

COMMENTS

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In an autobiographical tone Leslie [1] describes the development of his opposition to the widespread judgement of the community in which he was raised that Negroids were, on average, more criminal, less intelligent and more sexual than Caucasoids. His resistance was strengthened when he took courses first in Marxism and then in anthropology, and he eventually rejected the utility of the concept of race for science. Leslie is pessimistic about the possibility of objectivity in a field marred by political ideologies; to him, the "fakery and racism" of my paper is "transparent" and he cannot comprehend why the intuitive obviousness of this is not more widely shared. For Leslie, the study of human behaviour is as much a moral political enterprise as it is a scientific one; it "is meant to promote, pluralism and democracy".

AIDS and race: more information. Our 1989 paper [2] discussed the worldwide racial distribution of the 100,410 cases of AIDS that had been reported as of 1 July 1988 to the World Health Organization (WHO). By 1 April 1990 that figure had grown to 237,110 showing an 18 month doubling time and a crystallization of the racial pattern of the pandemic. New calculations show that black Caribbean countries have as big an AIDS problem as do African countries. When the figures are worked out on a per capita basis, the three most affected countries in the world are in the Caribbean—Bermuda, the Bahamas and French Guiana. In this region AIDS is transmitted primarily through heterosexual intercourse and there is little intravenous drug use.

The data in Table 1 were collated by me from official statistics published by the World Health Organization as of 1 April 1990 (World Health Organization Update, Global Programme on AIDS). The number of AIDS cases per million population was computed to give an indication of the relative seriousness of the epidemic between countries with different sizes of populations after excluding countries reporting fewer than 100 cases. The population size of the country was taken from estimates standardized for mid-1987 by the United Nations using data available as of 1 April 1989 [3]. On this measure Canada has an AIDS rate of 139 per million making it the 25th most affected country in the world. Of the other top countries, 12 are in Africa, 9 are in the Caribbean, 2 are in Europe, and the other is the United States. It must be kept in mind that for every person officially diagnosed with the AIDS disease there are at least 25 others with the contagious HIV virus. Although the figures in Table 1 must be read with caution, especially those from countries with less than a million population, where a few cases can disproportionately affect the per capita total, nonetheless the racial pattern of the pandemic seems established. Indeed, given the underreporting from African and Caribbean countries, the figures in Table 1 must be considered conservative estimates.

Additional evidence for the racial pattern comes from finer grain analysis of the data from within the United States to 1 March 1990 (Centers for Disease Control, HIV/AIDS Surveillance Report, March 1990) where Negroids are overrepresented in every

Table 1. The 25 countries most affected by AIDS based on per capita cumulative cases reported to the World Health Organization as of 1 July 1990

Country	Date of report	Cumulative number of cases	Population in millions (as of mid-1987)	Cases per million
1. Bermuda	31.12.89	135	0.056	2411
2. French Guiana	31.12.89	191	0.086	2221
3. Bahamas	31.12.89	437	0.240	1821
4. Congo	31.12.89	1940	1.837	1056
5. Malawi	08.01.90	7160	7.499	955
6. Uganda	31.12.89	12,444	16.599	750
7. Burundi	31.12.89	2784	5.001	557
8. U.S.A.	31.06.90	133,889	243,934	549
9. Guadeloupe	31.12.89	182	0.337	540
10. Barbados	31.03.90	122	0.254	480
11. Trinidad	31.12.89	567	1.241	449
12. Haiti	30.09.89	2331	5.438	429
13. Zambia	07.05.90	3000	7.563	397
14. Martinique	31.03.90	125	0.334	374
15. Zaire	31.01.90	11,732	32,461	361
16. Rwanda	31.12.89	2285	6,529	350
17. Cote D'Ivoire	01.02.90	3647	11,142	327
18. Zimbabwe	31.03.90	2357	8,640	273
19. Tanzania	01.03.90	6251	23,217	269
20. Kenya	30.06.89	6004	22,936	262
21. Central African Republic	31.12.88	662	2,703	245
22. Switzerland	30.04.90	1280	6,545	196
23. Dominican Republic	31.03.90	1262	6,716	188
24. France	31.03.90	9718	55,632	175
25. Canada	03.05.90	3818	25,652	119

exposure category. If the U.S.A. were racially divided into separate countries, the approx. 30 million Afro-Americans (12% of total) with 34,431 cases of AIDS would have a rate of 1148 per million, equivalent to other Negroid populations in Africa and the Caribbean.

One point often made is that blacks in the United States have AIDS primarily because of intravenous drug use. Although 39–46% of adult American blacks who acquired AIDS did so through drug use, between 48 and 55% acquired it through sexual transmission, 11% heterosexually (compared to 2% of whites). Of all 6027 adult AIDS cases transmitted heterosexually (5% of total), 3747 or 62% involved blacks, with another 17% being Hispanic. Hispanics, of course, are a linguistic group: racially, a proportion is black or partly black, especially in New York. Blacks are also overrepresented in the 'male homosexual/bisexual contact' exposure category (17% versus a population expectation of 12%). Overall, in the last two years, blacks in the United States increased their total share of the AIDS figures from 26 to 27.6%, Hispanics increased from 14 to 15.6%, Mongoloids stayed in at less than 1%, and whites decreased from 59 to 56%. It would have been instructive to compare these figures with those in Canada but the Federal Centre in Ottawa does not break down the figures by race. The prediction is that if they did, as in other multi-racial societies, the pattern would be Orientals < whites < blacks.

In Canada, some reports do not indicate that blacks are disproportionately more infected with HIV, but this is so controversial that authorities are apparently afraid to record the race of AIDS victims. Stories in *The Globe and Mail* (1 July, 1989; 23 December, 1989) showed that by the beginning of May 1989, 116 of the 40,000 people in Quebec who had been born in Haiti had come down with the disease, an incidence of 2900 per million, higher than

any country's official report to WHO (Table 1). Of the heterosexuals in Quebec who had contracted the disease, 25 (58%) did so by having sex with a person from Haiti. Similar figures are emerging in the Province of Ontario: A story in *The Toronto Star* (26 July, 1989) indicated that the number of black people in Toronto with AIDS had grown in the previous three months from 39 to 54—an increase of 38%. Of these 54 black people, 12 (22%) were women. Because only 49 of 1102 white HIV carriers were women (4%) the figures suggested that in Canada, as elsewhere, AIDS among blacks is being spread heterosexually.

Racial and political sensitivities, in part, also fuel reluctance to openly discuss matters elsewhere in the world. African countries report only a small proportion of their cases, partly out of concern that the West will perceive Africans as promiscuous [4]. In Durban, South Africa, following the recognition of black STD clinic attendees as being at risk for HIV infection, testing was suspended by the city's health department; the racial disparities also being clear from blood donor data [5]. Cuba claims a much lower rate of AIDS than elsewhere in the intensely affected Caribbean despite (a) the perceived necessity for universal testing and quarantine, (b) the hundreds of thousands of military personnel who have rotated to duty in Central Africa with concomitant increments of syphilis and gonorrhoea, and (c) the studies of refugees in the U.S. showing high infection rates as early as 1980 [6].

Following my work with Bogaert on race differences in sexual behaviour [7, 8], some critics have argued [9] that little evidence exists that the races differ in sexual activities because of biases in the data and because the data are not based on random samples. It may come as a surprise to learn that we don't need random samples and that, in fact, very few hypotheses are tested this way;

we often need only to hold the setting constant and select from groups not too extreme on the distributions. Following this procedure, I have conducted several as yet unpublished interview studies with young Mongoloids, Caucasoids and Negroids in cities from Canada and the United States, asking questions about their age of first sexual intercourse and the total number of their sexual partners. I have consistently found that the *average* black person reports having an earlier age of first intercourse and more sexual partners than does the *average* white person who reports having an earlier age of first intercourse and more sexual partners than does the *average* Oriental person. I stress the word *average* since there is much variation in each group. These results thus join those already published [7, 8, 10–12] showing that the racial differences in sexuality are widespread and relatively easy to determine.

The reality of race. Although the topic of race differences abounds with ideological minefields, it is possible to rise above them. Imagine that a team of extra-terrestrial biologists arrived on earth to study humans. Would they not quickly observe that, like many other species, humans showed considerable geographical variation in morphology? Surely three major geographical populations or 'races' would be identified immediately and investigation mounted into how many others existed. Questions about the origin of the body types would be asked and also whether they covaried with life history variables including reproductive tactics in particular. If these scientists had a solid understanding of evolutionary biology, they would also investigate if these populations differed behaviourally, for example with respect to parental investment and social organization and, if they did, how these differences might have evolved. Such an approach has proved very fruitful for population biologists studying other animals, particularly since E. O. Wilson's [13] synthesis of sociobiology. If we are as interested in gaining knowledge as would be these 'extra-terrestrials', then we should apply similar procedures to our study of *Homo sapiens*.

The existence of genetic variation both within and between populations is, in fact, the first postulate of Darwinian theory. Without variation, natural selection would have nothing to work on. (The second postulate of evolutionary theory is that some parts of the variation are more successful at replication than are others.) Thus, from a sociobiological point of view, it is predictable that separate breeding populations will come to differ, genetically, in the mechanisms underlying their behaviour. This is because populations adapt to their environments behaviourally, as well as morphologically [13].

Behavioural, physiological and anatomical differences among the races follow a remarkable pattern [14, 15], a summary of which was presented as Table 3 by Rushton and Bogaert [2] and repeated as Table 2 by Leslie [1]. The observation that on over 60 different variables including brain size and intelligence, rate of maturation, sexuality, personality and social organization, Caucasoids average consistently between Mongoloids and Negroids, offers an array of theoretical and empirical problems for analysis.

The predictive nature of race undermines Leslie's argument that racial terminology is poorly justified. Similarly devalued must also be the judgement of influential anthropologist Ashley Montagu [16] who, as Leslie documents, successfully advocated the substitution of the phrase "ethnic group" for "race" in order to shift the emphasis away from a "question begging... biologicistic bias" (p. 697).

The scientific devaluation of the Leslie-Montagu position must occur because it obfuscates higher level conceptual order. For example, the rate of dizygotic twinning per 1000 births among Mongoloids is <4, among Caucasoids, 8, and among Negroids, >16, regardless of which country the samples are taken from, with some African populations having twinning rates as high as 57 per 1000 [17, 18]. The incidence of non-monozygotic triplets and quadruplets shows comparable rank orders [17, 18]. The tendency to multiple ovulation is inherited largely through the race of the mother, independently of the race of the father, as observed in Mongoloid-Caucasoid crosses in Hawaii and Caucasoid-Negroid crosses in Brazil [17]. It is misleading of Leslie to suggest that Bulmer's [17] data on racial group differences in twinning are unreliable; many additional surveys on multiple birthing support this epidemiological pattern [18–20] as well as the relation of multiple birthing to r/K reproductive strategies [21]. Perhaps as a result of matching evolutionary processes to ovarian production, parallel differences in testes size have been found among the races. The difference is twofold lower in Mongoloids than in Caucasoids (9 g vs 21 g), too large a dissimilarity to be accounted for in terms of body size [22, 23]. Although the data are much less conclusive, larger testes have sometimes been found in Negroids than Caucasoids [22, 24].

The efficient unit of analysis, therefore, is the higher order concept of race, within which cluster the different ethnic groups and, ultimately, individuals. Leslie's claim that the concept of race is not useful for human populations not only obscures higher level conceptual order and ignores the approach of population biologists studying other species but also neglects recent developments in the field of medicine and social science. Biomedical-anthropology is a new discipline to study race \times diet interactions. For example, the ability of adults to easily digest milk is largely limited to Caucasoids and a lack of knowledge here may have increased mortality among the needy in Third World countries who were inadvertently provided with milk products to alleviate hunger. Other researchers are considering whether there are racial differences in susceptibility to drug addiction; for example, some 80% of Mongoloids become flushed when given alcohol.

The origin of human races. The behavioural and morphological data—in which Caucasoids consistently average between Negroids and Mongoloids—can be used to help decide between the various reconstructions of human evolution which Leslie finds so problematic. Current thinking, especially among those physical anthropologists who use molecular biology (blood group, serum protein, mtDNA and nuclear DNA) to buttress the more usual data from paleontology, involves a single origin

model for the emergence of modern humans instead of the alternative multiregional models. An African origin is envisaged, perhaps even as recently as 140,000 to 290,000 years ago, with an African–non African split $110,000 \pm 34,000$ years ago, and a European–Asian split $41,000 \pm 15,000$ years ago [25–27]. Thus the sequence in which the races emerged in earth history matches the phased linearity of the suite of r/K characters. This parallel is not readily predictable from multiregional origin models based on long periods of separation, in which no consistent pattern of character appearance is expected.

The genetic evidence in favour of the single origin model is that (a) rates of change in mtDNA place the modern human origin at 140,000 to 290,000 years ago; (b) genetic variation is greatest within African populations, which is predictable if they appeared earliest; (c) protein analyses date a Negroid–non Negroid split at $110,000 \pm 34,000$ years ago and a Caucasoid–Mongoloid split at $41,000 \pm 15,000$ years ago; (d) blood group data indicate that Caucasoids are intermediate to Negroids and Mongoloids in genetic distance; (e) genetic variation between human populations is low in comparison with variation within populations or with that found in other hominoids thus suggesting a short time period of geographical differentiation [25]. Paleontological data are consistent with the foregoing because the oldest human fossils (92,000 years) have been found in Africa and/or the Middle East, which is the likely pathway from Africa into Eurasia [26].

But why would Mongoloids have ended up the most K -selected? As populations moved north they encountered more predictable and yet more challenging environments, including the ice ages which ended only about 10,000 years ago. Predictable environments are one ecological precondition for K -selection. Tropical savannahs, due to sudden droughts and devastating viral, bacterial and parasitic epidemics, are generally less predictable for long lived species than are temperate and Arctic conditions. Although the Arctic climate varies greatly over one year, it is highly stable among years. The harsher yet more predictable the environment the more stringent would have been the selection pressures for intelligence, forward planning and sexual and personal restraint.

Conclusion. Many of the differences between the races summarized in Leslie's Table 2 appear to confirm the averaged perceptions of the community of Leslie's youth. Although many have striven to dismiss all these as 'stereotypes', the psychometric evidence shows that when human judgements are aggregated and calibrated against other criteria, they are typically found to be valid. This appears to be as true of judging intelligence and social behaviour, where converging evidence can be marshalled to assess 'construct validity', as it is of judging temperature and weights where objective standards can be applied [28]. As a starting point for scholarly discourse, the statistically significant average differences between the races in AIDS, as well as other traits of longer standing, must be acknowledged to exist, even when their interpretation is problematic.

If observed racial differences in crime, educational achievement and sexual behaviour are hypothesized to be due entirely to environmental differences such as "the consequences of living in a racist society", objections are seldom made. If evolutionary and genetic hypotheses are suggested, then *ad hominem* attacks follow almost inevitably. Thus it is not the *data* that are controversial but rather their explanation. The only way to minimize ideological bias is to scrutinize the goodness of fit between data and theory. Which of the alternative theories, then, is more powerful and best fits the total array of assembled data?

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