

The Race-Intelligence Controversy: A Sociological Approach II – ‘External’ Factors

Jonathan Harwood

As I argued in the predecessor to this paper (referred to below as ‘Part I’),¹ one cannot understand the recent phase of the race-intelligence controversy without considering the professional backgrounds and disciplinary allegiances of the protagonists. In general, those adopting the hereditarian position have been either behaviourist psychologists or scientists from biologically-oriented research areas. The environmentalists, in contrast, tend to come from the social sciences (see Table 1).² According to such a ‘boundary dispute’ hypothesis, then, hereditarians and environmentalists differentially recruit their adherents from, respectively, the disciplines of the biological and the social sciences. This is because membership of either discipline implies certain vested interests in the explanatory success of that discipline, as well as a particular way of conceptualizing (human) behaviour.

Nevertheless I also argued the insufficiency of the boundary-dispute hypothesis on the grounds that several of the prominent environmentalists are biologists, and that two of the hereditarians were originally trained in ‘soft’ and/or environmentalist research traditions. Given the controversy’s political dimension, and the facts that the hereditarian and environmentalist positions are (a) constructed upon such different assumptions, and (b) can be characterized in terms of Mannheim’s distinction between ‘natural-law’ and ‘conservative’ styles (as shown in Part I), it is reasonable to ask to what extent hereditarianism and environmentalism can be considered as scientific reflections of contrasting ‘world-views’. In order to pursue this possibility, one would ideally like to have detailed biographical information about the major disputants. Because of the contemporary

Author’s address: Department of Liberal Studies in Science, The University, Manchester, M13 9PL, UK.

(and controversial) nature of this debate, however, such information is largely unobtainable. Nevertheless, one finds abundant indications that the protagonists themselves fully recognize the politicized character of the debate – and, indeed, in most cases have tried to use hereditarianism or environmentalism in order to argue the ‘naturalness’ of a particular social philosophy and its educational ramifications. After examining below these ‘external’ features of the debate, I offer an hypothesis which attempts to explain these features (as well as the styles of contemporary hereditarian and environmentalist thought) in terms of the conflicting interests and perceptions of social groups.³

In the twentieth century we have witnessed the use of extreme hereditarian views by right-wing political movements (e.g. National Socialism) as well as extreme environmentalist views (e.g. those of Lysenko) by the left wing. Many protagonists on both sides of the ‘nature-nurture’ debate, before World War II as well as at present, have been quick to apply the label ‘ideology’ or ‘propaganda’ to their opponents’ argument, while perceiving their own position as carefully derived from the evidence. Intrigued by this phenomenon, Pastore⁴ examined the nature-nurture stances and political views of a sample of scientists and showed that hereditarians tended to express conservative views, while environmentalists were generally ‘liberals’ or ‘radicals’. My observations of the modern race-IQ debate support this correlation, and it is worth considering at the outset how such a correlation should be interpreted.

In principle one could argue either that an individual’s scientific conclusions dictate to some extent his political conclusions,⁵ or vice versa. The former explanation is open to several objections. Individuals with similar scientific views not uncommonly hold very different political views for reasons which can hardly be ascribed to ‘faulty logic’.⁶ Regarding the environmentalist side, certainly no-one will want to argue that the socialist views of Rose, Jencks, Kamin or Lewontin were derived from their study of the group-differences (or any other scientific) issue. Those who wish to argue a determining role for scientific conclusions are obliged to make such a causal relationship plausible; it is not clear, for example, why the existence of genetically-based racial differences in IQ would *necessarily* undermine either quota systems in education and employment or egalitarianism in general (as several hereditarians have argued).⁷ Such conclusions can only ‘follow’ within a particular complex of (ultimately political) assumptions which would (in the case, for example, of quotas) place a premium on respect for *individual* opportunity and

merit. Similarly, a 'scientific-views-determine-political-beliefs' theory would have to explain the tendency for hereditarians and environmentalists to differ *systematically*, not just over the race-IQ issue, but also over two associated issues – the importance of high estimates for the heritability of IQ, and the adequacy of IQ as a measure of intelligence.⁸ The significance of this tendency is discussed below.

PATTERN IN THE DISPUTANTS' POSITIONS

The point I wish to make is simply that an hereditarian or environmentalist position on the race-IQ issue does not entail a *particular* stance on either of the associated issues just mentioned.⁹ It is of considerable interest, therefore, to find that most hereditarians have adopted the same combination of stances on the associated issues, and that the environmentalists' stances on these two issues are also 'clustered'. The 'non-randomness' of these clusters needs explaining; is it sheer coincidence, or are the protagonists of a given side predisposed to take up a particular position on the associated issues by virtue of that body of assumptions which also influences their interpretation of the race-IQ gap?

First, consider the differences of opinion over whether high heritability estimates for IQ are important. Note that it is perfectly possible in principle for a hereditarian to discount the importance of high heritability estimates for IQ. Jensen himself agrees that there is no logical connection between heritability and group mean differences: the race-IQ gap might be entirely genetic even if heritability estimates for IQ in both black and white populations were nil. Similarly an environmentalist on the race-IQ issue might well believe that high heritability estimates for IQ are important as an indication of the role of genetic factors in determining *individual* IQ differences. Why, therefore, should hereditarians and environmentalists consistently disagree over the credibility of high heritability estimates for IQ?

In order to see the significance of this disagreement, notice that heritability estimates for IQ assess the relative importance of genetic differences for IQ differences, but only within the range of environments occupied by the population sampled; they tell us nothing about how important genetic differences would be for the same group of individuals occupying quite different environments. High heritability

estimates for IQ would be of no consequence if new environments could be developed which would markedly reduce the expression of individual genetic differences as IQ differences. Environmentalists' disregard for high heritability estimates, therefore, is consistent with a fundamental characteristic of social reformist thinking: the faith that human failings can be ameliorated through environmental innovation, the design of new political and economic institutions, and the like. Analogously, the hereditarians' stress on the importance of high heritability estimates for IQ is consistent with that pessimism (as to the likelihood of new environments/institutional arrangements ever modifying 'human nature') which is typically used to justify the status quo. Furthermore, it is often pointed out by hereditarians that with the extension of equal opportunity to more and more persons and groups within the society, the heritability of IQ can be expected to increase; as equal opportunity (through equal access to the same 'stimulating' environments) is attained, heritability estimates for IQ will approach 100% since IQ-relevant environmental differences between persons will no longer exist. On this rationale, high heritability estimates for IQ in a society reflect a high level of equal opportunity, and low estimates, unequal opportunity. A scientist's beliefs as to how 'fair' a society is to all its members, therefore, will quite likely influence how much importance he is inclined to place on studies which report high heritability estimates.

The second associated issue concerns the adequacy of IQ (and thus the importance of individual or group differences in IQ) as a measure of intelligence in Western societies. It is important to note that nothing in the hereditarian hypothesis per se requires any particular stance on the adequacy of IQ testing. It is perfectly possible in principle to accept the hereditarian hypothesis while taking the view that IQ is just another dimension of cognitive behaviour, perhaps no more or less significant than performance on other tests of various kinds of mental ability. Note, however, that in the current phase of the race-IQ controversy hereditarians have gone well beyond this to defend IQ as the only reliable measure of intelligence.¹⁰ Conversely, several environmentalists have not merely criticized the hereditarian hypothesis but have argued in addition that IQ is not an adequate measure of cognitive ability.¹¹ Since IQ tests are in fact widely used to allocate individuals to ranks in educational and occupational hierarchies in modern industrial societies, disagreement over the adequacy of IQ as a measure of native intelligence will be inextricably bound up with judgement of the justice of the allocation process.

In view of the problems faced by any theory which treats scientific views as determinants of political beliefs, a preferable theory would propose that in the (collection and) interpretation of socially-resonant data, scientists' world-views inevitably condition the conclusions which they draw. Their scientific conclusions are then rendered consistent with their social philosophy¹² – either by arguing that the two sets of views are independent (as with Haldane, Muller, Lewontin, Jencks et al.), or that the social philosophy 'follows' from scientific fact. Indeed it is a commonplace that political decisions are often legitimated by reference to scientific findings: 'that's the way Nature is'.¹³ It is thus possible to think of scientific conclusions in this and other debates as 'doing a job'; as shoring up the social-political predilections not just of the scientists concerned but also, more importantly, of substantial segments of the popular (or academic) audience for the debate.

PROTAGONISTS' AWARENESS OF THE POLITICAL DIMENSION

It is quite clear that none of the major figures involved in this controversy is tucked away in an ivory tower, oblivious of the meanings which the lay public attaches to the hereditarian and environmentalist positions.¹⁴ Indeed these figures are distressed by the political consequences which they perceive as flowing from their opponents' position.¹⁵

Among environmentalists Deutsch, for example, has written that an extreme hereditarian view 'leads to an elitist, highly stratified, minimally mobile society', whereas an extreme environmentalist view is 'compatible with . . . Utopian socialism, or the classless society'.¹⁶ This is by no means an isolated view.¹⁷ Perhaps the most dramatic illustration of social scientists' tendency to link scientific conclusions and social policy consists of an anecdote related by Jerry Hirsch. After giving a talk on behaviour genetics at the Center for Advanced Study in the Behavioral Sciences (Stanford University) in 1960, he was approached by the late Julian Steward (then one of the few anthropologists in the US National Academy of Sciences) who said, 'You know, Jerry, if you bring genetics back into the social sciences, that means only one thing to me: Hitler'.¹⁸

Accordingly there is a great deal of evidence that many environmentalists' opposition to Jensen has been predicated at least

as much on opposition to the perceived political implications of the hereditarian hypothesis as it has on the perceived weaknesses in the hereditarian hypothesis itself:¹⁹

. . . [Jensen's conclusion on the race-IQ issue] is so clearly at variance with the present egalitarian consensus and so clearly smacks of a racist elitism, whatever its merit or motivation, that a very careful analysis of the argument is in order . . . Prof. Jensen has made it fairly clear to me what sort of society he wants. I oppose him.²⁰ [emphasis added]

Broader social consequences threaten if we give prevalence to those theories that posit only a limited effectiveness for environmental interaction. . . . *I cannot accept this stance since it is supportive of the status quo: it means business as usual; it means limited opportunity for black and poor people . . . while the majority tries to fix the blame on the victims or on nature for differences, underdevelopment, or school failures, all of which are largely imposed on lower status persons by man's indifference to, or abuse of, his fellow man.*²¹ [emphasis added]

This phenomenon is not confined to environmentalists. Hereditarians, too, seem prepared to derive social arrangements from scientific standpoints. The title of R.B. Cattell's recent book, *A New Morality from Science: Beyondism*,²² conveys clearly his belief that in an ideal society men would derive their ethical principles from scientific findings.²³ Eysenck's view is similar though not quite as extreme:²⁴

Reform of what is wrong in our society there must be, but unless this reform takes into account *limitations set by inexorable biological facts* it is likely to achieve nothing. Several hundred years of experience with physics and chemistry has taught us that *we must cooperate with nature; we cannot coerce her.*²⁵ [emphasis added]

Eysenck, too, attributes political implications to the hereditarian and environmentalist positions:

I found it very difficult to look at the evidence detailed in [Audrey Shuey's *The Testing of Negro Intelligence*, a book which reaches hereditarian conclusions regarding the race-IQ gap] with a detached mind, in view of the fact that it contradicted certain egalitarian beliefs I had considered almost axiomatic.²⁶

In *The Inequality of Man*, Eysenck's stated aim was to 'demonstrate the social consequences of the dependence of IQ on genetic causes. . . .', and he refers to ' . . . the impact which our growing knowledge of

innate differences must have on society as a whole'.²⁷ Similarly Jensen has stated his belief that the hereditarian hypothesis, if confirmed, would undermine the rationale for quota systems of which hereditarians have been so critical.²⁸ Also, of course, Jensen's original 1969 monograph argued that the high heritability estimates for IQ ensured the failure of American compensatory education policies in the late 1960s. In a privately-circulated draft manuscript, one of the hereditarians has suggested which programmes for social action ought to follow if the race-IQ gap were completely genetic: among others (i) Negroes (as well as whites) would practise selective population control so that those of higher IQ would contribute relatively more children to successive generations; (ii) educational practice would be adapted to *individual* characteristics rather than subjecting all children to the same methods and aims; and (iii) American society would stop unjustly attributing blacks' problems to white racism.

PROTAGONISTS' SOCIAL AND POLITICAL COMMITMENTS

Just why environmentalists, for example, should be so concerned about the implications which they derive from hereditarianism is easily understood if one examines the environmentalists' social and political commitments. Three of the major environmentalists have been actively involved in those very compensatory education programmes which bore the brunt of Jensen's attack. Hunt was chairman of President Johnson's Task Force on Early Child Development which recommended in 1967 that the federal government fund two extensions of 'Project Head Start'. He has been committed to compensatory education since 1961, and has been interested in the effects of childhood experience throughout most of his professional life. Since 1960, Martin Deutsch's Center for Research on Learning Disabilities (at New York's Downstate Medical Center) and (since 1964) his Institute for Developmental Studies (New York University) have conducted research on compensatory educational design which has been supported by the US Office of Education and Office of Economic Opportunity.²⁹ Gordon has co-edited a volume explaining the rationale and scope of compensatory education programmes, and has also been involved with the 'Head Start' programme.³⁰ It seems fairly clear that one reason why some environmentalists may have

criticized the hereditarian hypothesis is that if it were to gain general acceptance, a good deal of government-backed research on compensatory educational methods and environmental influences on IQ would probably lose financial support.³¹

Table 1. Participants in the Race-IQ Controversy*

	Discipline	Stance on Race-IQ**	Political Views
<i>pro-Jensen:</i>			
A. Jensen	psychology	h	right of centre
H. Eysenck	psychology	h	right
R. Herrnstein	psychology	h/e	right
R. Cattell	psychology	h	right
D. Ingle	physiology	h	right
<i>anti-Jensen:</i>			
J. Hunt	psychology	e	reformer
M. Deutsch	psychology	e	ref
E. Gordon	education	e	ref
T. Dobzhansky	genetics	h/e	ref
W. Bodmer	population genetics	h/e	ref ?
A. Montagu	anthropology	e	ref
C.L. Brace	anthropology	e	?
F. Livingstone	anthropology	e	?
J. Hirsch	behaviour genetics	h/e	ref
S. Rose	neurobiology	e	radical
R. Lewontin	population genetics	h/e	rad
L. Kamin	psychology	e	rad
B. Simon	education	e	rad
C. Jencks	sociology	h/e	rad
A. Halsey	sociology	e	rad/ref ?

* referred to in this paper

** h = hereditarian, e = environmentalist, h/e = equivocal (often because genetic differences are seen as plausible but unproven and sometimes unlikely as well).

Most of the major environmentalists are associated with political positions which lie, to varying extents, left of (the American) centre (see Table 1). These range from the socialists (e.g. Lewontin, Rose, Leon Kamin, Brian Simon and Christopher Jencks) to those favouring 'progressive' social reform, a broad category in which I would include

the Society for the Psychological Study of Social Issues (SPSSI), Hunt, Deutsch, Hirsch and Gordon. The hereditarians, as Pastore also found, have been far less forthright about their political commitments, but it seems clear that hereditarians' politics tend to be right of centre. Eysenck's recently expressed reservations about socialism are reasonably evident.³² Cattell's political preferences are presented most forcefully in his recent proposal for the ideal state.³³ That Jensen's intentions in 1969 were at least partially extra-scientific can be inferred from the monograph's opening sentence: 'Compensatory education has been tried, and it apparently has failed'.³⁴ At that time there was abundant evidence for compensatory education having foundered on grounds of mismanagement, rather than on the ineducability of its target children. Even if the latter explanation were correct, however, Jensen's hereditary arguments were quite strong enough to stand on their own without invoking compensatory education's failure, which was at best dubious (and at worst worthless) supporting evidence.³⁵

A social-structural theme which runs consistently through the hereditary literature (but which is criticized by several environmentalists³⁶) is that 'unequal performance' in a society must be unequally rewarded — that is to say 'meritocratically'.³⁷ Since merit is seen to be partly the product of IQ, such a view helps to explain why hereditarians repeatedly emphasize the importance of IQ in the competition for educational and economic resources in modern societies (and thus the importance of individual and group IQ differences). Accordingly hereditarians, more often than environmentalists, have voiced a concern about meeting the growing need for a more intelligent workforce in an increasingly 'high technology' society, and about the dysgenic social trends which may be aggravating this problem.³⁸

Against this 'future-orientation' of the hereditarians, one can contrast the 'past-orientation'³⁹ of environmentalists whose apologetic stance toward white racism and historical injustices to Negroes is not strongly shared by most hereditarians. The latter are characteristically more concerned about inverse discriminatory social practices:⁴⁰

When the dogma that 'races' are equally endowed biologically is accepted as factual, each problem of Negroes is regarded by them as objective evidence for 'racial' discrimination. The judgement that the whites of America are commonly racists may be a grave injustice.⁴¹

and

It's very important to some people, from a political angle apparently, to show . . . that there are injustices in the society that make for these educational inequalities *and as long as they go on claiming that, then someone has to find out whether that's really true because it would be important to know.* And what are these injustices that create such differences. . . ?⁴²

The perceptual, and inevitably political, gulf between the two camps is considerable; environmentalists criticize their opponents for, in effect, excusing racial discrimination while hereditarians reply that the environmentalists have dogmatically refused to consider all possible explanations for the racial achievement gap in the United States.

THE ORIGINS OF STYLE

By now it should be clear that the assumption underlying the hereditarian and environmentalist positions can hardly be insulated from the protagonists' professional and political interests. It remains to be seen how environmentalist and hereditarian styles of thought can be reflections of those group's social situations. The hereditarians are a relatively clear-cut case. Their social philosophy (as staunch defenders of equal opportunity for individuals, of the meritocratic ideal and, more generally, of the existing social order) suggests a parallel with nineteenth-century liberalism with which, of course, the 'natural-law' style of thought is historically associated. At present it is no doubt a bit reckless to lump all contemporary hereditarians into a single social category labelled 'bourgeois', with a unitary world-view, since data on protagonists' social situations are as yet so elusive. Nevertheless for heuristic purposes it is important not to be coy: I suggest therefore that contemporary hereditarianism is an expression at the level of scientific theory of its proponents' classic liberal world-view.⁴³ Obviously, further research can be expected to refine (or replace) this hypothesis.⁴⁴

The environmentalists are a more difficult and interesting case, partly because of their heterogeneity. Clearly their 'conservative' style of thought is not the intellectual expression of a threatened land-owning social class, nor is it (in contrast to the historical situation which Mannheim studied) associated with political conservatism. How, then, could one characterize the environmentalists' social situation so as to account for their style of thought? A partial, though

not very satisfying, explanation is to be found in Mannheim's essay on 'Conservative Thought'; Mannheim argues that 'proletarian-socialist thought' also bears some of the hallmarks of the conservative style, owing to socialists' and nineteenth-century conservatives' shared opposition to bourgeois capitalism and its world-view.⁴⁵ But an explanation is needed which is broad enough to account for the style of thought of *all* environmentalists, socialists as well as moderate reformers.

Another possibility which deserves investigation is that the holistic feature, at least, of environmentalist thought is less the product of environmentalists' contemporary social situation, than of historical circumstances. 'Holism' would then have been more-or-less 'inherited' by contemporary critics of Jensen and his supporters. There is, in fact, some data from earlier phases of the nature-nurture debate which are suggestive in this regard. For example, hereditarians who were involved in pre-1960 race-IQ debates in the United States tended to come from relatively well-established middle-class families which would presumably have been more thoroughly assimilated into the dominant White-Anglo-Saxon-Protestant culture. In contrast, environmentalists tended to have been upwardly mobile (into the middle class) from families which had arrived more recently in America, and whose status was presumably more culturally marginal.¹⁶ Furthermore, Haller has suggested that the growth of environmentalism in American universities in the 1920s and 1930s was paralleled by a shift in the ethnic background of university staff and students, whose predominantly Anglo-Saxon (and Northern European) ranks began to be 'diluted' at this time by academics from Jewish and other recent immigrant groups.⁴⁷ The academics of immigrant and/or culturally-marginal background might have been more likely to endorse the 'melting-pot' ideology of American society between the world wars, an ideology whose central theme was the integration of all ethnic groups into a unified society. This tendency for early American environmentalist thought to acquire a holistic flavour would probably have been strengthened by various atomistic and reductionist features of its hereditarian 'enemy'; the links between hereditarianism, psychometrics and the eugenics movement were forged very early this century in the United States,⁴⁸

In attempting to develop a general explanation of environmentalists' style of thought in terms of their contemporary social situation, however, it may be useful to look at the genesis of a similar style in another time and place. Several studies of Weimar Germany have referred to

a central theme which pervades the political, artistic and intellectual culture of this period: a 'hunger for wholeness'.⁴⁹ The search for a solution to 'the cultural crisis' through 'synthesis', 'cultural renewal', integration, unification, and so on, can be identified in many developments during the Weimar period in pedagogy, philosophy, psychology, biology, political theory, sociology and the arts. The proponents of this revival regarded 'mechanistic', 'atomistic', 'materialistic' positivism as the arch enemy, and it has been argued that even the development of quantum mechanics in Germany at this time was strongly facilitated by its 'acausal' and 'anti-positivist' public image.⁵⁰

An explanation for the dominance of this central theme has been sought in the shifting social location of the German 'mandarinate' (academics and higher civil servants) during this period.⁵¹ As influential servants of the state throughout most of the nineteenth century, these 'culture-bearers' enjoyed singularly high social status and political privilege in German society. Germany's extremely rapid industrialization late in that century, however, produced both social dislocation and a growing bourgeoisie which began to erode the mandarins' domination. Responding to the subsequent shock of World War I, the abortive 1918 revolution, and the replacement of the monarchy by a social democratic government, the mandarins struggled to retain influence through the ideological realm. Their intellectual productions reflected their search for cultural and political wholeness in the face of an increasingly fragmented society. In the rebirth of Idealist philosophy and loosely 'romanticist' intellectual traditions they saw an antidote to the analytical, utilitarian, disintegrative strains of modernization and democratization.

It is striking how many of the stylistic and substantive differences between environmentalist thought and hereditarian thought focus on 'wholeness', and on the relationship between the group and the individual.⁵² In each instance the environmentalist position displays a marked concern for (the integrity of) groups, rather than for individuals. One thinks of environmentalists' condemnation of racial discrimination and reductionism, plus their support for Affirmative Action and compensatory education, and their failure to express unease over the growth of ethnic-consciousness. Furthermore, their tendency to discount the likelihood of differential selection having produced the black-white IQ differences,⁵³ plus their ameliorist explanation of the race-IQ gap itself, both suggest a concern for emphasizing the unity of the human species and/or multi-racial

societies. Hereditarians have emphasized individual and group differences, while environmentalists have tended to emphasize individual and group similarities.

If this holistic stress is, as I suggest, a central theme in the race-IQ controversy, one might expect to find it reflected also in other areas of scientific discourse in which the protagonists studied here have been involved. I have not yet systematically explored this possibility; nonetheless it is interesting that four of the scientists who have expressed themselves on the race-IQ issue have also been heavily involved in another controversy – the debate in physical anthropology over whether or not ‘races’ can be said to exist. In his analysis of this debate, Lieberman⁵⁴ identified three positions: the view that (1) human races are real and genetically unequal; (2) races are real but are merely genetically distinct and cannot be ranked (the position taken by, among others, Dobzhansky); and (3) race is a biologically indefensible fiction and should be replaced by more appropriate analytical categories such as ‘cline’ and ‘ethnic group’. Lieberman found that the last position (like the second) is taken by scientists of ‘egalitarian’ persuasion, including Ashley Montagu, C. Loring Brace and Frank Livingstone. Significantly, each of these four scientists has taken an environmentalist stance on the race-IQ issue.⁵⁵ Thus their views in both debates are structurally equivalent: in both cases the unity of the species is stressed by scientists of ‘egalitarian’ persuasion.⁵⁶

When one turns to the environmentalists’ political rhetoric, especially that related to compensatory education, the stress on wholeness and unification of the group is again much in evidence.⁵⁷ In *The Challenge of Incompetence and Poverty*, Hunt refers to the need for compensatory education in order that the culturally deprived shall not ‘lose their stake in the mainstream of American culture’,⁵⁸ and there are repeated references to the importance of bringing the children of the persistently poor ‘back into the mainstream’ of American society.⁵⁹ In *Compensatory Education for the Disadvantaged*, Gordon echoes Hunt:

A social revolution is in progress, led by the Negroes, other poverty-stricken people, and their allies – a revolution in which these dispossessed members of our affluent society are demanding total and meaningful integration into the main stream. . . .⁶⁰

It is not only contemporary society that has failed. There has never been a time in human history when certain groups of people were not cut off

from the educational mainstream.⁶¹

British environmentalists have displayed a similar concern:

The importance – and the social danger – of research like Jensen's . . . arises – as does the importance of 'Powellism' in British politics – from its appeal to more primitive aspects of human involvement: Us and Them, Black and White, Labour and Conservative, Celtic and Rangers. It plays on the human impulses of loyalty and snobbery; our need to think well of ourselves and poorly of our neighbours.⁶²

Gordon's reference to 'integration' is a useful reminder of the historical context of this most recent phase of race-IQ controversy. It is important to recall that the early 1960s had seen the emergence of an American civil rights movement which drew attention to the scale of racial discrimination, and which attracted the support of many 'white liberal' academics. By the mid-1960s, this movement had raised blacks' expectations but failed to bring about any substantial improvements in ghetto life. Bloody race riots soon burst forth in several cities, and the emerging black nationalist and separatist movements largely rejected white sympathizers' offers of collaboration.⁶³ In the face of such a direct threat to the integrity of the social fabric, progressive middle-class social reformers who had been working for the integration of blacks into white American society were understandably upset.⁶⁴ An organization such as SPSSI has represented this integrationist concern, and has supported research into a variety of divisive social problems. It is my impression that a substantial proportion of SPSSI's activities has been devoted to the reduction of conflict in social life, a role quite consistent with the environmentalist concern with wholeness.⁶⁵

Dislocations in society caused by the unrest of disadvantaged minorities are less useful for illuminating the race-IQ debate in Britain. But an arena of political conflict which does seem relevant in understanding the British scene is that of educational policy. The progressives and traditionalists in educational debate (like their respective environmentalist and hereditarian counterparts in the race-IQ controversy) are once again arguing about respect for groups versus respect for individuals. I have already presented evidence of (especially American) hereditarians' opposition to anti-meritocratic developments in education. British hereditarians like H.J. Eysenck and Sir Cyril Burt⁶⁶ have contributed to various of the 'Black Papers' on education, expressing their disapproval of the abolition of 'selection' and

'streaming' – two institutional arrangements which they regard as necessitated by individual differences in interests and ability. Fellow traditionalists such as Rhodes Boyson have favoured a 'voucher system' which would give parents the individual freedom to choose a school and curriculum for their child unhindered by state interference. This is seen as restoring a healthy competition between schools which will breed excellence.⁶⁷

This clash of individualism and 'holism' is also evident in the *Black Paper 1975*, for example, where it is repeatedly expressed in terms of the 'boundary' metaphor. The traditionalists' critique of progressive educational policy stresses the importance of boundary maintenance in various forms: between bright and dull pupils (e.g. via examinations and selection), between teacher and pupil (via exercise of authority and discipline), and between traditional 'high' and contemporary 'pop' culture and values. Similarly G.H. Bantock, for example, attacks 'homogenization', 'mediocritization', and the 'haphazardness' and 'incoherence' of interdisciplinary curricula which fail to respect subject boundaries.⁶⁸ The progressives, on the other hand, support the comprehensive school as a way of creating 'a common culture' and avoiding 'a fragmented adult society of groups who find it difficult to communicate with one another'.⁶⁹ Black Paperite Maurice Freedman, similarly, sees the 'egalitarian position' as trying to

. . . [heal] the grievous wounds inflicted on the community by the sharp edges of the divisions that separate off man from man . . . a division of labour ruins fraternity. . . .⁷⁰

Bantock replies that 'education, *by its very nature, is socially divisive*'.⁷¹ The traditionalists decry what they see as the gradual 'destructuring' of education in particular and culture in general:

The schools currently reflect an . . . impoverishment as a result of the impact of progressivism – which is, after all, only the pedagogic manifestation of a general cultural debilitation. The concern for . . . the collectivity in education [is] merely [a] particular instance of a general movement towards [homogenization] which constitute[s] the present threat to the future of European culture in a mass age.⁷²

The traditionalists' concern with the decay of boundaries, structure and order in the educational sphere,⁷³ I suggest, neatly reflects their increasingly threatened social situation. Since World War II, the formerly secure middle-class distinctions and privileges in Britain have been eroded through quasi-socialist political reform. In striking back

at the collectivist ideal of their political opponents, the traditionalists have invoked hereditarianism in order to legitimate their case for individualism and hierarchical educational policy. Given this basic intention, hereditarian thought evinces many features of Mannheim's 'natural-law' style. Conversely, the progressives' political aim is to dismantle those very boundaries (social and educational) which traditionalists are busy defending. The progressives' concern for a unified society (a community unfragmented by distinctions of status and power) is the basic intention behind modern environmentalist thought and accounts for its holist or 'conservative' style. In each case the scientific theory enlisted by an interest group in order to promote its aims has acquired a style which mirrors that group's social intentions.

DISCUSSION

The battle lines in scientific controversy are often hard to discern. A priori, one might expect that when a controversy is perceived as having social significance – and, consequently, begins to be debated outside the usual specialized internal channels (e.g. technical journals and conferences) – each side of the controversy will attract support of a very heterogeneous kind. Consequently each side's objections to their opponents' position(s) will often be linked together by a relatively slender thread. Whether or not such heterogeneity is the rule in socially resonant scientific controversy remains to be seen; it certainly applies to the race-IQ controversy. As a result, any attempt at explaining scientists' adherence to one view rather than another must necessarily be many-faceted. Professional socialization proves more useful in explaining some participants' (e.g. Eysenck, Cattell, Ingle, Hunt, Deutsch and Gordon) advocacy than others' (e.g. Jensen, Herrnstein, Lewontin, Rose, Jencks, Bodmer and Hirsch). 'External' factors facilitate our understanding of nearly all of the participants' advocacy.⁷⁴

Similarly, to apply a term like 'school' to hereditarians or environmentalists is misleading, inasmuch as this term too strongly implies coherence within either position. 'School' might better be reserved for research traditions which focus on a small number of laboratories whose members interact frequently, or who may have received their professional training at the same institution – possibly with the same doctoral advisor. By contrast, the hereditarian and

environmentalist categories discussed here constitute diffuse aggregations of scientists from various disciplines (or from distinct research traditions within a discipline) with a wide variety of research interests. They find themselves in the same boat largely as a result of their shared antagonism towards the opposition (though that antagonism itself has multiple origins). The hereditarians, of course, are somewhat further along the continuum between (what might be called) an 'aggregate' and a 'school' than are the environmentalists, in part because Eysenck, Cattell and Jensen have all been either students of, or greatly influenced by the work of, Sir Cyril Burt. Nevertheless, to my knowledge neither Ingle nor Herrnstein share in this tradition, and Jensen, as we saw in Part I, was trained in a psychological tradition quite distinct from 'the Burt school'.

In any event, it is the environmentalist category which is particularly 'messy'. Accordingly, an important task for the future is to tidy up this relatively crude category by trying to identify more-or-less distinct sub-groups within it. In doing this, one might be able to tighten up the links which I have so far drawn between the 'conservative' style, professional affiliation, political outlook and precise position on the race-IQ issue. Paying closer attention to a group's 'fine-structure' — whether social or cognitive — is simply one way to alleviate problems of imputation. An obvious way to begin is to consider the diversity of political opinions among environmentalists. As I suggested above, it seems possible to divide this category into the mildly left 'reformers' (Deutsch, Hunt, Hirsch, Gordon, Dobzhansky and Montagu) and the more markedly left 'radicals' (Rose, Lewontin, Simon, Kamin and Jencks). Yet both sub-groups display elements of a 'conservative' style — why?

In *Culture and Society*, Raymond Williams shows how nineteenth-century British conservatives and socialists alike developed organic, 'holist' conceptions of the ideal community, a feature which has persisted since.⁷⁵ In modern industrial societies, however, he notes two major variations on the theme of community:

[Each one] opposed to bourgeois liberalism, but equally, in practice, opposed to each other. These are the idea of service, and the idea of solidarity. These have in the main been developed by the middle-class and the working-class respectively. From Coleridge to Tawney the idea of function, and thence of service to the community, has been most valuably stressed, in opposition to the individualist claim.⁷⁶

He characterizes the middle-class purveyors of the 'service' conception

of community in these words:

Of course, having worked for improvement in the conditions of working people, in the spirit of service, those who are ruled by the idea of service are genuinely dismayed when the workers do not fully respond: when, as it is put, they don't play the game, are lacking in team-spirit, neglect the national interest. This has been a crisis of conscience for many middle-class democrats and socialists.⁷⁷

This distinction offers, I think, a promising tool for pursuing a more fine-grained analysis of the environmentalist category in terms of 'reformers' and 'radicals'; here are two holistic societal conceptions which spring from quite different roots. With such different roots, one might expect the holistic intention behind environmentalist thought to 'do a different job' for the reformers than it does for the radicals.

It is quite evident that problems of order deriving from the race-IQ controversy have escaped the attention of neither hereditarians nor (most) environmentalists. For hereditarians, environmentalism is not merely wrong; it is also dangerous because it undermines certain possibilities for social control:

[The policy of egalitarian environmentalism] raises hopes which may be impossible to fulfill, and disappointment may produce (and has already produced) a feeling among negroes that all whites are the enemy . . . [racial hatred] can be fanned just as much by raising and then dashing justified hopes as by outright repression.⁷⁸

Hereditarians' preoccupation with problems of order during this century (e.g. their involvement with the eugenics movement and psychometrics) are increasingly well documented.⁷⁹ More interestingly, however, the reformers' language seems to bespeak a similar concern for social control. The metaphor 'to lose one's stake' says a great deal — as does 'the social danger of research like Jensen's . . . arises . . . from its appeal to more primitive aspects of human involvement. . . .'⁸⁰ The reformers appear to be worried that racial minorities will become so alienated from 'mainstream' society that they will opt out altogether. For the reformers the danger of hereditarianism is that it will foster societal fragmentation — thus their unease over the American black nationalist and separatist movements of the late 1960s.

The radicals, by contrast, are evidently unconcerned about social control, even though they seem to share with reformers a 'conservative' style of thought. This is only to be expected, of course, if the reformers'

'conservative' style reflects the basically middle-class ideal of 'service', while the radicals' reflects the working-class ideal of 'solidarity'. Both reformer and radical wish to render the social fabric 'whole', but while the reformer attempts this through 'stitching existing rips back together', the radical attempts to 'weave new cloth from scratch'.

The difference between hereditarians and reformers, therefore, is to be found perhaps less in the conventional political spectrum (they both more-or-less defend the status-quo and display a concern for order) than in their *conceptions* of order.⁸¹ The hereditarians' conception is mechanical-individualist while the reformers' is organic-functional. This perspective suggests that although 'style of thought' is a manifestation of the thinker's conception of social order, similar styles can sometimes derive from quite different conceptions. Detailed biographical research in future should help to explain how hereditarians and reformers acquired distinct conceptions of order. More fine-grained analysis of reformers' and radicals' thought should also help to sort out whether the reformers' and radicals' presumably distinct social situations have generated distinguishable stylistic variants on the 'conservative' theme.

Lastly, we must consider the relative influence of professional and 'external' factors on scientists' positions in the race-IQ controversy. Professional socialization/allegiance by itself does not emerge from this study as a very useful factor in explaining scientists' commitment on the race-IQ issue. As I indicated in Part I, professional allegiance is a useful predictor of a scientist's 'sympathies' or 'inclinations' in this debate, but it cannot explain why some scientists (the most eminent of which I have studied here) have chosen to commit themselves to the hereditarian or environmentalist position. In this sense my hereditarian and environmentalist samples are a highly selected (by themselves and by me) and unrepresentative fraction of the membership of existing 'hard' and 'soft' research traditions.⁸²

Commitment can only be understood in terms of the scientist's world-view, and his perceptions of the social impact of various positions in the debate. The style in which commitment is expressed will reflect that world-view. Styles of thought may also, as it happens, correspond with the scientist's professional training: the psychologists in my hereditarian and environmentalist categories proved to fall into 'hard' and 'soft' sub-disciplines, respectively. This correspondence is, however, not very significant since, as we have seen, it is quite probable that a process of self-selection has tended to 'push' individuals of bourgeois-liberal persuasion into 'hard' research traditions, and those

of reformist or radical persuasion into 'soft' ones. Further research is necessary to determine whether, say, a reformer or radical who happened to be trained in a 'hard' research tradition (e.g. genetics or bio-chemistry) might — if he could not switch professional allegiances — simply show fewer signs of a 'conservative' style than if he had been trained in a 'soft' tradition. Training could be seen as teaching such a scientist the 'hard' language in which his colleagues normally converse, and such 'linguistic' facility might well colour his attempts to speak in a 'soft' idiom. In understanding the construction of scientific knowledge, a major sociological problem remains: under what conditions is a scientist's specialist (or 'professional') role more (less) important than his various lay roles in channelling his cognition?

NOTES

The research for this paper was done primarily at the Science Studies Unit, University of Edinburgh, whose staff and students provided valued intellectual stimulus and encouragement. Research costs were kindly met by the Woodhull Endowment and the History and Social Studies of Science programme at Sussex University. I would like to thank Barry Barnes, John Law, Peter Halfpenny and my colleagues in Manchester for helpful criticism of this paper in draft form. I am also grateful to Professors Raymond B. Cattell, Martin Deutsch, H.J. Eysenck, Richard J. Herrnstein, Jerry Hirsch, J. McVicker Hunt and Arthur R. Jensen for having shown an interest in this research and given generously of their time.

1. 'The Race-Intelligence Controversy: A Sociological Approach; I — Professional Factors', *Social Studies of Science*, Vol. 6 (1976), 369-94. (Referred to henceforth as 'Part I'.)

2. Note that the particular group of environmentalists which I have studied in this paper, as in Part I, is heavily over-represented by biologists. (See also Part I, 385, note 3.)

3. Anticipating the charge that my analysis 'gives ammunition to the racists/egalitarian obscurantists', I should add that I hope my symmetrical approach will nullify any effect that this analysis might otherwise have had on the race-IQ debate itself. Nevertheless a desirable consequence of symmetrical analyses, in my view, is that they encourage healthy scepticism in the face of arguments

of the 'nature constrains' variety, arguments to which subordinate social groups are particularly vulnerable.

4. N. Pastore, *The Nature-Nurture Controversy* (New York: King's Crown Press, 1949).

5. This possibility has been voiced by Pastore, *ibid.*, 179; by Eysenck in *Race, Intelligence and Education* (referred to henceforth as RI & E) (London: Temple Smith, 1971), 9; in *The Inequality of Man* (London: Temple Smith, 1973), 26; and by Herrnstein (personal communication, 7 October 1975).

6. We know, for example, of eminent scientists in the earlier phases of the race-IQ controversy who thoroughly accepted the plausibility (or even likelihood) of a hereditarian hypothesis without feeling it necessary to adopt conservative political views (e.g. J.B. Haldane's *Heredity and Politics* [London: George Allen and Unwin, 1938], 131, 148-49, or H.J. Muller in *The Race Concept: Results of an Inquiry* [Paris: UNESCO, 1952], 52-54). Conversely, Pastore judged J.B. Watson to be a political conservative despite his environmentalist views. Just how historically specific the twentieth-century association between nature-nurture stance and political position is, can be seen in the work of Charles Rosenberg ('Science and American Social Thought', in D. Van Tassel and M.G. Hall (eds), *Science and Society in the United States* [New York: Dorsey, 1966], 137-84; see also 'The Bitter Fruit; Heredity, Disease, and Social Thought in 19th-Century America', *Perspectives in American History*, Vol.8 [1974], 189-235). Rosenberg shows that in America in the latter part of the nineteenth century an environmentalist position was associated with movements not for, but against, social reform. In each case the political connotations or utility of a scientific belief cannot be understood apart from the social context in which it exists.

In general, two groups of scientists in this debate have insisted on the (formal) dissociation of policy implications from scientific findings: most of the hereditarians and the more genetically sophisticated of the environmentalists (e.g. R.C. Lewontin, C. Jencks). It is reasonable to suppose that the hereditarians have disavowed certain policy derivations from their position in an attempt to avoid being labelled as 'racists', 'neo-Nazis', etc., while the environmentalists in question (like Muller and Haldane before them) have done so in order to 'harmonize' a left-wing political position with an acceptance of individual and group genetic differences. (Far from decrying such strategies, I am personally sympathetic to the latter of these, and would regard both positions as examples of scientists' normal attempts to cope with problems arising out of the social context in which their work is performed and interpreted.)

7. This is discussed in Part I, and later in the present paper.

8. It is of interest to note that most of the hereditarians studied here have supported genetic hypotheses over a broad range of socio-politically resonant issues. Consider the title of a paper by Ingle: 'Genetic Bases of Individuality and Social Problems', *Zygon*, Vol.6 (1971), 182-91. Similarly, the unemployment of a 'Lumpenproletariat' has been attributed in part to genetically-determined low IQ by Cattell, *Abilities: Their Structure, Growth and Action* (Boston: Houghton-Mifflin, 1972), 469; by Herrnstein in *IQ in The Meritocracy* (London: Allen Lane, 1973), 142 and 145; and by Eysenck in *RI & E*, 149-50. Eysenck's studies of criminality, neuroticism, job dissatisfaction (*Inequality of Man*, *op.cit.*

note 5, 265-67) and most recently 'social attitudes' (L.J. Eaves and H.J. Eysenck, 'Genetics and the Development of Social Attitudes', *Nature*, Vol. 249 [17 May 1974], 288-89) have focussed primarily on purported genetic determinants rather than on structural societal ones:

Most of our problems nowadays . . . are psychological in origin – war, strikes and overpopulation are all caused by human beings, and failure to control the impulses that lead to these disastrous consequences is largely due to lack of scientific knowledge in the field of psychology. [Eysenck, 'Reason with Compassion', in Paul Kurtz (ed.), *The Humanist Alternative* (London: Prometheus Books, 1973), 90.]

Research orientations of this kind, largely shared by Cattell, are indicative of the global character of most of this group's hereditarianism. It is not easy to imagine the hereditarians' political conservatism only gradually emerging after a painstaking study of the genetic determination of many socially important phenomena. It is far easier to see how a scientist's political convictions may influence the hypotheses he sets out to test and the (even tentative) conclusions he draws from ambiguous data.

9. Furthermore these associated issues are, of course, logically unrelated to each other.

10. See for example, Eysenck, letter to the *New Statesman* (27 April 1973), 616, and RI & E, 59; Herrnstein, 'IQ', *Atlantic Monthly* (September 1971), 45; and Jensen, *Educational Differences* (London: Methuen, 1973), 390-91.

11. See, for example, C. Jencks et al., *Inequality: A Reassessment of the Effects of Family and Schooling in America* (New York: Basic Books, 1972), Chapter 3; and S. Rose, J. Hambley and J. Haygood, 'Science, Racism and Ideology', *Socialist Register* (1973), 235-60.

12. Such an intuitively plausible form of explanation is not uncommonly used by historians of science. See for example M.J.S. Rudwick, in the *British Journal of the History of Science*, Vol. 5 (1971), 408-09, and R.M. Young, 'Malthus and the Evolutionists', *Past and Present*, Vol. 43 (1969), 137.

13. Mary Douglas, 'Environments at Risk', *Times Literary Supplement* (30 October 1970).

14. Evidence for each side's political perceptions of its opponents can be gathered from its labelling of them. Several hereditarians commonly refer to their opposition as 'the egalitarians' (or an equivalent) while a number of environmentalists have been similarly free with the term 'racist'.

15. Whether these implications are seen by the scientists as 'necessary' deductions from a scientific position, or merely likely outcomes, is immaterial for my purposes.

16. M. Deutsch and C. Deutsch, in *New York University Educational Quarterly* (Winter 1974), 4 and 5, respectively. See also M. Deutsch, 'Happenings on the Way Back From The Forum', in *Science, Heritability and IQ*, *Harvard Educational Review Reprint Series*, No. 4 (1969), 81.

17. See also J. McV. Hunt, *The Challenge of Incompetence and Poverty* (Urbana, Ill.: University of Illinois Press, 1969), 112 and 115; Vera John, article in C. L. Brace, G. R. Gamble, and J. T. Bond (eds), *Race and Intelligence*

(Washington, DC: American Anthropological Association, 1971), 38.

18. (This example is, of course, also relevant to the boundary dispute hypothesis discussed in Part I.) The potency of this association still today among critics of Jensen was made clear a few sentences later when Hirsch added: 'Now Jensen, of course, ends up pushing me closer and closer to Julian's position.' (Interview, 24 June 1974.)

19. See also John, *op.cit.* note 17, 39-40; Deutsch, 'Happenings . . .', *op.cit.* note 16, 65; Steven Rose, article in K. Richardson, D. Spears, M. Richards (eds), *Race, Culture and Intelligence* (Harmondsworth, Middx.: Penguin, 1972), 143; and Hunt, *Challenge of Incompetence and Poverty*, *op.cit.* note 17, 112, 191 and 199. In response to a manifesto charging suppression of hereditarian ideas ('Behavior and Heredity', *American Psychologist*, Vol. 27 [1972], 660-61), the Society for the Psychological Study of Social Issues (SPSSI) formed a commission to examine the signatories' claims on this point and named it – revealingly – the 'SPSSI Commission on the Renewed Assault on Equality'.

20. R. Lewontin, 'Race and Intelligence', *Bulletin of the Atomic Scientists*, Vol. 26, No. 3 (1970), 2 & 8.

21. E. Gordon, article in R. Cancro (ed.), *Intelligence: Genetic and Environmental Influences* (New York: Grune and Stratton, 1971), 245.

22. (Elmsford, NY: Pergamon, 1972).

23. E.g. *Beyondism*, *ibid.*, 377.

24. He is particularly critical of left-wing educational policies which have, in his view, ignored the biological facts. See for example, his 'Humanism and the Future', in A.J. Ayer (ed.), *The Humanist Outlook* (London: Pemberton Books, 1968), 273-75; 'The Rise of the Mediocracy', in C.B. Cox and A.E. Dyson (eds), *Black Paper II: The Crisis in Education* (London: Critical Quarterly Society Publications, 1970); 'The Dangers of the New Zealots', *Encounter* (December 1973), 81; *The Inequality of Man*, *op.cit.* note 5, *passim*; and 'Educational Consequences of Human Inequality', in C.B. Cox and R. Boyson (eds), *Black Paper 1975* (London: Dent, 1975), 39-41.

25. *The Inequality of Man*, *op.cit.* note 5, 270. See also Herrnstein's IQ in the Meritocracy, *op.cit.* note 8, 180, for a very similar message.

26. RI & E, 12.

27. *The Inequality of Man*, *op.cit.* note 5, 13 and 14. Similarly Herrnstein, in a letter to *Commentary* (July 1973), 14, writes: '[The heritability of IQ implies] that the promises of a classless society will, in practice, run into trouble – as they clearly have'. And in *IQ in the Meritocracy*, *op.cit.* note 8, 179, he sees his argument as 'lethal to all forms of doctrinaire egalitarianism, both Marxist and American liberal-academic'.

28. Interview, 23.8.74.

29. He is said to have been director of 'the first scientific and concerted attempt by any public school system to confront the problem of educating poor pre-school children'. (*Life* [3 April 1964], 78B.)

30. E.W. Gordon and D. Wilkerson (eds), *Compensatory Education for the Disadvantaged* (Princeton, NJ: College Entrance Examination Board, 1966).

31. The environmentalists are understandably sensitive on this point because of the Nixon Administration's cutbacks in spending for research in this area since 1969. One environmentalist told me that his research programme had been severely hit by these cutbacks; his experience is not unique (cf. Hunt,

'Reflections on a Decade of Early Education', in D.A. Wilkerson [ed.], *Educating the Children of the Poor: 1975-1985* [Westport, Conn.: Medias Associates, 1975], *passim*).

32. See *The Inequality of Man*, *op.cit.* note 5, 20-21. In 'Humanism and the Future', *op.cit.* note 24, as elsewhere, in order to illustrate social policies based on inadequate scientific findings, he cites British Labour Party policies. In 'The Dangers of the New Zealots', *op.cit.* note 24, he criticizes 'left-wing fascism'.

33. In *Beyondism*, *op.cit.* note 22, he recommends using birth control methods to adjust individuals' number of offspring to the level of salary they can command in a free market economy. In this way the size of various sectors of the labour force should adjust to the demands of the economy. Measures such as progressive taxation, health insurance, and welfare measures in general are seen to have dysgenic consequences and are therefore undesirable. See also his *Abilities*, *op.cit.* note 8, Chapter 14.

34. 'How Much Can We Boost IQ and Scholastic Achievement?', *Harvard Educational Review*, Vol. 39 (1969), 1.

35. Less evidence of Ingle's political views is available, but in 'Racial Differences and the Future', reprinted in J. Baker and G. Allen (eds), *Hypothesis, Prediction and Implication in Biology* (Reading, Mass.: Addison-Wesley, 1968), he urges that private enterprise should have a larger role in defining the goals of social reform. In 'Genetic Bases of Individuality and Social Problems', *op.cit.* note 8, 189, he advocates a programme of selective population control (e.g. genetic counselling and birth control education) which 'should function independently of political control'.

36. Though probably tacitly accepted by some environmentalists, this view has never, to my knowledge, been openly defended by them in print.

37. This may be found in Cattell's *Beyondism*, *op.cit.* note 22, *passim*; Eysenck's *Inequality of Man*, *op.cit.* note 5, 221-23; and Herrnstein's IQ in the Meritocracy, *op.cit.* note 8, *passim*. Jensen may also be sympathetic to the meritocratic ideal; see *Educational Differences*, *op.cit.* note 10, 14. In the preface to *Genetics and Education* (London: Methuen, 1971), 56, he suggests that the social sciences are relatively immature because they 'still have not moved beyond personified blame leveled at "society", "the establishment", "Capitalism", or whatever. . . .'

38. The eugenic concerns of Cattell and the physicist William Shockley (who has taken up and popularized an hereditarian view since the mid-1960s) are well known, and those of Jensen and Ingle can be found in Jensen, *op.cit.* note 34, 91-95, and Ingle, *op.cit.* note 8. Herrnstein and Eysenck have expressed little eugenic concern publicly, but in interview it was clear that they regard Jensen's concern with alleged dysgenic trends as justifiable. Eysenck may at one time have been rather more interested in eugenic questions. In 'Some Recent Studies of Intelligence', *Eugenics Review*, Vol. 40 (1948/9), 21-22, he accepted Sir Cyril Burt's and Sir Godfrey Thomson's arguments that a decrease in the national (British) average IQ of 1.5 to 2.0 points per generation was occurring because of differential fertility rates, commenting 'It is doubtful if civilization as we know it could survive such a catastrophe'. Hereditarians' involvement in eugenics movements both in the United States and in Britain earlier this century has been thoroughly documented. See M. Haller, *Eugenics and Hereditarian*

Ideas in American Thought (New Brunswick, NJ: Rutgers University Press, 1963); L. Farrall, *The Origins and Growth of the English Eugenics Movement, 1865-1925* (unpublished PhD thesis, Indiana University, 1970); and Pastore, *op.cit.* note 4, *passim*.

39. See Part I for reference to the 'future' and 'past-orientation' characteristic of 'natural-law' and 'conservative' styles of thought.

40. See for example Jensen, *op.cit.* note 34, 79; and Eysenck, *RI & E*, 149. Even Herrnstein, though an agnostic on the race-IQ issue, voices a similar sentiment in stating his views on compensatory practices and the meritocratic ideal:

The argument that we're trying to make up for some deprivation of the past: there's no doubt that there's been deprivation in the past, but I know of no psychological theory that says that the way you make up for deprivation in the past is to give someone something he hasn't earned. [Interview, 6.6.74]

41. Ingle, in *Midway* (Winter 1970), 115.

42. Emphasis added; Jensen, interview, 23.8.74.

43. The data available on the social origins of the hereditarians studied here are very sketchy but consistent with the thesis advanced. Cattell in his autobiography describes his (English) family of origin as typically Victorian middle-class liberal and adds:

... as far as an Englishman was concerned, ... [1905, the year of his birth, was] just about the year in which the British Empire and its secure and expansive way of life started downhill. The Boer War was a tremor, World War I was an earthquake and after that the prosperous, leisurely, and disciplined way of life with its confident world leadership ended. But even as a child, I got the feeling of its quality enough to mourn, with Galsworthy, over the Forsytes, and to recognise that middle-class Victorian England was in some respects a high point from which civilization was capable of falling away. [In G. Lindzey (ed.), *A History of Psychology in Autobiography* (1975), in press]

Jensen's father owned a modest-sized timber company (interview, 23.8.74), and Eysenck's parents acted on the stage and in silent films in Weimar Berlin (interview in *Die Zeit* [Hamburg, June 1974]). Herrnstein's parents came from merchant and rural landowning families in Hungary before emigrating to the United States, where they experienced downward mobility and attendant poverty during Herrnstein's childhood (personal communication; also Constance Holden, 'R.J. Herrnstein; The Perils of Expounding Meritocracy', *Science*, Vol. 181 [6 July 1973], 36-39). (I have no relevant data for Dwight Ingle, nor for all but one of the environmentalists.)

Eysenck's and Herrnstein's defence of the meritocratic ideal may be attributable to their favourable experience of social mobility. A related hypothesis (suggested to me by Peter Halfpenny, and by Liam Hudson's *Frames of Mind* [London: Methuen, 1968]) which deserves consideration is that psychologists (sociologists, educationists, etc.) with 'hard', positivist orientations within their discipline are more likely to have come from working-class

backgrounds than are those of 'soft' inclination. Impressions of British grammar school and university life suggest that because of differences between middle- and working-class boys' notions of masculinity, command of middle-class social skills, and verbal fluency, bright working-class boys are more likely to prefer science to arts (cf. S. Cotgrove and S. Box, *Science, Industry and Society* [London: George Allen and Unwin, 1970], 58-62).

44. Another hypothesis whose explanatory scope is too narrow to account for all hereditarians' style of thought but which is still of some interest concerns Eysenck. As an adolescent in Weimar Germany (before having to leave in 1934), he joined the 'Old Left' and strongly opposed fascist developments. He writes:

The 'Old Left' had certain characteristics which may be worth recounting. There was a belief in rational argument, in the power of reason, of persuasion; this was directly opposed to the belief of the Right in power, in emotion, and in an irrational group-mind. ['The Dangers . . .', *op.cit.* note 24, 79.]

Of left wing students who have disrupted his lectures, he writes:

Here . . . you get the real whiff of what [has been] called 'Left-Fascism'. This is the hard and true style I recognise so well from the days when I was arguing with, and being shouted down by, brown-and-black shirted Nazi supporters in pre- and post-Hitler Berlin . . . [*ibid.*, 88]

Eysenck thus invites us to interpret his natural-law style of thought at least in part as the product of his early unpleasant experiences with anti-semitism, fascism and the 'Conservative' style of thought which they exploited. It is perhaps not coincidental that Sir Karl Popper, a socialist in Vienna at this time, had to leave Austria in the 1930s under similar circumstances and is also an ardent defender of the traditions of the Enlightenment. See, for example, his 'Emancipation through Knowledge', in Ayer, *op.cit.* note 24.

Both of these cases are usefully illuminated by Fritz K. Ringer's study of German intellectuals between 1890 and 1933: *The Decline of the German Mandarins* (Cambridge, Mass.: Harvard University Press, 1969). Ringer shows that the large majority of this 'mandarinate' was conservative both politically and in their style of thought. Jewish intellectuals were concentrated in the marginal 'modernist' minority whose politics ranged from social democratic to radical leftist and whose style of thought approximated that which Mannheim labels 'natural-law'. For German-speaking intellectuals in this period the dichotomy – organism/idealism/holism versus mechanism/materialism/atomism – was heavily laden with implicit intellectual and political meanings which symbolized the growing split within both the intellectual community and German society in general. See also Herman Lebovics, *Social Conservatism and the Middle Classes in Germany 1914-1933* (Princeton, NJ: Princeton University Press, 1969) and Istran Deak, *Weimar Germany's Left-Wing Intellectuals* (Berkeley, Calif.: University of California Press, 1968).

45. 'Conservative Thought', in his *Essays on Sociology and Social Psychology* (London: Routledge and Kegan Paul, 1953), 90-93, 157n., and 162-64. Raymond Williams has more recently echoed a similar view in *Culture and Society* (Harmondsworth, Middx.: Penguin, 1963), 37-38, 145-46.

46. J. Sherwood and M. Nataupsky, 'Predicting the Conclusions of Negro-White Intelligence Research from Biographical Characteristics of the Investigator', *Journal of Personality and Social Psychology*, Vol. 8 (1967), 53-58.

47. M.J. Haller, 'Social Science and Genetics: A Historical Perspective', in D.C. Glass (ed.), *Genetics* (New York: Rockefeller University Press and Russell Sage Foundation, 1968), 219.

48. Cf. Haller, *op.cit.* note 38; Pastore, *op.cit.* note 4; L. Kamin, *The Science and Politics of IQ* (Potomac, Md.: Wiley and Erlbaum Associates, 1974); and C. Karier, 'Testing for Order and Control in the Corporate Liberal State', *Educational Theory*, Vol. 22, No. 2 (1972), 154-80.

49. The expression is taken from Peter Gay's *Weimar Culture: The Outsider as Insider* (Harmondsworth, Middx.: Penguin, 1974), but the theme also plays a large role in Ringer's *op.cit.* note 44. In a review of several recent books on Weimar Germany, the American historian Carl Schorske provides unexpected support for my claim that environmentalism is couched in the 'conservative' style though politically left. Schorske notes that while in Germany holistic (or 'communitarian') thought was associated with Weimar's right wing and liberal-individualist thought with its left,

How strikingly different is the ideological alignment in America! Here, republican individualism, which the [German] radicals had promoted against the military-industrial complex, serves as the ideology of the nationalistic right. Again in contrast to Germany, communitarianism in America has been assimilated by the left, which is enriching the democratic heritage with participatory forms drawn from the utopian collectivist tradition. The communitarian impulse that under Weimar was most fully identified with nationalism, militarism, and political authoritarianism has in America become a part of the radical opposition to all three. ['Weimar and the Intellectuals: II', *New York Review of Books* (21 May 1970), 22.]

50. P. Forman, 'Weimar Culture, Causality and Quantum Theory, 1918-27', *Historical Studies in the Physical Sciences*, Vol.3 (1971), 1-115.

51. Ringer, *op.cit.* note 44.

52. This should not be surprising in view of the basic intention behind the early nineteenth-century German conservative style and the respective mechanical and organic metaphors upon which natural-law and conservative conceptions of society were constructed. See Mannheim's 'Conservative Thought', *op.cit.* note 45, and his 'The History of The Concept of The State as an Organism', *Essays on Sociology and Social Psychology*, *op.cit.* note 45, 165-82.

Nevertheless, it is probably important not to regard the 'soft' (or 'anti-positivist') and the 'holistic' features of the 'conservative' or contemporary environmentalist styles as necessarily linked. Rather one should treat the linkage as an historically specific configuration which requires explanation. The dissociability of this linkage can be seen in the founding of the Gestalt school of psychology by Wertheimer, Kohler, Kurt Lewin and others who consciously aimed to combat the atomistic and mechanistic psychologies (including behaviourism) of the early twentieth century. They contrasted Gestalt theories of perception with its competitors through the use of such dichotomies as 'dynamic-static' and 'holistic-fragmented'. At the same time, however, Gestalt's

founders saw themselves as 'scientific' psychologists who looked to field theory and topology for their central metaphors.

53. T. Dobzhansky and M.F.A. Montagu, 'Natural Selection and the Mental Capacities of Mankind', *Science*, Vol. 105 (6 June 1947), 587-90; R. Lewontin, 'Further Remarks on Race and the Genetics of Intelligence', *Bulletin of Atomic Scientists*, Vol. 26, No. 5 (1970), 24; and W. Bodmer and L. Cavalli-Sforza, 'Intelligence and Race', *Scientific American* (April 1970), 28.

54. L. Lieberman, 'The Debate Over Race', in J.E. Curtis and J.W. Petras (eds), *The Sociology of Knowledge: A Reader* (London: Duckworth, 1970).

55. For Brace's and Livingstone's views see Brace's preface and their joint article 'On Creeping Jensenism', in Brace, Gamble and Bond (eds), *op.cit.* note 17. Montagu's views are found in his *Statement on Race*, 3rd edn (New York: UNESCO, 1972). Dobzhansky's views are most completely stated in his *Genetic Diversity and Human Equality* (New York: Basic Books, 1973).

56. Interestingly, Dobzhansky's critique of the hereditarian hypothesis is one of the most restrained I have encountered, and is in any case far less trenchant than those of Montagu, Brace or Livingstone. This seems to locate Dobzhansky as a 'fence-sitter' in both debates.

57. See A. Montagu, *op.cit.* note 55, 127-30, and this passage from 135:

The findings of contemporary science . . . are fraught with meaning of the greatest significance for mankind. They give support to all forces that are attempting to weld men closer together, and so to improve the quality and increase the quantity of security for all individuals.

See also Part I, 391, note 50.

58. *Op.cit.* note 17, 144.

59. *Ibid.*, 214, 219, 233. For another environmentalist's similar use of the 'mainstream' metaphor, see P.R. Sanday, 'A Model for the Analysis of Cultural Determinants of Between-Groups Variation in Measured Intelligence', in L.J. Cronbach and P. Drenth (eds), *Mental Tests and Cultural Adaptation* (The Hague: Mouton, 1972), 89-98.

60. *Op.cit.* note 30, 3.

61. *Ibid.*, 4.

62. Liam Hudson, 'Education, Race, IQ, Intelligence', *Cambridge Society for Social Responsibility in Science Bulletin* (18 July 1970). Hudson himself does not fit neatly into the 'environmentalist' category; nevertheless the sentiment he expresses in this quotation is, I think, typical of environmentalist concerns.

63. For example Christopher Lasch, 'Black Power: Cultural Nationalism as Politics', in his *The Agony of the American Left* (Harmondsworth, Middx.: Penguin, 1973); and R. Berman, *America in the Sixties: An Intellectual History* (New York: Free Press, 1968), 98-100.

64. Lasch, *ibid.*, 141.

65. When it was founded in 1936, SPSSI recommended to the American Psychological Association the formation of an official body responsible for, *inter alia*, ' . . . the authoritative interpretation of the attitudes of the socially minded psychologists respecting important group conflicts . . . '[D.K. Miller,

'Social Reform and Organised Psychology', *Journal of Social Issues*, Vol. 28 (1972), 217-31]. The founder and inspirational figure of SPSSI was Kurt Lewin who, as one of the central figures in the growth of the Gestalt school of psychology in Germany in the 1920s, was himself very interested in holistic phenomena and group dynamics. His book, *Resolving Social Conflicts* (New York: Harper, 1948), is a series of essays dealing with the elimination of social conflict between majority and minority groups, within families, between nations, and in industry.

By 1956 SPSSI had published four yearbooks whose titles also bespeak a concern with social integration: *Industrial Conflict* (1940); *Civilian Morale* (1942); *Human Nature and Enduring Peace* (1945); and *Industrial Conflict* (1954). More recently the 1973 SPSSI presidential address opened by urging social scientists to tackle the problems of youthful alienation and disillusionment and to try to restore the confidence that was shattered in recent (US) government crises (SPSSI Newsletter No. 135 [November 1973]).

66. I am applying the term 'hereditarian' loosely to Burt since although he accepted a genetic contribution to social class differences in IQ, he was hardly involved in the race-IQ debate and his position on the latter issue is not known to me.

67. 'The Developing Case for the Educational Voucher', in *Black Paper 1975*, op.cit. note 24, 27-28.

68. 'Progressivism and the Content of Education', in *ibid.*, 14-20.

69. From an article by Dr. Eric Briault in *The Times* (25 July 1974), cited by Bantock, *ibid.*, 17.

70. In C.B. Cox and A.E. Dyson (eds), *Black Paper III*, in *Critical Survey*, Vol. 5, No. 1 (1970), 66.

71. *Black Paper 1975*, op.cit. note 24., 18. This structural concern is voiced by Jacques Barzun in the same volume, 29:

The new freedom was desirable, but the relaxation of manners which went with the loosening of family bonds, and which weakened authority and hierarchy generally, also worked against effective schooling. For if one thing is inherently hierarchical it is the substance of learning.

72. *ibid.*, 20. In a similar vein see *Black Paper III*, op.cit. note 70, especially 8-13.

73. Bernice Martin's very interesting contribution to the *Black Paper 1975* ('The Mining of the Ivory Tower', op.cit. note 24, 52-59) anticipates my analysis nicely: 'For some decades now progressive reforms have been eroding boundaries, categories, roles, rules and rituals in primary and secondary education' (59). Her perspective as an educational traditionalist presumably makes her especially sensitive to this erosion.

74. 'Nearly all' because very little evidence of extra-scientific commitments has so far been found for Bodmer, Brace or Livingstone. The research presented here makes no claim to being an exhaustive collective-biographical study (though that might be a fruitful extension of this work). In addition, it is quite likely that exhaustive data collection will uncover participants whose stances on the race-IQ issue owe relatively little to their social philosophies. This likelihood is of little consequence here. My intention is simply to stress the inadequacy

of purely intellectualist accounts of scientific controversy and, by implication, of scientific change in general.

75. *Op.cit.* note 45.

76. *Ibid.*, 314.

77. *Ibid.*, 316.

78. Eysenck, *RI & E*, 151. In a similar vein see Eysenck, *Inequality of Man*, *op.cit.* note 5, 227 and 270 on the 'dangers' of ignoring genetic differences; Eysenck, 'The Dangers in a New Orthodoxy', *New Humanist* (July 1973), 82-83; Cattell, *Abilities*, *op.cit.* note 8, 507; Ingle, *op.cit.* note 41, 120; and Jensen, *Educability and Group Differences* (London: Methuen, 1973), 21.

Also:

[Environmentalists see group differences as a sign of something sick in society] and they tell these disadvantaged minorities this . . . 'There are sinister forces in the society that are keeping you from [gaining equal representation in desired occupations], having as many graduates from Harvard as some other group'. So this builds up all kinds of tensions and suspicions and, I think, counter-productive social effects; bad for race relations and so on. [A hereditarian in interview.]

79. For example, Donald MacKenzie, 'Eugenics in Britain', *Social Studies of Science*, Vol. 6, Nos. 3/4 (September 1976), 499-532, and C. Karier, *op.cit.* note 48.

80. See quotations referred to in notes 58 to 62.

81. S. Shapin and B. Barnes ('Science, Nature and Control: Interpreting Mechanics' Institutes', elsewhere in this issue of *Social Studies of Science*), in discussing the problems of social control faced by early nineteenth-century British elites, have drawn attention to the differing conceptions of order adhered to by the landed aristocracy and the industrial bourgeoisie (cf. the views of 'Country Gentleman' and Henry Brougham on the likely consequences of educating the artisanate).

82. See Part I, note 70, 393-94.