in general (it is 'good for the species'), yet only the competitors of the altruistic awful recipe will profit, not the particular recipe itself. "Wie nun sollten sich innerhalb einer Population solche Individuen genetisch durchsetzen, die ihre eigene Reproduktion zugunsten der Gemeinschaft, also natürlich auch und vor allem zugunsten ihrer Konkurrenten einschränken und damit gegenüber diesen reduzieren?" (Vogel, 1989: 23).

Natural selection therefore favors organisms that solely behave as if designed to strive for reproductive success (or *fitness*). That is, they are designed to replicate their complete set of genes or their genotype--the replication of the entire recipe, no more, no less. And living organisms strive for not just an unquantified amount of reproductive success. Organisms, in their natural environments, behave as if designed to *maximize* their fitness. This must be so because reproductive success is always relative. An organism X may do very well by producing ten new copies, but if a competing organism Y can make eleven of the same quality, the Y's will slowly dominate the field. Natural selection therefore tends to stretch the reproductive efforts of organisms to their limits.

At first sight, refutations of the proposition that organisms behave as if designed to maximize their reproductive success seem close at hand. Sexually reproducing organisms usually pass on not 100%, but only half of their genotype to each individual offspring. A female chimpanzee raises only one new chimp every five years or so. The eusocial worker honeybee devotes her entire lifetime serving the reproductive interests of another organism, her 'queen' (and a few males). And ants may freely 'milk' aphids. Such phenomena look like refutations, but it just so happens that evolutionary theory is quite capable of explaining them with the same proposition they appear to refute.

Indeed, sexually reproducing organisms usually pass on only half of their genotype to each offspring, but by 'mixing' their genes with that of another organism, some of the offspring are likely to be adaptive in changing environments. In the words of George Williams (quoted in Trivers 1985: 320) "the asexual parent is like someone with several tickets in a lottery, all of them having the same number, while the sexual parent has a different number on each ticket (but, due to the cost of sex, has fewer tickets)". Several species, such as chimpanzees, raise only a few offspring. But sometimes it is better to invest a lot in only a few offspring than to produce many that are ill-adapted (*r*- and *K*-selection). In some conditions the animal's own genotype is reproduced by helping kin like the worker honeybee does (*kin selection*), and while feeding the ants, the

aphids get protection against predators: *reciprocal altruism*.

Therefore, as long as better refutations are still missing, I will probably continue to believe that living organisms, in their natural environment, behave as if designed to maximize their own reproductive success. This is how living organisms are assumed to behave, at least from an evolutionary point of view.

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Newsletter Submissions

Anything that might be of interest to ISHE members is welcome: Society matters; articles; replies to articles; suggestions; announcements of meetings, journals or professional societies; etc. These sorts of submission should be sent to the editor. Book review inquiries should go to the appropriate book review editor (the British editor covers English-language books published in Europe). Submission should be in English, on paper and, if possible, also on diskette. Please include complete references for all publications cited. For book reviews, please include publisher's mailing address and the price of hardback and paperback editions.

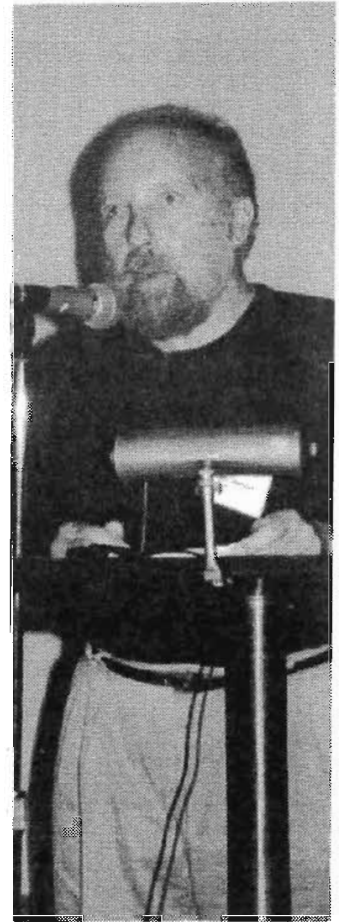
Newsletter submissions are usually reviewed only by the editorial staff. However, some submissions are rejected. Political censorship is avoided, so as to foster free and creative exchange of (even outrageous) ideas among scholars. The fact that material appears in the newsletter never implies the truth of those ideas, ISHE's endorsement of them, or support for any policy implications that may be inferred from them.

Membership Renewals for 1995

It is time to renew your membership for 1995 if you have not already done so. Membership is by calendar year, so dues are to be paid by the first of the year. **If the date on your mailing label is earlier than the current year, it is time to renew your membership.** For financial reasons, renewal notices are not usually sent. Those who do not renew their memberships will be removed from the membership list. Please report any errors, change of address, etc. to the editor. Current dues and directions for payment are given on the last page.



Gail Zivin, Linda Mealey, Nancy Segal (US)



Dan Freedman (US)



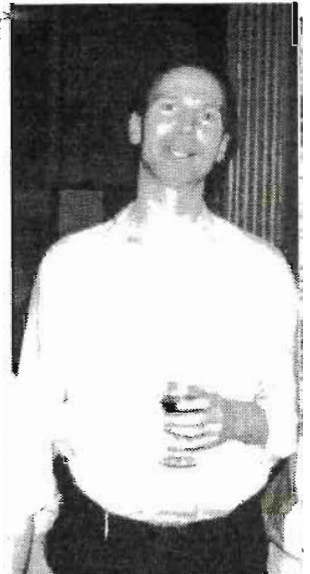
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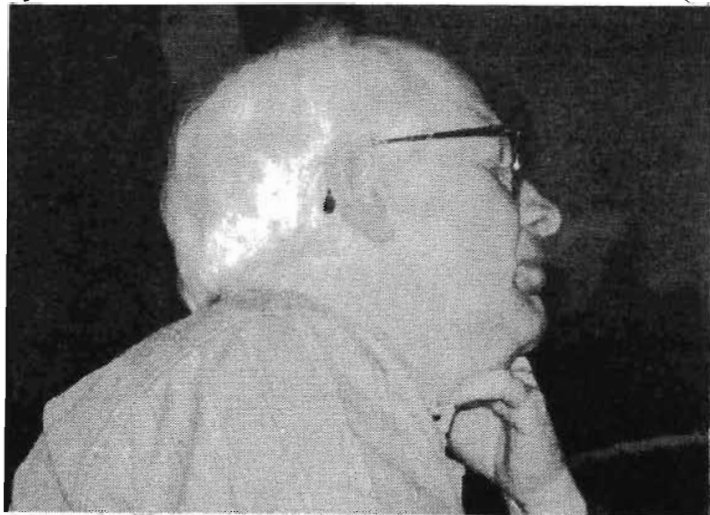
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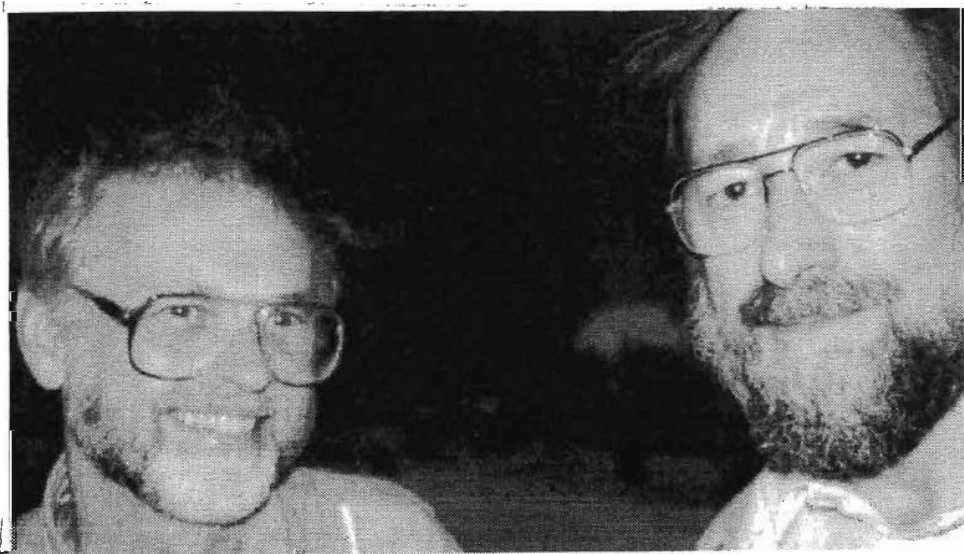
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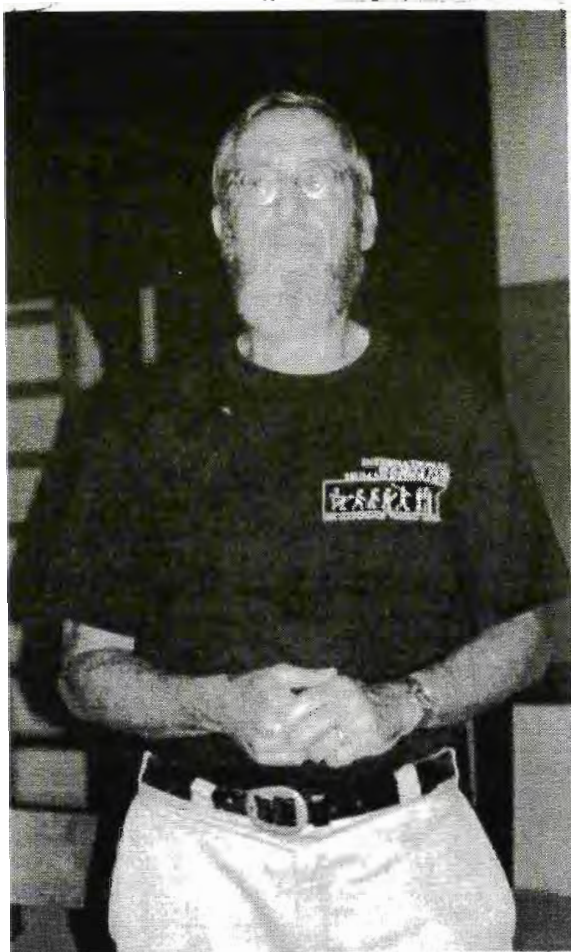
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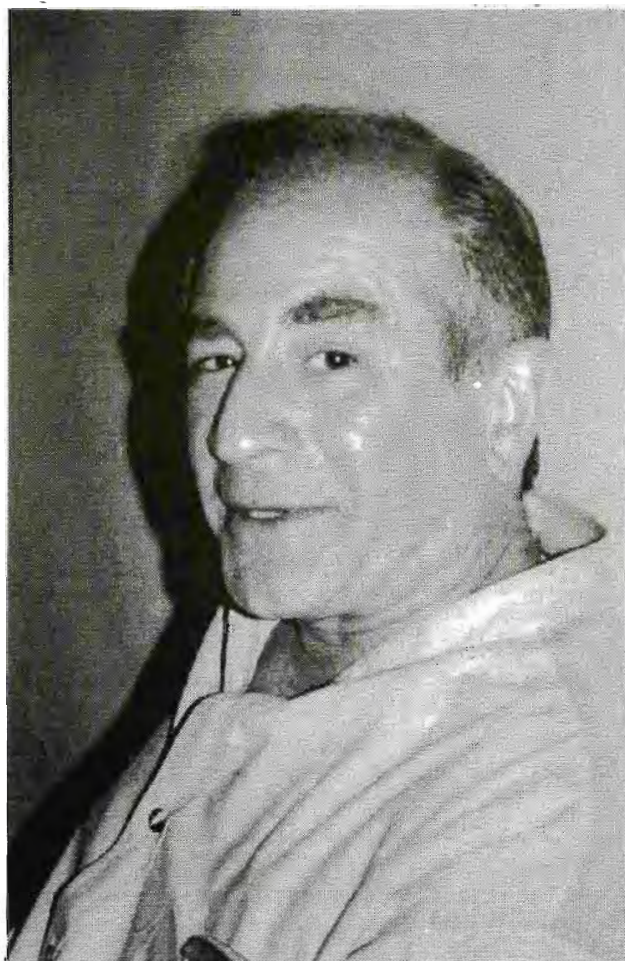
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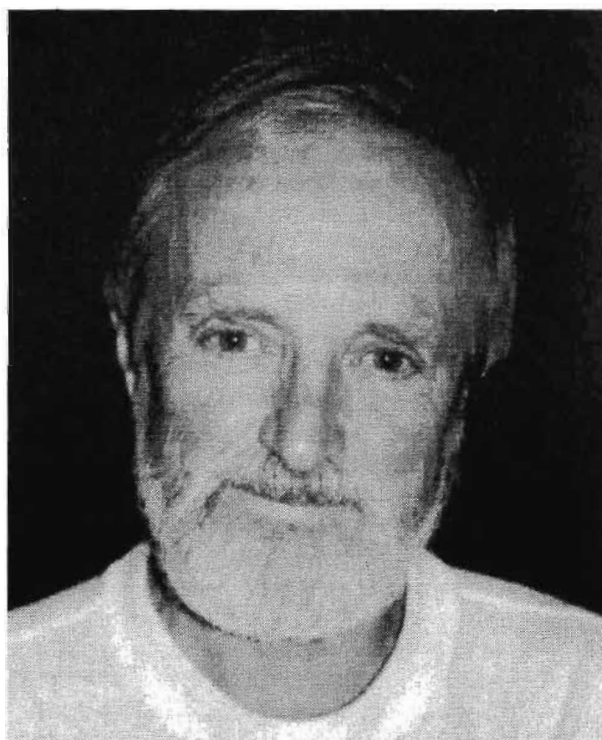
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Race and Crime: International Data 1990

By J. Philippe Rushton, Department of Psychology, University of Western Ontario, London, Ontario N6A 5C2, Canada.

A debate has arisen over whether the disproportionate race differences in U.S. crime statistics, i.e., Asians, Europeans, Africans, are generalizable internationally. Building on earlier work, Rushton (1990) collated data from the 1984 and 1986 Interpol yearbooks and found that African and Caribbean countries reported twice the rate of violent crime (an aggregate of murder, rape, and serious assault) as do European countries and three times the rate as do Pacific Rim countries. Summing the crimes and averaging the years gave significant differences per 100,000 population of, respectively, 143, 74, and 44.

These results have been contested. The main empirical reasons given for rejecting them are that (a) the category of race is too poorly defined to allow reliable classification, (b) the data in the source books contain too many errors to be reliable, and (c) the predicted direction of the results do not always occur (Cernovsky & Litman, 1993a, 1993b; Gabor & Roberts, 1990; Roberts & Gabor, 1990). For example, Cernovsky and Litman (1993b) selected a subset of countries from the 1984 and 1986 Interpol yearbooks, extended the crime base to include breaking and entering and theft of motor cars, and showed that some African countries had lower crime rates than some European countries.

These and other critiques have been discussed, along with many additional data, in my book *Race, Evolution and Behavior* (1994a). Because the figures for some crimes are highly dependent on the availability of goods to be stolen (e.g., "Theft of Motor Cars") it seemed best to focus on the less ambiguous categories of violent crime where definitions had been provided in the Interpol yearbooks. To ensure a replicable pattern existed I consulted the most recent (1990) yearbook and tabulated the rate of murder, rape, and serious assault per 100,000 population for 76 countries (Rushton, 1994b). The 23 predominantly African countries reported a statistically higher rate than 41 Caucasian countries or 12 Asian countries. The rate per 100,000 population, respectively, for

murder, was 13, 5, and 3; for rape, 17, 6, and 3; and for serious assault, 213, 63, and 27. Summing the crimes gave figures, respectively of 240, 75, and 32 per 100,000.

The racial pattern is not due to the particular selection of countries. If other, more homogeneous sets are chosen, contrasting north-east Asia, central Europe, and sub-Saharan Africa, the proportions remain similar. Nor does the pattern alter when comparing black Central American or Caribbean countries with white/Amerindian ones.

In sum, these new data are consistent with the evidence from Ellis (1989), Rushton (1990, 1994a), and Wilson and Herrnstein (1985), that people of Asian descent commit relatively fewer acts of violent crime than do those of European or African descent. Explanations include socioeconomic factors influencing socialization, prenatal insult, and gene-based factors of testosterone, temperament, cranial capacity and IQ.

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BOOK REVIEWS

On the Evolutionary Roots of Politics

By Tatu Vanhanen. Sterling Publishers, 387 Park Ave. South, New York, NY 10016 USA, 1992, \$30 (hdbk.).

Reviewed by Penny Anthon Green, Dept. of Sociology, Clemson University, Clemson, SC 29643-1513, USA

The basic thesis of Vanhanen's book can be stated as follows: Politics is "constrained by its evolutionary roots and...a theory on the evolutionary roots of politics might explain many important aspects of contemporary politics, particularly universal regularities in political behaviour and structures" (p. 17). This thesis develops in two stages, which correspond to the organization of the book. Part One introduces the basic components of Vanhanen's theoretical model concerning the evolutionary foundations of politics. Part Two applies this model to contemporary political problems: hierarchical power structures, ethnic conflicts, multipartism, democratization of political systems, women's under-representation in politics, global political disorder, and the growth of world population and consumption. Under each of these headings, Vanhanen uses his model to generate predictions, some of which are tested using cross-cultural data. My comments will be directed toward the theoretical section, Part One, which is divided into four substantive chapters and a summarizing outline.

Chapter 1 focuses on the evolutionary underpinnings of political behavior. It begins

by examining prevailing social science explanations. This literature seems thus far not to have produced a generally accepted definition of politics, although competition for resources and power is a recurring theme. Vanhanen argues that this competition, which varies both historically and cross-culturally in form and intensity, may be conceptualized ultimately as an expression of the more general Darwinian competition for scarce resources. A strong point of the author's analysis is its adherence to the scientific dictum of focusing initially upon the recurring features of a

phenomenon (e.g., political behavior) and explaining them in universally applicable terms. Vanhanen's emphasis on ultimate causation thereby augments traditional social science analyses that are more temporally and spatially restricted.

The second chapter opens by proposing that the "evolutionary roots of politics are in our assumed behavioural predispositions to adopt and learn particular [adaptive] behaviour patterns in the political struggle for power and resources" (p. 29). The predispositions are conceptualized as the evolved causes of certain recurring "mechanisms" and "strategies" of political competition. Vanhanen identifies four general mechanisms: individual competition, cooperation, reciprocity, and aggression. He then discusses three related, more highly specialized strategies: the struggle for dominance and power, territorial behavior, and nepotism. Taken together, the mechanisms and strategies "function as links between the evolutionary roots of politics and contemporary political structures and behavior patterns" in the sense that they "canalize political behavior into certain regular patterns and constrain the variation of political structures" (pp. 31f).

I found Vanhanen's discussion of predispositions, mechanisms, and strategies to be interesting, though somewhat confusing. The conceptual distinction between mechanisms and strategies is unclear, as is the rationale for claiming that mechanisms are more general than strategies. I can easily see how the opposite might be argued. Moreover, Vanhanen on several occasions equates "strategies" with the "predispositions" that cause them (e.g., "Nepotism is another important evolved behavioural predisposition, which has a great

political relevance"). He initially (and correctly, I think) conceptualizes predispositions and their associated strategies as analytically distinct, though causally related, phenomena (p.29). In light of this initial conceptualization, his interchangeable usage of the terms makes his argument difficult to follow.

I was also disturbed by the relative neglect of Lopreato's (1984) seminal analysis of human behavioral predispositions, some of which are directly relevant to Vanhanen's thesis (e.g., "the climbing maneuver," "territoriality," "reciprocation," and "predispositions of dominance and deference"). Lopreato's volume is cited in several instances, but only in passing.

The neglect of Lopreato's work is unfortunate for another reason. The validity of Vanhanen's thesis rests largely upon his ability to convince his readers that there are strong theoretical grounds for predicting that the predispositions exist. After all, these hypothesized behavioral forces are the alleged evolved causes of the politically-relevant mechanisms and strategies. Unfortunately, this aspect of his argument is somewhat weak. This may not be a problem for already evolutionarily-oriented readers. But I can easily see how readers who are interested in, but unfamiliar with, evolutionary logic might come away with the impression that the predispositions are variables created ad hoc to explain the recurring mechanisms and strategies. Lopreato makes a much stronger argument for the existence of these predispositions, and Vanhanen's case would have been strengthened had he built upon Lopreato's foundations rather than trying start anew.

The third chapter discusses genetic diversity among individuals and its hypothesized relevance to political competition:

First, because the genetic interests of individuals are different, they have to compete with each other for resources; second, this struggle leads to inequalities because the capabilities of individuals differ, partly owing to their genetic diversity. So the origin of inequalities seems to lie in the

genetic diversity of individuals and in the necessity to struggle for scarce resources, although most inequalities in contemporary societies are probably due to social and other environmental factors (pp. 61f).

Vanhanen also suggests that genetic diversity can help explain political indeterminacy. "Because of their genetic differences, people do not necessarily behave the same way, even under similar environmental conditions" (p. 63). I would not disagree with this very important statement, but it clearly needs elaboration. Vanhanen seems to move toward a clarification by writing that, in principle, "behavioural predispositions are the same for all members of our species but, in fact, they vary between individuals just like their morphological characteristics do" (p. 63). This is a confusing statement. Is the author suggesting that some people, *but not others*, are predisposed to struggle for dominance and power, to engage in territorial behavior, and/or to practice nepotism? Or is he proposing, as I suspect, that human genetic diversity causes some individuals to pursue the aforesaid strategies with a higher *average* level of intensity than other individuals?

The final theoretical chapter focuses on evolved behavioral differences between men and women and the hypothesized relevance of these differences for male dominance in visible political structures. The chapter opens by examining prevailing social science explanations for male dominance and identifies some of their shortcomings. Drawing upon traditional sociobiological reasoning, Vanhanen proposes an alternative, ultimate explanation based upon male-female behavioral differences arising from anisogamy (i.e., differences in both the size and number of sex cells produced by females and males). The author does not claim that evolved behavioral differences between men and women explain "everything in male dominance [or that sociocultural theories] do not explain anything." Rather, considerable "cultural variations in male dominance may be due to various factors mentioned in [sociocultural] theories." He does, however, "assume that cultural variation is constrained by the evolutionary roots of male-female differences, and it would be difficult, if not impossible, to eradicate it [i.e., male dominance] completely

by any cultural manipulations" (pp. 7f).

I found the discussion of male-female behavioral differences to be the weakest of the theoretically-oriented chapters. I come to this conclusion not on polemical grounds, but rather on the strength (or lack thereof) of the author's argument. Vanhanen begins by discussing anisogamy, differential parental investment for males and females, and how this differential investment causes male intrasexual competition for mates typically to be more intense than its female counterpart (pp. 74f). So far, so good. *But with no additional explanation*, he concludes that "it seems reasonable to assume that physical and behavioural differences between the sexes and male dominance are indeed cumulative consequences of anisogamy and male competition for females, shaped by natural selection" (p. 75). If anisogamy is causally related to male dominance (and I suspect that it is), Vanhanen does not provide the logic indicating *how* the two are related. He buttresses his conclusion primarily by quoting other evolutionists who also assert that the hypothesized relationship exists. The reader is asked to make an enormous "leap of faith."

I was especially troubled by Vanhanen's failure to differentiate between males' *efforts* to dominate females and the objective condition of "male dominance." He writes that we "have good reason to assume that male dominance is an evolved trait because it seems to be [a] universal characteristic of human societies" (p. 79). I will assume for purposes of discussion that male dominance refers to a condition whereby males enjoy preferential access to material resources and sources of power that facilitate resource acquisition. Evolutionists have strong theoretical and empirical grounds for predicting that males have evolved strategies aimed at excluding females from positions of political and economic advantage. For example, by securing imperious control over political processes, males can pass laws that reinforce their reproductive interests (e.g., laws stating that husbands, by definition, cannot rape their wives or that wives are the property of their husbands). Male control over vital economic resources increases female dependence on males, thereby improving the latter's chances of acquiring and retaining access to female reproductive potential.

The grounds for theorizing that "male dominance" is an evolved trait are considerably weaker. The reason involves female competition--a relatively neglected research focus, but one that has recently received considerable attention. The logic behind female competition derives ultimately from the large somatic investment that females make in their children (see e.g., Hrdy, 1983; Hooks and Green, 1993). Since females have much to lose if a youngster dies or is otherwise reproductively unsuccessful, they are predicted to compete both inter- and intrasexually for access to the power and resources that facilitate survival and long-term reproductive success. One aspect of this competition involves resisting male competitors' efforts to monopolize positions of political and economic advantage (see Gowaty [1992] for a general discussion of female resistance to male dominance).

But females' ability to resist males' monopolizing efforts depends largely upon sociohistorical influences. Vanhanen clearly implies an awareness of these influences by hypothesizing that women's representation in politics will increase as does their control over political, economic, and coercive resources (pp. 170-174). As women's political representation increases, so will their ability, among other things, to pass and enforce sexual discrimination laws, channel governmental funds toward developing alternative reproductive technologies, and use the media to convey female expectations concerning acceptable male behavior. The important point is this: Humans use cultural means to promote and defend their frequently conflicting reproductive interests. And it is precisely through the control and manipulation of culture (e.g., laws, technologies, media portrayals) that the balance of power between women and men is affected. To suggest that male dominance cannot be eradicated through "cultural manipulations" is to miss this very important point, the understanding of which is critical to evolutionary analyses of human behavior.

My final comments concern the wording of Vanhanen's volume. First, I agree with Falger's (1993) conclusion that the author's writing style leaves itself open to politically-motivated misinterpretations. I will not dwell on this point, as it is a major focus of Falger's

review. Secondly, Vanhanen sometimes writes in a manner that seemingly denies the existence of maladaptive behavior. For example, he writes that "territorial behavior is adaptive. Animals resort to it *only* 'when the vital resource is economically defensible: the energy saved and the increase in survival and reproduction due to territorial defense outweigh the energy expended and the risk of injury and death'" (p. 51, emphasis added). To suggest that individuals always behave in optimally adaptive ways is to deny the existence of maladaptive behavior and to deny, by implication, that humans and other species evolved through the means that Darwin proposed. This is an error in logic that evolutionists cannot afford to make.

My criticisms notwithstanding, I found the Vanhanen volume to be a useful first attempt to address a very complex problem. Such attempts, by definition, are incomplete and contain areas needing refinement. The

author has raised many important issues that will undoubtedly stimulate additional research. I commend him for his effort.

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The Evolution of Desire: Strategies of Human Mating

By David M. Buss. Basic Books, 10 E. 53rd St., New York, NY 10022 USA, 1994, \$22 (hdbk.)

Reviewed by Dorothy Terinov, R. D. 2, Box 251, Millsboro, DE 19966 USA

The Evolution of Desire, like other contributions to what Kitcher (1985) calls "pop sociobiology" (Symons, 1979; Kendrick and Keefe 1992; Thornhill and Thornhill, 1992), claims that human psychology is not sexually monomorphic. In "ruthless pursuit of sexual goals," sexual strategies clash: women seek men who can provide resources, while men are attracted by the nubile and comely. For Buss, these preferences were wrought by selection pressures during evolutionary eons; they are evolved aspects of fundamental human nature, not products of culture.

In *Desire*, Buss combines results of previously published reports--the one on 37 cultures (six continents, five islands, 10,047 surveyed individuals), plus fifty additional studies. His declared mission is to crack the shell of ignorance and denial of biological

realities; he would disabuse his readers of the folklore and common belief that mated couples live in wedded bliss. Although the facts are not in keeping with cherished values, we must face our true nature, Buss warns. Evolution has decreed that the sexual goals of women oppose the goals of men, making conflict inevitable. Buss's "breakthrough" findings point unequivocally to sex differences that make inevitable the marital discord indicated by divorce, wife-beatings, movies of the week, and all the other exceptions to the myth of happily ever after. In the male, promiscuity is an adaptation by which he spreads his seed through as many copulations as circumstances allow. In contrast, the higher costs of reproduction (fewer gametes, pregnancy, parturition, suckling, and rearing) oblige human females to look for long-term unions with males who will commit to, protect, and provide for them. In short, men choose youth and beauty; women bargain for men with resources.

But it seems likely that little real choice has ever existed in mate selection. There is plenty we do not know about the ancestral conditions, but one thing is fairly certain: population aggregates were small. In a lifetime, a person might not meet more than a hundred or so other members of the tribe. Considering the problems of the single unmarrieds in cities of

millions, can we actually imagine primitive forebears having much variety from which to choose?

Although in the main Buss gives monogamy short shrift, he recognizes that at least half of marriages endure and that monogamy is the de facto norm in nearly all human societies (Flinn, 1987; Bixler, 1989; Chisholm, 1991; Buss, 1991). Rampant condemnation of promiscuity among cultures suggests that in the environment of evolutionary adaptation such matings may have produced fewer viable offspring as compared with more enduring partnerships.

In this connection, Buss fails to speculate on the possible role of sexually transmitted disease in forging adaptations (Gladue, 1989; Immerman, 1986). AIDS furnishes a dramatic reminder of how an epidemic of a lethal sexually transmitted disease could wipe out the products of an entire generation of nonmonogamous couplings. Perhaps ancient plagues caused inclinations toward monogamy to have evolved as one of the unconscious forces that mold the practices of societies.

More convincing is Buss's discussion of menopause as a possible adaptation. Many writers have suggested that menopause was probably unknown among ancestors due to their abbreviated life spans. But since the termination of female reproductive viability at around age 45-55 is a universal phenomenon tied closely to reproduction, it may have been selected. Buss notes that female sterility in later life facilitates the provision of aid by grandmothers. Although the average life span of hunter-gatherers was short, some individuals lived well beyond the age at which menopause occurs today. Furthermore, the age of menopause may have changed in a manner similar to the way the age of menarche has been observed to shift. The kind of direct assistance to children given by older women once they are no longer themselves burdened with additional pregnancies would appear to make a clear and direct contribution to their reproductive success. It may even be that the lesser attractiveness and sexual desirability of older women who have not yet reached menopause serves to protect them from males whose attentions might reduce their ability to protect the genetic line through parenting and grandparenting.

Although in some ways *Desire* is a reasonable introduction to evolutionary thinking about human mating patterns, Buss' conclusions would be bolstered by (1) specification of, or explicit recognition of the need for specification of, proximate mechanisms, such as those for falling in love, a topic Buss almost completely disregards; (2) an evolutionary analysis of human monogamy; (3) consideration of the universal appreciation of female pulchritude; and (4) recognition of the theoretical implications of the facts that most actual matings have been arranged by others than the partners themselves (Irons, 1989) and that choices between principals, even when "free," always have been extremely limited, even for the exceptionally well-endowed (with beauty or wealth).

In regard to the last point, the case is weak for female preference for older and more powerful men having been selected. Social and economic reality also predicts female caution (Byrne & Kelly, 1992; Wallen, 1989). For bedding down, I suspect that independent women of any age would, despite what they say in questionnaires, choose handsome and virile youths if they had a truly free choice not threatened with punishment. As van den Berghe (1992) has observed, choice is often no choice; it is a matter of taking what you can get (Bayer, 1992).

Since the findings cited in *Desire* have already appeared in scientific journals and the book is aimed at nonscientific readers, it is appropriate to comment on its likely reception by its intended audience and on the responsibility a scientist assumes when writing for those unfamiliar with the argot of the discipline. Despite the inclusion of disclaimers, a sentence or two does not easily overcome language that seems to imply conscious intention and that appears on every page. Even the term "strategy" seems to the uninitiated to attribute purpose to natural events, and does not well serve the cause of evolutionary thinking in a book geared to unsophisticated readers (Bixler, 1992; Glenn, 1992). Although Buss's stated intentions are otherwise, it is likely that *Desire* will be received by students and general readers as a polemic distinguished by its manifest exultation over the male's evolutionarily-given basic philandering nature. Some sections could be excerpted for use in a manual for budding Don

Juans.

The same applies to Buss's warning against the assumption that what is, therefore ought to be. The naturalistic fallacy is not easily overcome. Scientists may believe they are not subject to it, but unless they take responsibility, the point will be missed by readers who cannot have rid themselves of teleological thinking or of the pervasive view that if it's in our genes it's unchangeable, or if it's natural it's God's will and therefore good.

In sum, Buss gives readers infra-human examples and cross-cultural data on dimorphism in mate selection, but the differences are not well demonstrated to be driven by an evolved mechanism as opposed to being a reasonable response to socio-environmental conditions. Nor do they pass the critical test of relationship to true reproductive success as measured by offspring that bear reproductively successful offspring.

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Membership Renewals for 1995

It is time to renew your membership for 1995 if you have not already done so. Membership is by calendar year, so dues are to be paid by the first of the year. **If the date on your mailing label is earlier than the current year, it is time to renew your membership.**

Law, Biology and Culture

Edited by Margaret Gruter and Paul Bohannon, McGraw-Hill Primis, Princeton Rd., 5 !, Hightstown, NJ 08520 USA, 2nd edition, 1994, pb.

Reviewed by Zoltan Taganyi, Institute for Social Conflict Research, The Hungarian Academy of Sciences, Budapest. VI. Benczur u 33, H-1068 Hungary.

The present volume, a set of reprinted as well as newly contributed articles, is an update of a collection of works compiled by the Gruter Institute for Law and Behavioral Research and originally published in 1983. In four parts, the volume has a wide scope. The first part raises theoretical questions: What are the connections between biology and law? How does law contribute to the creation and regulation of human society? What is the relationship of human groups to individual interests? The second part fills in the missing links between the animal and human social worlds with papers on sociobiology and socioecology. The third part presents the basic principles of animal and human societies from the perspective of the social sciences. The last part consists of empirical papers contributed by associates of the Gruter Institute and presented at the 1991 meeting of the American Anthropological Association.

In part one, entitled "Foundation in Law and Morality", Margaret Gruter analyses the phenomenon of 'proto-morality'. Principally, biological beings are individually motivated and directed, but with the formation of society comes the necessity of establishing 'moral' and 'legal' principles. Gruter traces the age-old problem of individuality versus collectivity. According to her argument, 'law' is the most important condition for maintaining organization in society. Next, Adamson Hoebel discusses the theory of the 'collective conscience' put forth by Emil Durkheim, as well as the 'functionalist credo' of anthropologists Malinowski, Radcliffe-Brown, and Talcott Parsons. Also in part one, Richard Schwartz and Manfred Rehbinder address the role and limits of biological explanations of law.

The second part of the volume, "Missing

Pieces in the Biological Sciences", investigates the origin of human-like societies from the point of view of socioecology. Monkey societies have an upper boundary of 30 to 60 members, and also have a definite territory. After a discussion of behavior in non-human primate societies by Jane Fordalland and Junichiro Itani, Paul MacLean summarizes the implications of the 'triune brain' model. Then Hubert Markl and Richard Alexander describe the biological connections between evolutionary theory and the study of human society: inclusive fitness, reciprocal altruism, and further benefits of mutual cooperation.

The third part is devoted to "Missing Pieces in the Social Sciences". According to Chris Boehm, after the organization of human society came "prescribed and proscribed rules of human conduct"--so-called 'customary law'. Boehm addresses the problem of symbolic verbal communication in proto-human societies since *Homo erectus*. Then Donald Campbell follows societal development from face-to-face groups to the formation of bureaucracy and the appearance of the state. Formerly, non-literate societies were regulated by principles of customary law, but later, at the more complex stages of development, they became controlled by legal and market rules. In part three there is also a piece by Roger Masters entitled "Evolutionary Biology, Political Theory and the State". Masters considers the basic principles of human sociobiology--reciprocal altruism, the benefits of mutual cooperation, cohesiveness of the group, and inclusive fitness--from the point of view of Western philosophical traditions. He addresses the philosophical theories of Hume, Rousseau, Kant and Hegel, relating them to contemporary models such as the 'prisoner's dilemma' game.

The fourth and final part, "New Lines of Research", contains empirical contributions. Included are chapters by Richard Alexander (the relationship between biology and law), Margaret Gruter (the dynamics of ostracism as a mechanism of social control, illustrated by the case of the Amish), Robin Fox (the Gruter Institute's amicus curiae brief in the celebrated Baby M surrogate mother case), Michael Raleigh and Michael McGuire (a summary of recent work on serotonin and dominance behavior in primates), Frans de Waal (the role of expectations of social regularity in

chimpanzee groups), and Roger Masters (responses to televised nonverbal displays of political leaders).

Each chapter of this book stands alone, but there are overlapping themes throughout. For example, the concepts of human sociobiology appear first in part two on "Missing Links from Biology" and once again in part three, "Missing Links in the Social Sciences". Likewise, the philosophy of law and the topic of the existence of the state are analyzed by Masters in part three, but were also addressed earlier by Manfred Rehbinder in an article on the sense of justice.

Editor's notes: This submission was edited for the newsletter by Linda Mealey. Roger Masters presented an introduction to the *Gruter Institute Reader* in the teaching workshop of ISHE's August meeting in Toronto. The Institute welcomes members' input regarding updating future editions of the *Reader*, and is open to putting together individually tailored collections as well.

Call for Research Assistance

Our Membership Chair, Nancy Segal, is seeking subjects for a study of same-age, unrelated siblings reared together. Her request: "Pairs of unrelated siblings of the same age, reared together from infancy, uniquely replicate the rearing situations of monozygotic and dizygotic twins. Study of these dyads (same-age, unrelated partners) offers a new behavioral genetic research design for examining hereditary and environmental influences on behavior. I have been collecting psychological test data on these pairs for the past few years, and would be interested in identifying more sets. If anyone is aware of families with such children, please contact Nancy Segal at: CSU Fullerton, Psychology Dept., Fullerton, CA 92634 USA, 1-714-773-2142, NSEGAL@FULLERTON.EDU. It is fine to pass my telephone number on to the families."

Mailing Labels of ISHE Members

Sets of mailing labels of the membership, over 500 in number, are for sale for legitimate

The Gene Wars: Science, Politics, and the Human Genome

By Robert Cook-Deegan. W. W. Norton, 500 Fifth Ave., New York, NY 10110 USA, 1994, \$25 (hdbk.).

Reviewed by David Alan Munro, 802 Bluebird Canyon Dr., Laguna Beach, CA 92651 USA.

As your designated explorer I have done every page and paragraph of *The Gene Wars*-- surely the most comprehensive and authoritative detailing of this realm to date-- looking for the spot or spots where ethology fits in. For, granting that the human universals spelled out from Darwin to Eibl are innate, then they must exist in the human genome. But no. Dr. Cook-Deegan, a researcher himself, reports discovery of no site or chromosome which dictates the universals of expression found by Darwin, of behavior found by Eibl, or of language found by Chomsky.

But this is not surprising, given the scope of the project. You cannot read Cook-Deegan or any other report on the Gene Project without a sense of awe at the sheer size of the world of data now being uncovered, with most of it still to be revealed. Cook-Deegan uses "millions" and "billions" to describe the extent of the raw data yet to be collected. He nowhere mentions the directives for behavior that must also be in the DNA, but he does assert that all our social sciences will have to adjust to the genome data--when collected, and when interpreted.

Nevertheless, an obstacle to answering the ethological questions lies in the prevailing Genome Project emphasis: It is geared to disease, hereditary disease. Its home base in the US is NIH (National Institutes of Health), with similar emphases in the nations abroad where this research is carried on. This has skewed the findings away from what an

scholarly purposes. The rate is \$0.35 each, or about \$175 for the entire list. This is a good means for publicizing a book or journal. ISHE members pay the reduced rate of \$0.25. For information, contact the editor.

ethologist might ask of these biologists. Typically, researchers have looked for an anomaly in the DNA of members of a family known to be prone to cystic fibrosis, Alzheimer's, or some other disease. This process, as Cook-Deegan shows, logically leads to therapy and/or pharmaceuticals. And disease-prevention is the clear justification for the billions spent on the Genome Project, here and abroad. If researchers into the genome were to look for species-specific behavioral genes, they would be concerned with regularities, not anomalies, requiring a different methodology as well as a different rationale for funding.

But here let me re-invoke my awe. Surely humanity has never faced--and knowingly faced--so wide-open a change in basic thinking. This is as broad a new sea as ever Columbus sailed. The scientists themselves have felt it, and have responded with enthusiasm and dedication. They devised and accepted ELSI, acronym for the Ethical, Legal and Social Implications of genome research, and devoted a fixed percent of their contracts to it. They likewise accepted the leadership of Chicago's James Dewey Watson--"Honest Jim" to Cook-Deegan--the overly frank, incorruptible theme-leader of the entire Genome Project. He was the discoverer, of course, with Francis Crick, of the "double helix" shape of the DNA molecule in 1953, at age 25. Thus from its outset the Genome Project has had high purpose, an exalted leader, and no end of mystery.

Watson, now 66, has compulsively adhered to a pro-science, pro-internationalist, pro-bono publico line, and made it stick. He insisted that the project not be sidetracked into commerce by either Reagan or Bush. He was in on the founding of ELSI, and wants to see 10% of Genome contracts devoted to "implications."

Here Cook-Deegan reminds us of the similarity of the Genome Project and the Manhattan Project, an equally-awesome cooperative scientific endeavor. In the latter case the scientists, when they had the bomb, formally petitioned President Roosevelt to stop the project in the interests of humanity. In the genome case scientists have successfully

surmounted criticisms from anti-abortionists, anti-fetal research people, and anti-eugenicists to hew to the simple objective of furthering human self-knowledge by science.

Because of this dedication to basic research, it is inevitable that the Genome Project will someday identify the genes that make our universal behaviors universal, perhaps by comparison of our genes with the chimpanzee's, etc. If so, then DNA research will do far more than verify the existence of genes for language, for facial expressions, for the cultural residual.

Ethologists might do well to foresee--with the first evidence that our species-specificity is indelibly writ in the DNA--the blip that signals the end of uncertainty, the acceptance of a new (Kuhnian) paradigm. For this paradigm shift is not a matter only for the graybeards of science, tucked away in their Byzantium. This ethological paradigm will replace the popularly accepted behaviorism and psychoanalysis of James B. Watson and Sigmund Freud. These doctrines still direct public policy in matters of major concern: in education it's still the hickory stick, in criminal justice the guillotine, in foreign policy the atom bomb. The mantra repeated from punitive mothers to thought-starved presidents is "force is the only thing they (the child, the Somali, the criminal) understand." And in truth it *is* a question of understanding: in education, of imprinting; in criminal justice, of revenge; in foreign policy, of territoriality.

Thus, the Genome Project has the potential to advance an ethological understanding of our species, which in turn may replace our free-swinging and dangerous approaches to social problems with more empirical analyses. The new thing the Genome Project has brought forth upon this planet is itself cultural: a coordinated, monumental, international effort by scientists in their labs, and by people everywhere through their legislatures and their taxes, to find out who we are.

No one could possibly have predicted this would ever happen here, for we have yet to set sail upon this next mystic sea.

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ANNOUNCEMENTS

European Sociobiological Society

The 18th annual meeting of the European Sociobiological Society is scheduled for Cambridge, England 3-6 August 1995. The main theme will be "Darwin's Heritage and Sociobiology." Local organizer is Robin Allott, 5 Fitzgerald Park, Seaford, East Sussex, BN25 1AX, U. K.

ESS Newsletter

The quarterly *European Sociobiological Society Newsletter* is available for D.fl. 40 (about \$20 US) from Vincent S. E. Falger, Dept. of International Relations, University of Utrecht, Janskerkhof 3, NL-3512 BK Utrecht, The Netherlands. Payment may be made by VISA/Euro(master)card. Subscription is by calendar year, so now is the time to begin or renew your subscription.

Gruter Institute Seminars

The third annual faculty seminar on "Biological Perspectives in the Social Sciences" will take place at Dartmouth College 5-11 August 1995. Directed by ISHE members Roger D. Masters and Michael T. McGuire, visiting lecturers will represent diverse fields in the biological and social sciences. Invited lecturers are McGuire, Robert Trivers, Lionel Tiger, Helen Fisher, Robert Frank, E. Donald Elliott, and Edward Berger. A limited number of grants covering expenses exclusive of travel (estimated at \$300) are available to scholars or graduate students. For information or applications write: Ms. Kimberly Watson, Nelson A. Rockefeller Center for the Social Sciences, 6082 Rockefeller Hall, Dartmouth College, Hanover, NH 03755-3514 USA, tel. 1-603-646-3874, fax 1-603-646-1329.

At last summer's seminar, the following topics were among those addressed: facial symmetry and parasite resistance, a sex-linked gene for male homosexuality and female reproductive success, serotonin levels and leadership, the effect of experience on the brain, fitness benefits to grandmothers of daughter's unmarried teen motherhood, the competition-inducing effects of conventional economics, and effects of politicians' nonverbal behavior on men and on women.

European Anthropological Association

The Tenth Congress of the European Anthropological Association has been scheduled for 19-22 August 1996 in Brussels, Belgium. Contact Prof. C. Suzanne or Dr. R. Hauspie, Free University of Brussels, Lab. Anthropogenetics, Pleinlaan 2, 1050 Brussels, Belgium, tel. 32-2-641-34-26, fax 32-2-641-33-89, E-mail rhauspie@vnet3.vub.ac.be.

IUAES

The Inter-Congress of the International Institute for the Study of Man (IUAES) on Biodemography and Human Evolution will be held in Florence, Italy either 19-26 April or 5-12 July 1995. Write to Prof. A. B. Chiarelli, IUAES Inter-Congress, Istituto di Anthropologia, Via del Proconsolo 12, 50122 Firenze, Italy.

Literature Search Guide

A guide to literature searches in anthropology and related fields has been published by Robert C. Westerman: *Fieldwork in the Library: a Guide to Anthropology and Related Area Studies*. It uses HRAF (Human Relations Area Files) indexing but does not require one to consult the files themselves. There are separate chapters on general anthropology, machine readable data bases, archaeology,

cultural/social anthropology, and linguistics, and stand-alone guides to local level observation in various world regions. These guides are unified by a common structure and massive cross-referencing. The 385-page guide is available from American Library Association, 155 N. Wacker Dr., Chicago, IL 60606-1719 USA for \$45. Phone 1-800-545-2433, press 7, fax 1-312-836-9958.

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ASCAP Award and Meeting

The ASCAP Society is sponsoring a competition for the best previously unpublished paper on evolutionary biology and psychopathology. The Across-Species Comparisons and Psychopathology Society is honoring Dr. Aaron T. Beck with this award. Possible topics include comparative psychology and psychiatric illness, comparative neuroanatomy and behavior, attachment processes and social hierarchies, psychiatric drugs as probes of system function, psychotherapy from an evolutionary perspective, and contemporary evolutionary theory and psychoanalysis. The award is open to residents and fellows in psychiatry and related clinical fields, and to graduate students and recent (within 7 years)

graduates in psychology, biology, anthropology and related disciplines. Participants should send three copies of their paper (deadline: postmarked by 31 March) to Mark Erickson, MD-ASCAP Beck Award, c/o Rossell Gardner, Jr., MD, Dept. of Psychiatry & Behavioral Sciences, 4.450 Graves Bldg. (D28), Univ. of Texas Medical Branch, Galveston, TX 77555-0428 USA. For information about the award or ASCAP, call 1-409-772-7029. The Society publishes a monthly newsletter.

The \$1000 travel award will be presented at the annual meeting of ASCAP in Santa Barbara, CA 27 June 1995. The meeting will precede the convention of the Human Behavior and Evolution Society there, scheduled for 28 June-2 July 1995.

CURRENT LITERATURE

December 1994

Interested in possibly reviewing one of the books below or some other suitable book? Please contact the appropriate book review editor (See Editorial Staff box).

Avital, E. & Jablonka, E. (1994). Social learning and the evolution of behaviour. *Animal Behaviour*, 48, 1195-1199. (Dept. of Nat. Sci., David Yelin Teachers College, P.O. B. 3578, Jerusalem, Israel).

Berczkei, T. (1992). Biological evolution, genotropism, psychopathology: A reinterpretation of a psychoanalytical theory. *SZONDIANA*, 12. Jahrgang, 32-52. (Inst. Behav. Sci., Medical Univ. of Pecs, H-7624 Pecs, Szigeti u 12.) This paper deals with a possible connection between evolutionary biology and a school of psychoanalysis which may be interesting for human ethologists and those interested in related topics.

Beroldi, G. (1994). Critique of the Seville Statement on violence. *American Psychologist*, 49, 847-848. (Dept. of Psychology, Simon Fraser Univ., Burnaby, British Columbia, Canada V5A 1S6).

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