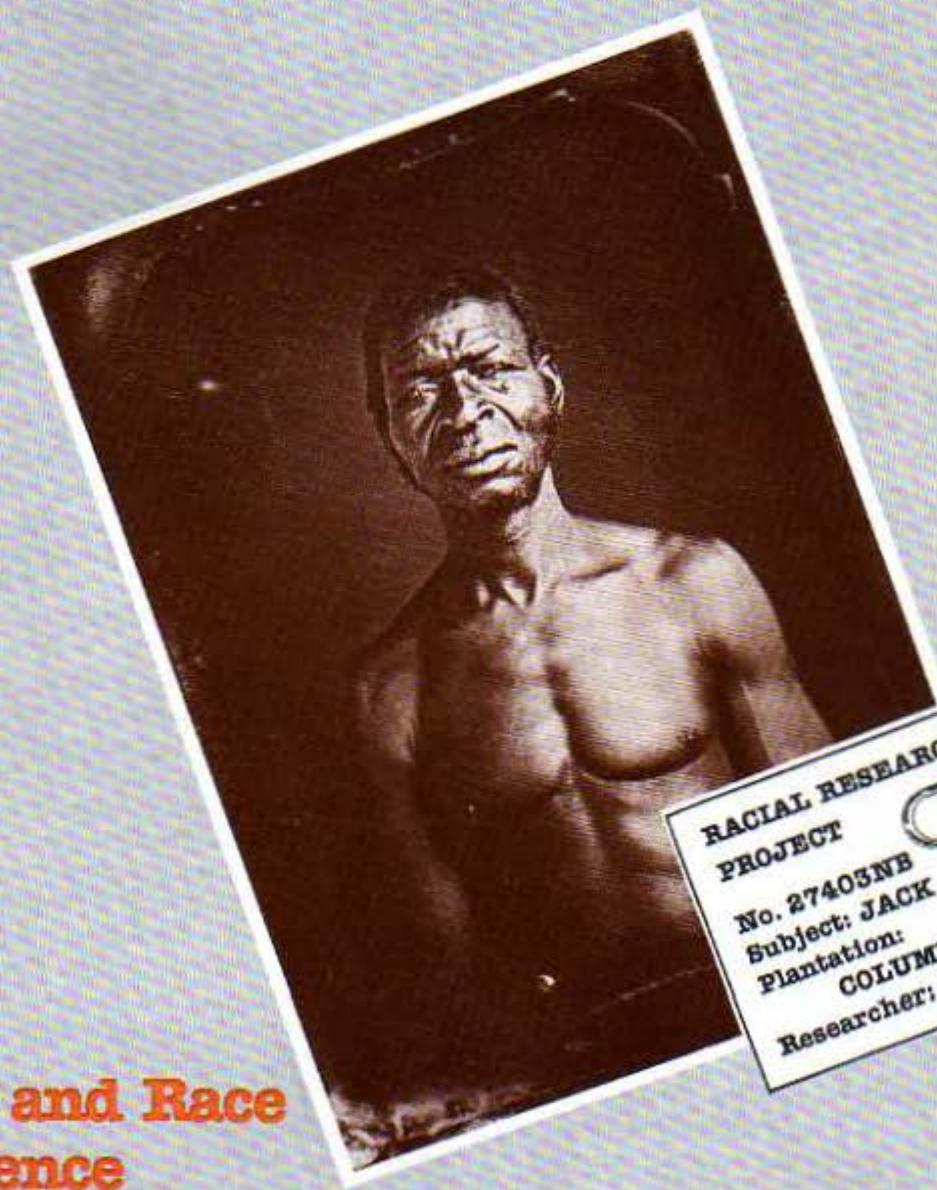


SCIENCE FOR THE PEOPLE

Vol. 14 No. 2

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RACISM IN SCIENCE



RACIAL RESEARCH
PROJECT

No. 27403NB
Subject: JACK
Plantation:
COLUMBIA, S.C.
Researcher: AGASSIZ

Genetics and Race
Nazi Science
History of Racism
Blacks and Psychiatry
Science Education

about this issue

Discrimination on the basis of race is an American way of life. Historically, we have witnessed the genocide of Native Americans, slavery, segregation, KKK lynchings, and the routine, day-to-day economic exploitation and oppression of people of color. Today, this deep-seated racism has found expression in the rise of the New Right, and the policies of the Reagan administration.

Racism is useful to Reagan: racial prejudice can be used to obscure class allegiance. Divide and conquer is an age-old ploy and, when times are tough, people of color are targeted as scapegoats. The New Right has also attacked feminists, welfare recipients, leftists, single-parent families, gay people, non-Christians and others. It's alarming that many who are being hurt by Reaganomics have wrongly put the blame on these groups.

As jobs become harder to find, there is a growing backlash against affirmative action, which is being labelled as "reverse discrimination." Yet people of color still make up a disproportionately large share of domestic help, non-farm laborers, and low-paying service jobs, and a disproportionately small share of the white-collar workforce. In fact, a 1981 report by the US Department of Labor found that, in the professions, the relative proportions of blacks and whites did not change *at all* between 1972 and 1980.

The direction of Reagan's economic strategy for the eighties is spelled out in his 1982 budget, which hits hard at minorities and at women. Among the programs cut are Aid to Families with Dependent Children, or welfare (cut 12 percent in 1982 compared to 1981), fuel assistance for those on low incomes (cut 5 percent), CETA jobs (cut 60 percent), school lunches (cut 31 percent), and new public housing (cut 30 percent). Where his predecessors have paid lip service to the need for federal welfare assistance, while not providing adequate funding in practice, the current President is opposed to the idea *in principle*.

The effect of these massive budget cuts, though, is not "less government spending" because the \$25.4 billion reduction in domestic spending is more than wiped out by a \$30.3 billion increase in military spending. The overall result is a *shift* in government spending, from those who have little to those who have much but want more.

It's no coincidence that money is being funneled into defense. Military expenditure, now eating up close to 60 percent of every federal tax dollar, aids racism in two ways. First, the "American boys" who fight our wars

are *not* white and well-educated; they are predominantly black and uneducated. Since 1972, the unemployment rate for people of color has been twice that of their white counterparts, which leaves the military as one of their few opportunities for paid work. By bitter irony, when the US goes to war, black youths are sent to suffer and die, in defense of a system from which they do not benefit.

Second, military expenditure goes mainly (80 percent) to pay for conventional forces—the troops, tanks and ships ready to intervene throughout the world in the protection of "American interests." These interests are the holdings and potential profits of multinational corporations, which are looting the third world of its natural resources. They demand that such client states as Brazil, Argentina, South Korea, and the Phillipines be kept "safe for capitalism": Uncle Sam only worries about human rights in communist countries.

In this context, it seems important to uncover the history and development of racist ideas, and not least the active role of scientists in disseminating and legitimating them. This issue of *Science for the People* addresses that need.

Two complementary articles reflect on the historical factors which have favored the appearance of overtly racist ideologies.

First, Irving Wainer and Walda Fishman sketch a theory of the role that changing attitudes towards race have played in the development of US capitalism. It would obviously be impossible, within the scope of a single article, to establish convincingly the connections that they suggest, but we feel that their approach is promising and important. In publishing this article, our aim is to encourage further work along these lines.

Robert Proctor looks in more detail at a specific case: the complicity of scientists and politicians in "racial hygiene" programs in Nazi Germany.

The concept of race has been put to political use since its formulation, with poisonous consequences. But is it scientifically well-founded? The answer, according to Richard Lewontin, who presents an analysis of data on genetic differences between geographically scattered groups, is No: race is *not* a useful descriptive category, and has no scientific basis.

Turning to the present, we publish an interview with a black psychiatrist about his own and his patients' experiences of racism; a report from a college which has had some success in designing programs that don't put minority students at a disadvantage; and two reviews of useful books.

We hope that this issue of *Science for the People* is able to bring to the reader what the experience of producing it has given us: a deeper understanding of how racism works, and a renewed resolution to oppose it in all its forms, wherever it may appear.

FEATURES:

Cover: The photograph is a picture of a daguerrotype of Jack, a slave from Guinea who lived on the B.F. Taylor Plantation in Columbia, South Carolina. The daguerrotype was taken by J.T. Zealy for Professor Louis Agassiz in 1850 (for full details see page 8). Copyright President and Fellows of Harvard College 1977. All rights reserved.

Back Cover: Photograph copyright Ellen Shub 1980.

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letters

GIRLS AND MATH ABILITY

Dear SftP:

I want to thank you for the excellent article ("Girls, Boys and Math" *SftP*, Sept/Oct 1981 vol. 13 no. 5). Not only did the article respond to Benbow and Stanley on their own terms, but it also dealt with the more important questions of the reasons for the popularity of such thinking at the present time. Several weeks ago I attended a lecture by Fred Hechinger of the *New York Times*, sponsored by the Math and Science Education Department of Teachers College, on the subject of the status of math and science today. Another member of the audience and I brought up the subject of girls and mathematics, and I read a few passages from the article (I just *happened* to have the magazine with me!). Many people in the audience wanted to see the magazine, and I expect that several ordered the magazine, or took out subscriptions. I pointed out to Hechinger that the *Times* had not hesitated to get on the Benbow/Stanley bandwagon, but had not printed any rebuttals to their implications. I am waiting for such a rebuttal to appear.

I expect to be working with a funded project to encourage more girls to take math, directed by Teachers College Institute for Sex Equity. My job will be to train two groups of New York City teachers and other school personnel, as well as parent association leaders, in 15 two-hour seminars. Our problem is to get people to enroll! If we don't get two groups together by the end of January, the money will go back to Washington. I plan to distribute a copy of the article to every participant.

Claudia Zaslavsky
New York, NY

WORKER'S CONTROL—NOT CULTURAL CLASH

Dear SftP:

The widening implementation of CAD/CAM (Computer Aided Design/Computer Aided Manufacturing) technology will decisively shape shop floor struggles over the coming decades. The briefest look at trade journals of such

diverse industries as integrated circuit or metalworking manufacturers, reveals that capitalist planners are extremely explicit about the economic, political and ideological goals and effects of CAD/CAM based production. Such preparation on the part of the capitalist class demands a response from workers and their allies. However, in the *Science for the People* issue, "Wrestling With Automation" (Nov/Dec. 1981, vol. 13 no. 6), the sharp tension between the opinion piece and the articles on robotics at General Electric and office automation (written by IUE and UAW activists), delineates clearly the failure of *SftP* to develop any useful analysis of CAD/CAM technologies.

The *SftP* opinion piece reveals an amazing lack of understanding concerning the impact of CAD/CAM technology on the struggle between the working and capitalist classes. We are no longer dealing with a few lathes run by punch tape controls, or a few robot welders on an assembly line. Articles in trade journals (e.g. *Industrial Research and Development*, *Machine Design*, or *Semiconductor International*) in the past months alone, show initial development and long term planning for integrated factories. The factories presuppose a major upheaval in shop floor relations. Changes on such a scale have not been seen in this country since the introduction of assembly line technology early in this century. At their heart is an all out assault on the existing "social contract" between unions and industry. CAD/CAM technology represents an attempt to totally redefine the balance of power between capitalists and workers, which has existed since the organization of the AFL-CIO. The extent to which capitalists are seriously planning for such a program can be seen in the following:

- The replacement in the machine industry of independent numerically controlled machines with an entire factory network of computer driven equipment. Central computers would store the information describing the factory's entire product line, enabling engineers and designers to process initial design, layout, modifications and production instructions from a few terminals. This would totally eliminate worker control of any portion of production. Such a system would also ensure continued loyalty of professionals to the upper management, by keeping programmers, engineers and designers totally isolated from the workplace and shop floor conditions.

- The semiconductor industry, using the threat of the Japanese lead in automated factories, is preparing through its trade associations for the future of automated factories. Committees have been established to coordinate and standardize the development of CAD/CAM equipment so that equipment manufactured for use in the various stages of integrated circuit production would have compatible computer interfacing.

- The aerospace industry has been successful in gaining over \$100 million of Defense Department funding for the application of CAD/CAM technologies to the production of military aircraft.*

While the IUE and UAW analyses proceed from struggles between workers and capitalists based on real working conditions and the division of the wealth produced by workers, the opinion piece bases its analysis on a supposed clash between a "rationalistic" engineering mentality and an "artistic" craftsmanship of workers. The immediate effect of this is the total elimination, from the piece, of the capitalist class as an active agent. How can workers struggle against this new onslaught if their real enemy is not acknowledged? What happened to "exposing the class control of science and technology"? What is gained if the motives of disciplining and controlling the working class to maximize profit are hidden by the idealism of analyzing massive changes in production relations and technologies as if the driving forces were the fascination of over-eager engineers with their bright new toys?

Obviously, both the manufacturers and the users of CAD/CAM technology are prepared to commit billions of dollars to their projects. In order to develop concrete strategies of resistance, we must develop an understanding of what shapes the current conjuncture of struggle over workplace relations.

From its beginning the working class has been shaped by such struggles. Whether it be Adam Smith's account of detail work in the 18th Century pin factories, Marx's analysis of the introduction of machinery and steam power in 19th Century textile industry, or Braverman's history of the battles over the introduction of Taylorism in early Ford assembly lines, the capitalist class has consistently sought to maximize pro-

*\$70 million has been appropriated for the Naval Weapons Center's CAD/CAM System.

fits through increasing its control of the workplace. By deskilling workers, capitalists seek to devalue their labor, make workers cheaper and more interchangeable, hence more controllable.

However, such sharp changes do not go unchallenged. To exploit the potential of new technologies, capitalists must first force the workers to accept new work relations. The workers first had to be made to accept the new disciplines of Taylor's system, before the potential of large scale factories based on assembly line production could be realized. The large monopoly corporations of modern capitalism could not develop until this large scale production was possible. Hence a dynamic is established in which the real implementation of new technologies first requires a corresponding change in workplace relations and in turn these changes in production promote a new balance of power between worker and capitalist, and between imperialist and colonized countries.

It is this dynamic which the *SftP* issue completely ignores. The issue completely fails to present any analysis of the contemporary economic and political crises of the major capitalist economies and how this crisis structures the introduction of CAD/CAM technology.

The domination of Reaganism/Thatcherism shows clearly that the capitalist class intends to force workers and oppressed minorities to bear the brunt of the past decade's cycle of ever deepening recession. Trade unions, women's organizations, and minority groups are under broad attack, as past victories are undermined. Under such conditions, CAD/CAM technologies will be instituted in order to weaken further resistance. Women and minorities will clearly be hardest hit by the resultant deskilling and loss of jobs.

Both domestically and internationally, the threat of runaway shops is used to discipline workers. CAD/CAM technology, by reducing both the size and skill level of the workforce, increases mobility of capital. The semiconductor industry which relies heavily on assembly plants in unstable nations such as the Phillipines and South Korea, looks specifically to the CAD/CAM enhanced plant mobility as a response to third world political instability.

Ever since the popular mobilizations of the 1960's, capitalist planners and ideologies have been mobilized to counter working class and popular challenges for democratic control of economic and political institutions. CAD/CAM tech-

nology is part of a broader attack on these challenges. By disciplining workers to accept routinized, interchangeable tasks, more of workers' lives will be moved further beyond their control or understanding.

Through such unprecedented events as the reopening of the major auto workers contracts, new relationships are being forced on workers and their organizations. If the capitalist class should be successful in forcing the necessary changes in work relationships to generalize CAD/CAM technology, an entirely new balance of class forces would be created. The ability of unions to protect workers would be seriously diminished. Potentially, vast sections of the working class would become an undifferentiated, deskilled reserve army of labor, which the capitalist class could draw on as needed according to the current business cycle. As production is made more of a mysterious, unknowable process, how do we keep socialism's central goal of worker control of production from seeming utopian?

If we are to have any relevancy to the coming struggles, *SftP* must provide analyses which make clear the social relations hidden behind such new technologies as CAD/CAM. It is not enough to say that technologies are not neutral and leave it at that. They are "not neutral" in some class' favor—and we had better begin a better job of explaining the why's and wherefores.

The author of this letter asked to be anonymous. He is a long-time member of SftP and currently active in the Bay-area Chapter. He has worked as an engineer in various "hi-tech" industries over the last several years.

ENDANGERED SPECIES ACT

Dear SftP:

The Endangered Species Act, which provides protection for threatened species of plants and animals, is currently up for reauthorization in the U.S. Congress. We would like to take issue with a statement that is being widely publicized and that threatens to become a self-fulfilling prophecy: "a million species of plants and animals will disappear from the Earth by the end of this century." We must not let

this happen. Species extinction is no less than the nonhuman equivalent of genocide, and as such is unconscionable by the responsible citizen of the world. It is also evident that an extension of the same processes that are bringing about extinction of other species today will be just as relentless with respect to our own species tomorrow.

Obviously, the mounting global human overpopulation is a most difficult problem for the current generation to face and deal with seriously; but if it is not done by us, now, then *when*, and *by whom*?

Direct pressure of human population growth, however, is only one component of the accelerating onslaught to the biosphere; the other, and perhaps the worse of the two in magnitude of destructive potential, is the erroneous mindset being propagated for the short-term gain of a minority of human individuals under the name of "economic development."

Contrary to the belief of many well-meaning persons presently in a turmoil over "budget cuts," money is not a major requirement for changing this mindset; rather, a change of mindset is required to take our attention off of *money matters* and properly refocus it on *life on the planet* as a matter of primary concern. What is needed is the decision to *change direction* rather than continue down our self-destructive path throwing money at problems that money of itself cannot solve. Clearly, it is up to the responsible ones of us to effect this shift in our own thinking and then to use the available media for the education of all people in a wiser course of action.

Now is the time for the remarkable *Homo sapiens*, of the erect gait and the opposable thumb, to demonstrate just how adaptable it really is—by revising its own creations, the conceptual framework of economics, politics and law, to be more in accord with what it now knows of biological reality. We can turn this ship around!

*Cindy Bear,
Holly Jensen
Gainesville, FL*

We welcome letters in response to SftP articles or on topics of current concern. All letters should be typed and include a name and address. Send them to Science for the People, 897 Main St., Cambridge, MA 02139.

From Slavery to Reaganomics

A HISTORY OF

THE CONCEPT OF RACE

by Walda Katz Fishman and Irving Wainer

In the last 15 years there has been a resurgence of “scientific” theories and research suggesting the inherent biological inferiority of certain “races” in particular of blacks in the United States. The most well known examples are the works of Jensen, Shockley and Herrnstein on “race” and IQ.

These “scientific” theories are not new products of recent research, but have a long history dating back to the 1830’s and the defense of slavery in the US. This history is an example of the interaction of science and society and the abuse of the former to meet the needs of certain classes in the latter. It is an example of the fact that scientific theories do not exist as detached and isolated “truths” in a social vacuum. Rather, they exist within the context of contemporary political, economic, and social forces and can only be understood when con-

sidered in this context. It is a history which must be exposed and understood so that the current outbreak of “scientific” theories of “racial inequality” is the last.

Early Scientific Theories of Race

After “race” as a scientific term was first introduced by the French philosopher-scientist Georges L.L. de Buffon in 1749, the term was expanded into a system for the classification of the varieties of humankind by Johan Friedrich Blumenbach in his book *On the Natural Variety of Mankind* written in 1775. Both Buffon and Blumenbach recognized that all human beings belong to a single species and used race as a convenience to distinguish between certain geographically localized groups.

Buffon’s and Blumenbach’s use of the term race reflected the times in which they lived; an era where the American and French Revolutions were expounding the philosophies that “All men are created equal” and “Liberty, Equality, Fraternity,” and a time when the African slave trade purported to save souls.

The Slave Period

The concept of race remained a method of simple classification for almost 60 years until it was transformed into a component of a scientific theory defending slavery in the southern part of the US. This change was brought about by a number of related political, intellectual and economic developments.

Walda Katz Fishman, Ph.D. is a sociologist at Howard University. She is a long-time member of Science for the People. She is concerned about women’s, minorities’ and workers’ rights. She is currently active in the peace movement.

Irving Wainer, Ph.D is a research chemist at the Food and Drug Administration in Washington, DC. He has a long history of activism in the civil rights and anti-war movements. He has been involved in Science for the People.

WHAT MISCEGENATION IS!



WHAT WE ARE TO EXPECT

Now that Mr. Lincoln is Re-elected.

By L. SEAMAN, LL. D.



Title page of a racist pamphlet. The picture also appears on the cover. (New York: Waller & Willetts, 1864.) Miscegenation is the intermarriage or interbreeding between different races.

By the early 1800's, slavery was under attack. In England, manufacturing had reached the stage of development where it was more profitable to export the raw materials of West Africa than its people. At the same time, the slave trade was ceasing to be economically advantageous for the British West Indies sugar plantations.¹ In 1804, the people of Haiti broke their bonds of slavery and established the first independent republic in Latin America—an event which sent shivers through slaveholders. As a consequence, in 1808, the British government responded to these developments by prohibiting the slave trade in British vessels, and in 1833 slavery was abolished in the British Empire.

The Abolitionists

The American abolitionist movement was one of the key political and intellectual developments that proved central to the history of racism. It grew from a religious revival known as the Great Awakening, which began in New England in the 1740's. This movement attacked the religious justifications for slavery. The first Great Awakening did not produce an anti-slavery movement. This was accomplished by the Second Great Awakening which swept the country between 1825 and 1832, producing in 1833 the first national abolitionist organization, the American Anti-Slavery Society.

From its inception, the organized abolitionist movement propagandized against slavery. Millions of pieces of literature were produced attacking slavery on religious and moral grounds as well as pronouncing it contrary to the fundamental principles of the American way of life. This material was distributed in both the North and the South and was so effective that by 1835, President Andrew Jackson was forced to appear before Congress and call for the passage of "a law as will prohibit under severe penalties, the circulation in the Southern states through the mail, of incendiary publications intended to instigate the slave to insurrection."²

The abolitionist movement grew because it found a favorable environment in a changing North, where a growing transportation system nurtured a developing capitalism based on the production and sale of agricultural commodities and manufacturing. The completion of the Erie Canal in 1825 opened up the northern regions of Ohio, Indiana and Illinois and created large regional markets for agricultural commodities and industrial products rather than merely local ones. By 1827, for example, wheat from central New York was being sold at Savannah, Georgia more cheaply than wheat from central Georgia.³

By extending the domestic markets, advances in transportation hastened the industrialization of the North. This was especially felt in the industry producing cotton cloth. In the 1820's there were only about 1000

people engaged in this industry. At the end of the next decade, this number had grown to 10,000,⁴ and by 1840, there were 1200 cotton factories in the US operating 250,000 spindles, two-thirds of them in New England.⁵

As the economic system of the North grew it intensified the economic and political conflicts between the North and South. The basis of this conflict was the struggle for domination between a system of capitalist production using free labor which was primarily concentrated in manufacturing and small farming (North), and capitalist production with slave labor which was primarily concentrated in the production of agricultural goods for the international market (South). By the mid-1800's, the two regions emerged as separate economic and political entities. The Civil War decided which was destined to dominate the other. One way to view the abolitionist movement is as the ideological reflection of this struggle in the North. The "scientific theory of race" was the South's response.

In order to understand why a "scientific theory of race" developed, it is necessary to look at the South of the 1830's. By 1830, the commitment of the South to capitalist agriculture—to the production of a stable crop for a world market—was the dominant fact of Southern life. Karl Marx described the effect of this development on the slave.

But as soon as people, whose production still moves within the lower forms of slave labor, *corvée*-labor, etc., are drawn into the whirlpool of an international market dominated by the capitalist mode of production, the sale of their products for export becoming their principal interest, the civilized horrors of overwork are grafted on the barbaric horrors of slavery, serfdom, etc. Hence the negro labour in the Southern states of the American Union preserved something of a patriarchal character, so long as production was chiefly directed to immediate consumption. But in proportion, as the export of cotton became of vital interest to these states, the overworking of the negro and sometimes the using up of his life in seven years labour became a factor in a calculated and calculating system.⁶

The increase in the exploitation of black labor brought an increase in resistance. In 1831, Nat Turner led a rebellion in Southampton, Virginia. This was not the first slave rebellion, though. While earlier upheavals were met with a temporary increase in repression, this one resulted in major changes. "Black Codes" were made more restrictive throughout the South. "Laws were passed curbing the mobility of slaves through a system of patrols and passes, meetings of slaves were prohibited, educational possibilities were curtailed, and the possibility of manumission was reduced."⁷ White

Southerners also suffered from this wave of reaction. There were infringements of basic civil and personal rights, free speech, free press, free thought and constitutional liberty.⁸

The Scientific Theory of Racial Inequality

Faced with external and internal attacks and no longer able to defend slavery in the old way, the Southern ruling class came to rely on a new, stronger defense of the slave system. As John C. Calhoun proclaimed:

It is not enough for the Southern people to believe that slavery has been entailed upon us by our forefathers. We must satisfy the consciences, we must allay the fears of our own people. We must satisfy them that slavery is of itself a right—that it is not a sin against God—that it is not an evil, moral or political. . . . In this way, and this way only, can we prepare our own people to defend their institutions.⁹

Thomas R. Dew and William Harper responded to Calhoun's call by uniting Buffon's and Blumenbach's system of classification with Aristotle's defense of slavery: "He is then by nature formed a slave who is fitted to become the chattel of another person, and on that account is so." Thus, the "scientific" theory of the na-

tural inequality of different groups of humans was born as a justification of slavery on the basis of racial inequality.

The Southern race theorists asserted, yet never proved, the factual validity of the existence of distinct types of human beings called races. They argued from the empirical observations that people with black skins under the conditions of slavery did not have the educational, intellectual and political attainment of their masters, to the "scientific" conclusion that this inequality was biological and hence inevitable. They tried to convert a social and economic fact into a biological one. The purpose and effect of such a theory was to give the Southern slave owners a powerful ideological weapon. Slavery was no longer a moral question. It was the best possible system given the biological reality of the inequality between the races. An inequality which was the result of God's work and which had been brought to light by science.

The Civil War and Reconstruction

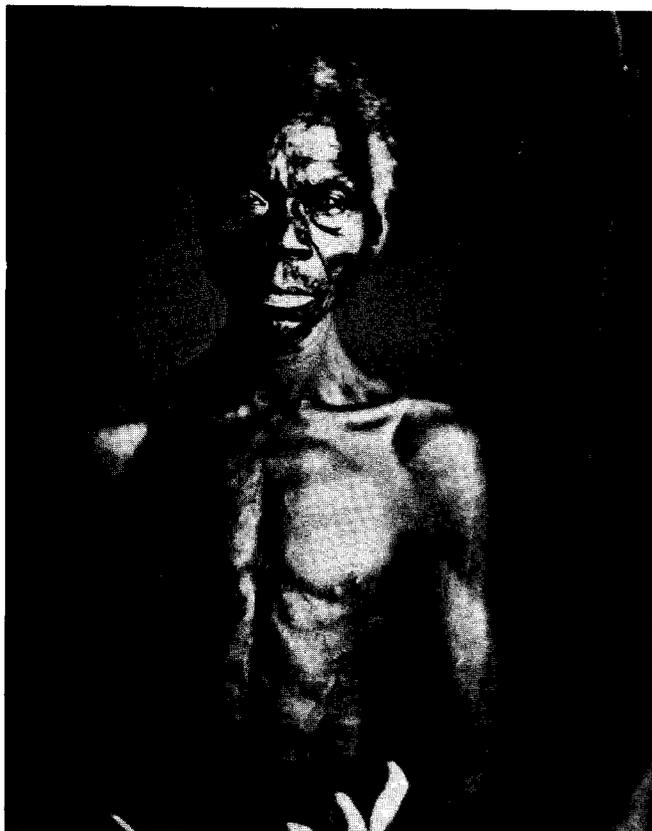
The Civil War and Reconstruction temporarily pushed these theories aside. The enactment of the 13th, 14th and 15th Amendments along with the Civil Rights

These three photographs of daguerreotypes are amongst the earliest known pictures of Southern slaves. They were made by J.T. Zealy of South Carolina in 1850 at the request of Dr. Robert Gibbes for Louis Agassiz, a Harvard Professor of Natural Science. Agassiz believed a theory of racial inequality first suggested by Dr. Samuel Morton around 1840.

Morton believed that "mankind" must not be one species but several, each specially created by God to suit a geographical environment. This theory was eagerly seized by defenders of slavery who considered the theory a "scientific basis" for racial inequality.

Agassiz studied African born slaves in South Carolina in pursuit of a description of the anatomical features unique to the "African race." These daguerreotypes were taken as part of this study.

These are among the earliest daguerreotypes for which the subjects are identified by name and by plantation. They are part of a collection found by Elinor Reichlin, a former staff member of Harvard's Peabody Museum of Archeology and Ethnology, in 1976 in an unused storage cabinet in the museum's attic.



Renty, an elderly field hand who lived on B.F. Taylor's plantation, "Edgehill." He is identified as a "Congo" slave.

Acts of 1866 and 1870 established the legal position of equality between the races. However, in 1877, the Hayes-Tilden agreement ended Reconstruction and unleashed a wave of terror against the black and poor white people in the South. The concept of race and racial superiority once again flourished. It was now a justification of terror and oppression.

Numerous "scientific" articles supporting the segregation of the South were written during this period, 1890-1910. Many like the article written by Dr. Robert Bennett Bean entitled "Some Racial Peculiarities of the Negro Brain" were published in prestigious scientific journals. In this particular article which appeared in the September, 1906 issue of the American Journal of Anatomy, Dr. Bean defends segregation in education. He wrote:

Having demonstrated that the negro and the caucasian are widely different in characteristics, due to a deficiency of grey matter and connecting fibers in the negro brain, especially in the frontal lobes, a deficiency that is hereditary...we are forced to conclude that it is useless to try to elevate the negro by education or otherwise, except in the direction of his natural endowments.¹⁰

The Period of Imperialism

Congressman Thomas W. Hardwick of Georgia used the same logic when he addressed the US House of Representatives in 1904 demanding the disenfranchisement of the black people. He said in part:

And who is the negro that he should dispute this demand? A race that never yet founded a government or built a state that did not soon lapse into barbarism, a race that never yet made a single step towards civilization, except under the fostering care and guidance of the white man; a race into whose care was committed one of the three great continents, and who has made it, ever since the remotest times, a land of utter darkness, until today the nations of Europe, in the onward march of irresistible civilization are dividing his heritage, the greatest of the continents among themselves...¹¹

Congressman Hardwick's words are much more than an attack on voting rights. They represent a change that was taking place in the concept of race and its use. Race was no longer a justification just for the enslavement of a group of people, at this point it became a justification for the enslavement of whole nations.

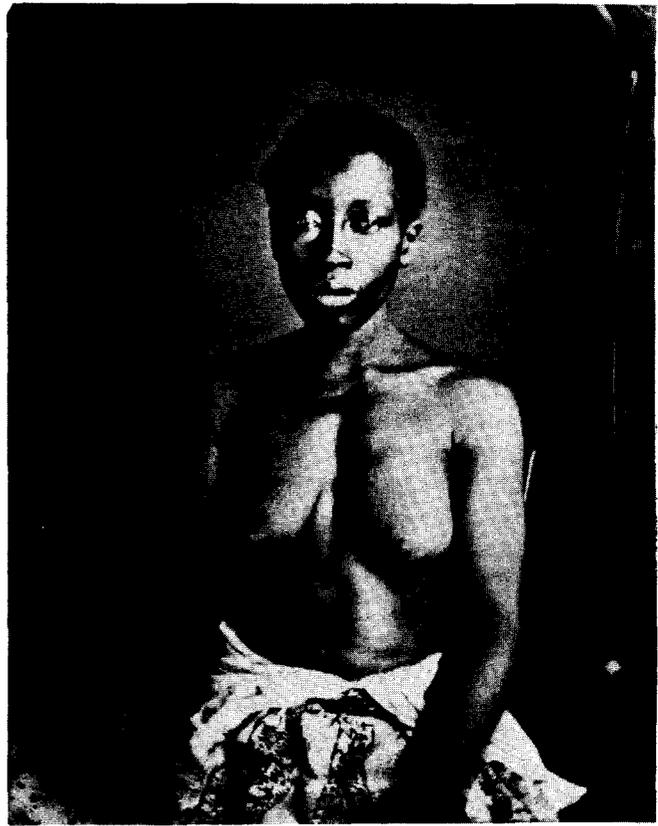
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Jem, a "Gullah" slave "owned" by F.W. Green of Columbia, South Carolina. Note the legs of the headrest, used to hold subjects still for the camera.

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Delia, Renty's daughter, was "country born of African parents." Her name appears along with her father's on an 1852 inventory of Taylor's slaves.

A Question of Biology

ARE THE RACES DIFFERENT?

by Richard C. Lewontin

Racism claims there are major inherited differences in temperament, mental abilities, energy, and so on between human groups even though no evidence exists for such inherited differences. Racism draws credibility from what seem to be obvious differences in some physical traits like color, hair form, or facial features. "After all," it is argued, "races differ so markedly in such inherited physical traits, so isn't it reasonable that they would differ in mental ones as well?" To understand the real situation we need to look at what is really known about genetic differences between people and to examine the very concept of "race" itself.

Race Is Only Skin Deep

In the nineteenth century and before, "race" was a fuzzy concept that included many kinds of relationships. Sometimes it meant the whole species as "the human race"; sometimes a nation or tribe as "the race of Englishmen"; and sometimes merely a family as "He is the last of his race." All that held these notions together was that members of a "race" were somehow related by ties of kinship and that their shared characteristics were somehow passed from generation to generation.

Beginning in the middle of the nineteenth century, with the popularity of Darwin's theory of evolution, biologists began to use the concept of "race" in a different way. It simply came to mean "kind," an identifiably different form of organism within a species. So there were light-bellied and dark-bellied "races" of mice or banded or unbanded shell "races" of snails. But defining "races" simply as observable kinds produced two curious situations. First, members of different "races" often existed side by side within a population. There might be 25 different "races" of beetles, all members of the same species, living side by side in the same local population. Second, brothers and sisters might be members of two different races, since the characters that differentiated races were sometimes influenced by alternative forms of a single gene. So, a female mouse of the light-bellied "race" could produce offspring of both light-bellied and dark-bellied races, depending on

her mate. Obviously there was no limit to the number of "races" that could be described within a species, depending on the whim of the observer.

Around 1940 biologists, under the influence of discoveries in population genetics, made a major change in their understanding of race. Experiments on the genetics of organisms taken from natural populations made it clear that there was a great deal of genetic variation between individuals even in the same family, not to speak of the same population. It was discovered that many of the "races" of animals previously described and named were simply alternative hereditary forms that could appear within a family. Different local geographic populations did not differ from each other absolutely, but only in the relative frequency of different characters. For example, in human blood groups, some individuals were type A, some type B, some AB, and some O. No population was exclusively of one blood type. The difference between African, Asian, and European populations was only in the proportion of the four kinds.

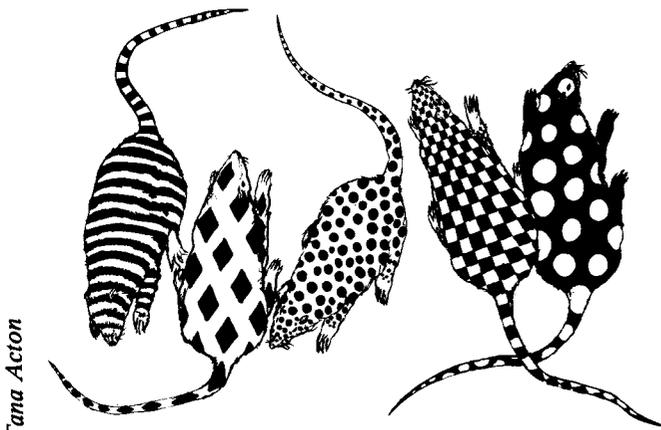
These findings led to the concept of "geographical race," as a population of varying individuals, freely mating among each other, but different in average proportions of various genes from other populations. Any local random breeding population that was even slightly different in proportion of different gene forms from other populations was a geographical race. This new view of race had two powerful effects. First, no individual could be regarded as a "typical" member of a race. Older textbooks of anthropology would often show photographs of "typical" Australian aborigines, tropical Africans, and Japanese, listing as many as 50 or 100 "races," each with its typical example. Once it was recognized that every population was highly variable and differed largely in average proportions of different forms from other populations, the concept of the type specimen became meaningless.

Richard Lewontin is a population geneticist at the Comparative Museum of Natural History at Harvard University. He is a long-time member of Science for the People.

The second consequence of the new view of race was that since every population differs slightly from every other one on the average, all local interbreeding populations are "races," so race really loses its significance as a concept. The Kikuyu of East Africa differ from the Japanese in gene frequencies, but they also differ from their neighbors, the Masai, and although the extent of the differences might be less in one case than in the other, it is only a matter of degree. This means that the *social* and *historical* definitions of race that put the two East African tribes in the same "race," but put the Japanese in a different "race," were purely arbitrary. How much difference in the frequencies of A, B, AB, and O blood groups does one require before deciding it is large enough to declare two local populations are in separate "races"?

All People Look Alike

In ordinary parlance we still speak of Africans as one race, Europeans as another, Asians as another. And this distinction corresponds to our everyday sensory impressions. No one would mistake a Masai for a



Tana Acton

Racial Differences?

Japanese or either for a Finn. Despite variation from individual to individual within these groups, the differences between groups in skin color, hair form, and some facial features makes them clearly different. Racism takes these evident differences and claims that they demonstrate major genetic separation between "races." Is there any truth in this assertion?

We must remember that we are conditioned to observe precisely those features and that our ability to distinguish individuals as opposed to types is an artifact of our upbringing. We have no difficulty at all in telling

apart individuals in our own group, but "they" all look alike. Once, in upper Egypt, my wife was approached by an Egyptian who began a lively conversation with her under the impression that he knew her. After she repeatedly protested that he was mistaken, he apologized, saying, in effect, "I'm sorry but all you European women look alike."

Superiority Is in the Eyes of the Beholder

If we could look at a random sample of different genes, not biased by our socialization, how much difference would there be between major geographical groups, say between Africans and Australian aborigines, as opposed to the differences between individuals within these groups? It is, in fact, possible to answer that question.

During the last 40 years, using the techniques of immunology and of protein chemistry, it has been possible to identify a large number of human genes that code for specific enzymes and other proteins. Very large numbers of individuals from all over the world have been tested to determine their genetic constitution with respect to such proteins, since only a small sample of blood is needed to make these determinations. About 150 different genetically coded proteins have been examined and the results are very illuminating for our understanding of human genetic variation.

It turns out that 75 percent of the different kinds of proteins are identical in all individuals tested from whatever population, with the exception of an occasional rare mutation. These so-called *monomorphic* proteins are common to all human beings of all races, and the species is essentially uniform with respect to the genes that code them. The other 25 percent are *polymorphic* proteins. That is, there exist two or more alternative forms of the protein, coded by alternative forms of a gene, that are reasonably common in our species. We can use these polymorphic genes to ask how much difference there is between populations, as compared with the difference between individuals within populations.

An example of a highly polymorphic gene is the one that determines the ABO blood type. There are three alternative forms of the gene which we will symbolize by A, B, and O, and every population in the world is characterized by some particular mixture of the three. For example, Belgians have about 26 percent A, 6 percent B, and the remaining 68 percent is O. Among Pygmies of the Congo, the proportions are 23 percent A, 22 percent B, and 55 percent O. The frequencies can be depicted as a triangular diagram as shown in Figure 1. Each point represents a population, and the proportion of each gene form can be read as the perpendicular

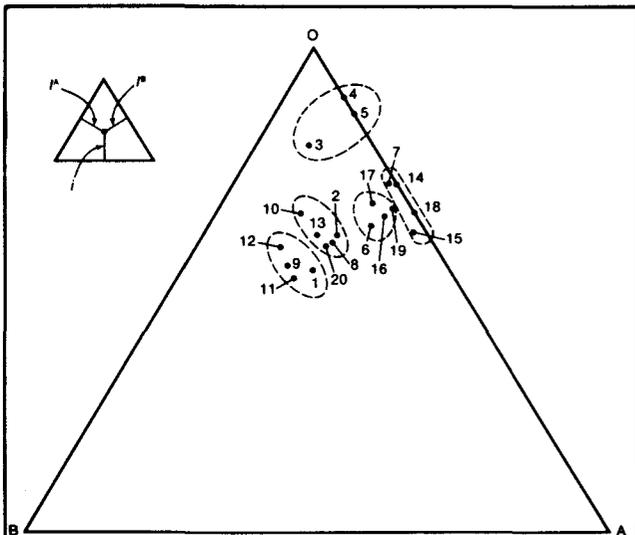


Figure 1. Triallelic diagram of the ABO blood-group allele frequencies for human populations. Each represents a population; the perpendicular distances from the point to the sides represents the allele frequencies as indicated in the small triangle. Populations 1-3 are African, 4-7 are American Indians, 8-13 are Asians, 14-15 are Australian aborigines, and 16-20 are Europeans. Dashed lines enclose arbitrary classes with similar gene frequencies, which do not correspond to the "racial" classes.

distance from the point to the appropriate side of the triangle. As the figure shows, all human populations are clustered fairly close together in one part of the frequency space. For example, there are no populations with very high A and very low B and O (lower right hand corner). The figure also shows that populations that belong to what we call major "races" in our every-day usage do not cluster together. The dashed lines have been put around populations that are similar in ABO frequencies, but these do not mark off racial groups. For example, the cluster made up of populations 2, 8, 10, 13, and 20 include an African, three Asian, and one European population.

A major finding from the study of such polymorphic genes is that none of these genes perfectly discriminates one "racial" group from another. That is, there is no gene known that is 100 percent of one form in one race and 100 percent of a different form in some other race. Reciprocally, some genes that are very variable from individual to individual show no average difference at all between major races. (See Table 1.)

Rather than picking out the genes that are the most different or the most similar between groups, what do we see if we pick genes at random? Table 2 shows the outcome of such a random sample. Seven enzymes known to be polymorphic were tested in a group of Europeans and Africans (actually black Londoners who had come from West Africa and white Londoners). In this random sample of genes there is a remarkable similarity between groups. With the exception of phosphoglucumutase-3, for which there is a reversal between groups, the most common form of each gene in Africans is the same form as for the Europeans, and the proportions themselves are very close. Such a result would lead us to conclude that the genetic difference between blacks and whites is negligible as compared with the polymorphism within each group.

The kind of question asked in Table 2 can in fact be asked in a very general way for large numbers of populations for about 20 genes that have been widely studied all over the world. Suppose we measure the variation among humans for some particular gene by the probability that a gene taken from one individual is a different alternative form (allele) than that taken from another individual at random from the human species as a whole. We can then ask how much less variation there would be if we chose the two individuals from the same "race." The difference between the variation over the whole species and the variation within a "race" would measure the proportion of all human variation that is accounted for by racial differences. In like manner we could ask how much of the variation within a "race" is

Table 1: Examples of extreme differentiation and close similarity in blood-group allele frequencies in three racial groups

Gene	Allele	Population		
		Caucasoid	Negroid	Mongoloid
Duffy	F _y	0.0300	0.9393	0.0985
	F _y ^a	0.4208	0.0607	0.9015
	F _y ^b	0.5492	0.0000	0.0000
Rhesus	R ₀	0.0186	0.7395	0.0409
	R ₁	0.4036	0.0256	0.7591
	R ₂	0.1670	0.0427	0.1951
	r	0.3820	0.1184	0.0049
	r'	0.0049	0.0707	0.0000
	Others	0.0239	0.0021	0.0000
P	P ₁	0.5161	0.8911	0.1677
	P ₂	0.4839	0.1089	0.8323
Auberger	Au ^a	0.6213	0.6419	—
	Au	0.3787	0.3581	—
Xg	Xg ^a	0.87	0.55	0.54
	Xg	0.33	0.45	0.46
Secretor	Se	0.5233	0.5727	—
	Se	0.4767	0.4273	—

SOURCE: From a summary provided in L.L. Cavalli-Storza and W.F. Bodmer, *The Genetics of Human Populations*, W.H. Freeman and Company, 1971, pp. 724-731. See this source for information on other loci and for data sources.

Table 1 shows the three polymorphic genes that are most different between "races" and the three that are most similar among the "races." The first column gives the name of the protein or blood group and the second column gives the symbols of the alternative forms (alleles) of the gene that is varying. As the table shows there are big differences in relative frequencies of the allele of the Duffy, Rhesus, and P blood groups from "race" to "race," and there may be an allele like F_y^b that is found only in one group, but no group is "pure" for any genes. In contrast, the Auberger, Xg, and Secretor proteins are very polymorphic within each "race," but the difference between groups is very small. It must be remembered that 75% of known genes in humans do not vary at all, but are totally monomorphic throughout the species.

accounted for by differences between tribes or nations that belong to the same "race," as opposed to the variation between individuals within the same tribe or nation. In this way we can divide the totality of human genetic variation in a portion between individuals within populations, between local populations within major "races," and between major "races." That calculation has been carried out independently by three different groups of geneticists using slightly different data and somewhat different statistical methods but with the identical result. Of all human genetic variation known

Table 2: Allelic frequencies at seven polymorphic loci in Europeans and black Africans

Locus	Europeans			Africans		
	Allele	Allele	Allele	Allele	Allele	Allele
	1	2	3	1	2	3
Red-cell acid phosphatase	0.36	0.60	0.04	0.17	0.83	0.00
Phosphoglucosmutase-1	0.77	0.23	0.00	0.79	0.21	0.00
Phosphoglucosmutase-3	0.74	0.26	0.00	0.37	0.63	0.00
Adenylate kinase	0.95	0.05	0.00	1.00	0.00	0.00
Peptidase A	0.76	0.00	0.24	0.90	0.10	0.00
Peptidase D	0.99	0.01	0.00	0.95	0.03	0.02
Adenosine deaminase	0.94	0.06	0.00	0.97	0.03	0.00

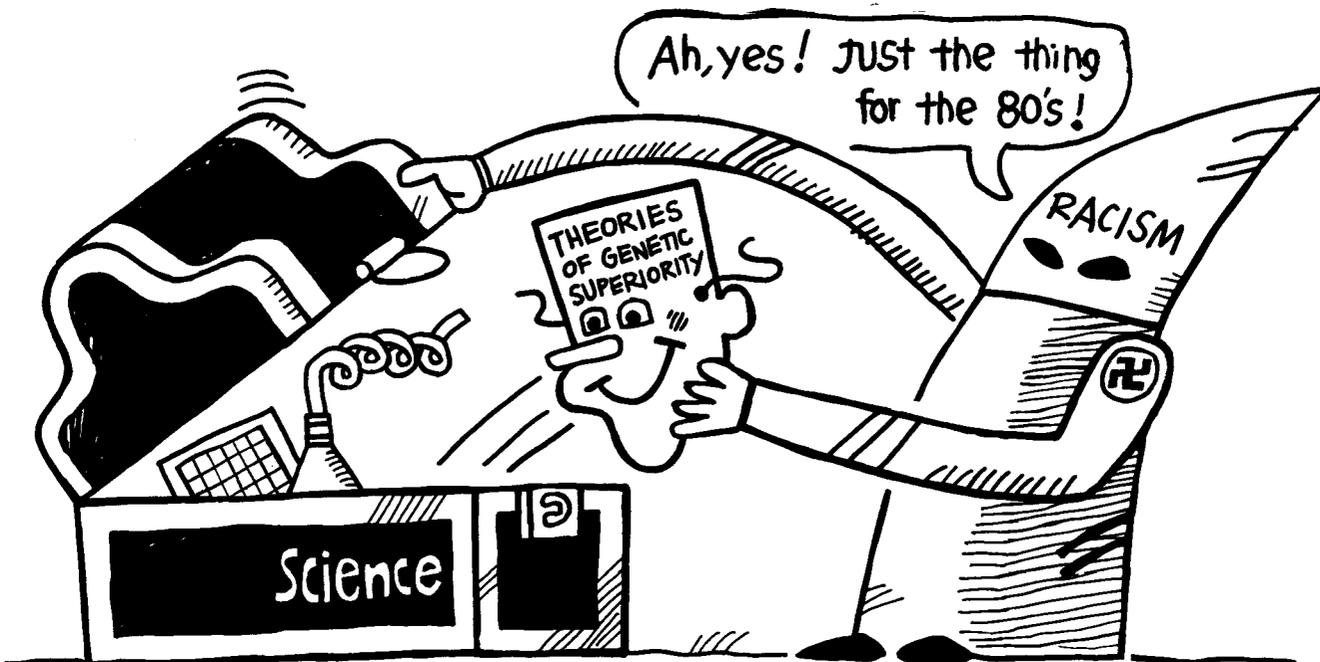
SOURCE: R.C. Lewontin, *The Genetic Basis of Evolutionary Change*, Columbia University Press, 1974. Adapted from H. Harris, *The Principles of Human Biochemical Genetics*, North Holland, Amsterdam and London, 1970.

for enzymes and other proteins, where it has been possible to actually count up the frequencies of different forms of the genes and so get an objective estimate of genetic variation, 85 percent turns out to be between individuals within the same local population, tribe, or nation. A further 8 percent is between tribes or nations within a major "race," and the remaining 7 percent is between major "races." That means that the genetic variation between one Spaniard and another, or between one Masai and another, is 85 percent of all human genetic variation, while only 15 percent is accounted for by breaking people up into groups. If everyone on earth became extinct except for the Kikuyu of East Africa, about 85 percent of all human variability would still be present in the reconstituted species. A few gene forms would be lost like the F_y^b allele of the Duffy blood group that is known only in American Indians, but little else would be changed.

Who's Who?

The reader will have noticed that to carry out the calculation of partitioning variation between "races," some method must have been used for assigning each nation or tribe to a "race." The problem of what one means by a "race" comes out forcibly when making such assignments. Are the Hungarians Europeans? They certainly *look* like Europeans, yet they (like the Finns) speak a language that is totally unrelated to European languages and belongs to the Turkic family of languages from Central Asia. And what about the modern-day Turks? Are they Europeans, or should they be lumped with the Mongoloids? And then there are the Urdu and Hindi speaking people of India. They are the

Steve Karian



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descendants of a mixture of Aryan invaders from the north, the Persians from the West, and Vedic tribes of the Indian subcontinent. One solution is to make them a separate race. Even the Australian aborigines, who have often been put to one side as a separate race, mixed with Papuans and with Polynesian immigrants from the Pacific well before Europeans arrived. No group is more hybrid in its origin than the present-day Europeans, who are a mixture of Huns, Ostrogoths, and Vandals from the east, Arabs from the south, and Indo-Europeans from the Caucasus. In practice, "racial" categories are established that correspond to major skin color groups, and all of the borderline cases are distributed among these or made into new races according to the whim of the scientist. But it turns out not to matter much how the groups are assigned because the differences between major "racial" categories, no matter how defined, turn out to be small.

The result of the study of genetic variation is in sharp contrast with the everyday impression that major "races" are well differentiated. Clearly, those superficial differences in hair form, skin color, and facial features that are used to distinguish "races" from each other are not typical of human genes in general. Human "racial" differentiation is, indeed, only skin deep. Any use of racial categories must take its justification from some source other than biology. The remarkable feature of human evolution and history has been the very small degree of divergence between geographical populations as compared with the genetic variation among individuals. □

TAP

This ten-year-old newsletter for telecommunications junkies is still the best source of information on the hidden byways of the telephone and other communications networks. It's expanded its focus since the old make-phone-calls-for-free days; now it covers computers, telex, cable TV, and the postal system. Use it at your own risk; most of it is written under pen names. But that doesn't make it any less fascinating to read.

—Art Kleiner

TAP

\$5/10 issues from:

Room 603
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New York, NY 10036

The Road to the Holocaust

NAZI SCIENCE AND MEDICINE

by Robert Proctor

Racist ideas go back a long time. Few of the famous 18th century European champions of liberty, fraternity, and equality could be considered today as anything but racists or sexists: Hume in his *Essays* compared the intelligence of the Negro to that of a parrot; Rousseau and Hegel both considered the minds of women not fit for the sciences or the arts.

And science as much as any other form of culture has been involved in the attempt to preserve social order; biology in particular has long served as a useful social weapon. In the late 19th and early 20th century, American and British social darwinists found in the theory of evolution by natural selection a kind of scientific guarantee of "cosmic optimism," and evidence for the moral superiority of the emerging philosophy of competitive liberalism. Social darwinists in Germany also sought to ground their political predispositions on what they considered to be the "natural order," but with a somewhat different emphasis. German social darwinists were no less enthusiastic about the struggle for existence in social life, but were much less optimistic about whether that struggle could be maintained, given the rise of democratic movements (such as the French Revolution), and the rise of welfare politics in medicine and social services. German social darwinians tended to reject the optimism of the *laissez faire* market popular in England and America, and stressed instead the need for state intervention to stop what they saw as the beginnings of a large-scale *degeneration* of the human species.

A Theory Based on Fear

In 1895, in the founding document of what came to be known as "racial hygiene" (*Rassenhygiene*—sometimes translated as "eugenics" in Germany,¹ the physi-

Robert Proctor is a Teaching Fellow in the History of Science Department at Harvard University.

cian Alfred Ploetz warned that the rise of democracy has created two great dangers that threaten the very survival of the "race": first, because medical care for the weak has begun to destroy the natural struggle for existence; and second, because the poor and misfits of the world are beginning to multiply faster than the more talented and fit. Care for the weak may help the individual, but it endangers the race. Ploetz called for a new kind of hygiene, a "racial hygiene" which would consider not just the good of the individual, but also the good of the race.

Interest in racial hygiene grew through the end of the 19th century, and by the turn of the century, large financial interests had been attracted. In 1900, the arms industrialist Alfred Krupp sponsored a prize essay contest on the question of "What can the theory of evolution tell us about the internal political development and legislation of the state?" The prize of 100,000 Reichsmarks drew more than 80 applicants, and the ten winning volumes were published as a veritable encyclopedia of social darwinism, without equal in any other country. Four years later, in 1904, Alfred Ploetz established the *Archive for Racial and Social Biology* to investigate "the principles of the optimal conditions for maintenance and development of the race." One year later Ploetz founded the Society for Racial Hygiene, which soon became one of the more important bio-medical societies in the country.

Two examples illustrate the fears in the Society concerning the degeneration of the race. In her article in the 1912 *Archive*,² Dr. Agnes Bluhm criticized the racial effects of modern medical birth assistance. Fewer women, said Bluhm, die in childbirth, but this is precisely the danger, for it allows those women to survive and reproduce, who otherwise, without the intervention of doctors, would not be able to give birth. Bluhm argued that the incidence of incapacity to give birth (due to narrow pelvis, for example) is growing in the popula-

tion, and supported this not only with data showing the increase in Caesarean sections (as if there weren't other reasons for this!) but also with the supposed fact that the "natural peoples of the world" give birth without pain. Citing Wilhelm Schallmayer, winner of the 1900 Krupp prize, Bluhm ended her article with a warning to the effect that the more women rely upon medical aid to give birth, the more dependent upon that help they will become.

Related to this fear of the care for the weak, there was also a growing fear of what Dr. Hermann Werner Siemens called the "proletarianization" of the population, that is, the fear that the various "inferiors" of the world—not just the poor, but also the feeble-minded and the criminal—were beginning to multiply more rapidly than the more "gifted" elements of society. In a 1916 article,³ Hermann Siemens, of the Siemens industrial concern, cited the Galton-Pearson estimate that the value of a man usually stands in inverse proportion to the number of his children. Siemens warned that the poor are outbreeding the rich, and illustrated this with birth rates from Vienna, Paris and Berlin, and then finally noted that his own illustrious family (of whose genetic excellence he had no doubts) averaged only 2.8 children per marriage. And unless the tide is stemmed, Siemens concluded, the best of human heredity will be swamped with a mess of inferior types.

A Perfect Marriage: The Nazi Era

The concerns of racial hygiene until well into the 1920s were largely what might be called "populational" or "meritocratic": racial hygienists worried about the declining birth rate, about the disproportionate breeding of "inferiors," and about the negative effects of social welfare medicine. But at least until after World War I, racism *per se* played a relatively minor role in the racial hygiene movement. The science of racial differences, growing out of phrenology, criminal anthropology, and so forth, was concentrated more in what was often called "social anthropology." Until the early 1920s, the leading organ of the "Nordic" social anthropologists was a journal called the *Political-Anthropological Revue*, most widely known for its publication of articles purporting to demonstrate that the artist-engineers of the Italian Renaissance were actually blue-eyed blonds.⁴

With the rise of nationalism and severe unemployment after World War I, however, anti-semitic and anti-immigrant feelings began to grow, especially among professional classes. And by the early 1920s, these two trends—the racial hygienists, and the racist social anthropologists—had begun to merge. The Society for

Racial Hygiene began to publish reports on racial differences, and the dangers of racial mixing; the *Political-Anthropological Revue* began to support its theories of "Nordic superiority" with arguments drawn from genetics and physiology. In 1930, with Nazism looming on the political horizon, Fritz Lenz, editor of the *Archive*, even suggested that there might not have *been* a Nordic movement, had it not been for Ploetz's racial hygiene.

Racial hygienists greeted Hitler with open arms. In 1931, two years before the Nazi rise to power, Lenz praised Hitler as "the first politician of truly great import who has taken racial hygiene as a serious element of state policy." Medical science, in turn, played an important part in national socialist ideology. Hitler was the "great doctor of the German people," and Hitler himself lauded his revolution as the "final step in the overcoming of historicism, and in the recognition of purely biological values."

It is often said that national socialists distorted science, that doctors and scientists perhaps cooperated with the Nazi regime more than they should have, and that by 1933, as one emigré has said, it was too late, and scientists had no alternative but to cooperate or flee. There may be some truth in this, but I think it misses the more important fact that it was largely medical scientists who *invented* racial hygiene in the first place. Professors of biology, medicine, anthropology, and law did not just *cooperate* in Nazi programs of racial destruction, but were often central figures in both the theory and the practice of those programs.

Even before the rise of national socialism, racial hygiene had become a respectable ideology in the German medical profession. Membership in the Society for Racial Hygiene grew rapidly in the years of the Weimar Republic, and by 1930, the Society boasted more than 1300 members—mostly doctors—in 16 local chapters with four more in Austria.⁵ Of the 26 professors offering courses in racial hygiene in 1932, some three-quarters had medical degrees. Medical men were among the earliest adherents of national socialism, and in the Reichstag elections that led to Hitler's coming to power, nine physicians were elected as representatives for the Nazi party.⁶ In 1929, a small group of some of Germany's leading physicians formed the National Socialist Doctors' Association. The organization, representing the main medical wing of the Nazi party, was an immediate success, and by 1934 the rush of doctors wanting to join the group was so great that physicians were asked to hold off on applications until the present ones could be processed. By 1938, the membership in the Association had grown to over 30,000 doctors, representing some 60 percent of all physicians practicing medicine in Germany.

From Theory to Practice

The two most important racist laws of the Nazi state in the 1930s were written, administered, and executed by leading members of the German medical (racial hygiene) community. In July, 1933, the Nazi state passed the Law for the Prevention of Genetically Diseased Offspring, according to which individuals could be sterilized against their will if, in the opinion of the newly established "Genetic Health Courts," he or she suffered from any of various "genetically caused" illnesses, including feeble-mindedness, schizophrenia, manic depressive insanity, genetic epilepsy, Huntington's chorea, blindness, deafness, or physical deformity, and alcoholism. The law, according to which some 300,000 individuals were sterilized, was written by a lawyer and two doctors, one of whom (Prof. Ernst Ruedin) was director of the Kaiser Wilhelm Institute for Psychiatry in Munich, one of the most celebrated research clinics in the world.



Robert Proctor

Concentration camp doctors at Dachau conducted hundreds of "terminal" experiments on Jews, Poles, Slavs, gypsies and Germans to discover resistance to extreme cold and low pressure. Autopsies were performed to reveal the cause of death, here due to an embolism. (National Archives, Washington.)

In 1935, Hitler signed into law the second major racial measure of the Nazi regime, the Law for the Protection of the Genetic Health of the German People. According to this law, couples were required, before marriage, to submit to a medical examination to see whether "racial damage" might be involved. Apart from disallowing marriage if one party was considered genetically defective, the law also forbade marriage between Jews and Aryans, with a later extension to cover gypsies, Slavs, and other races deemed inferior.

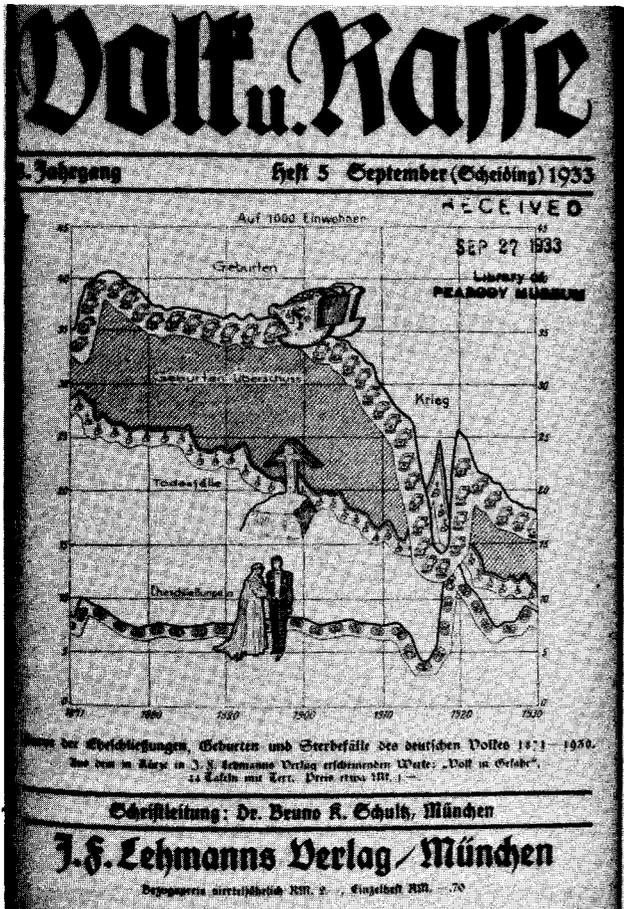
A third measure of Nazi medical policy brings us further into the realm of the criminal. On September 1, 1939, Hitler issued the enabling orders that certain doctors be commissioned to carry out the "mercy death" or euthanasia of patients in mental institutions judged to be suffering from incurable illnesses. This program was stopped in August 1941 largely as a result of church protest (other critical forces had been driven underground); by this time some 100,000 individuals had been killed in Germany alone, and many more in related programs in German-occupied areas. It is worth noting that doctors were never *ordered* to murder psychiatric patients and deformed children. They were *empowered* to do so, and fulfilled this task without protest, often on their own initiative. In the abortive euthanasia trial of 1964, Dr. Hans Hefelmann testified that "no doctor was ever ordered to participate in the euthanasia program; they came of their own volition."

An irony of Germany's racial science is that many of its most important representatives considered their work to stand *above* politics. Fritz Lenz argued that racial hygiene was not a question of politics at all, that "the genetic quality of the race is a hundred times more important than the struggle between capitalism and socialism." It may not even be surprising that many leading racial hygienists never even joined the Nazi party—scientists have considered their work apolitical in the midst of every conceivable form of domination and oppression. Nazi ideology itself was supposed to transcend all political differences; ideals of Family, Race, and Nation were to unite capitalist and worker, peasant and landlord.

Nazi racial hygiene in fact substituted a politics of race for a politics of class and social struggle. When the Moscow State Anthropological Museum opened its exhibit on Race and Race Theory in 1939, German racial hygienists wondered how the Soviets could portray Europeans as no less apelike than Africans, and how the Soviets could see the Nordic racial ideal as "nothing more than the desire of the dominant class to justify its dominion over the subjugated class as natural and biological."

Only in Nazi Germany?

After the war, physicians who had participated in the more brutal forms of destruction or experimentation were sentenced in the Nuremberg or Buchenwald trials. Scholars who had remained on the plane of theory were never touched—many racial hygienists were reappointed professors of human genetics at leading German universities. In recent years, largely as the result of the events of the 1960s, Germans have begun to explore this dark side of the history of science; people are begin-



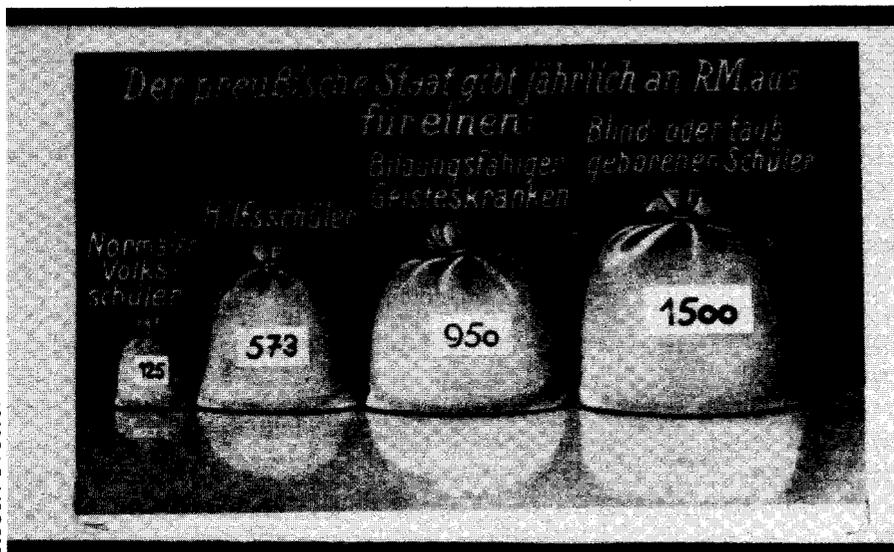
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Volk and Race (Folk and Race): one of the 2 leading racial hygiene journals. Cover shows the declining birth-rate of Germany in the 1920s.



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From Volk and Race; caption reads, "Only the criminals are multiplying in present day Germany." Pictures show "criminal" families with averages of 4.9 and 4.4 children; families from the "educated classes" with only 1.9 children on the average.



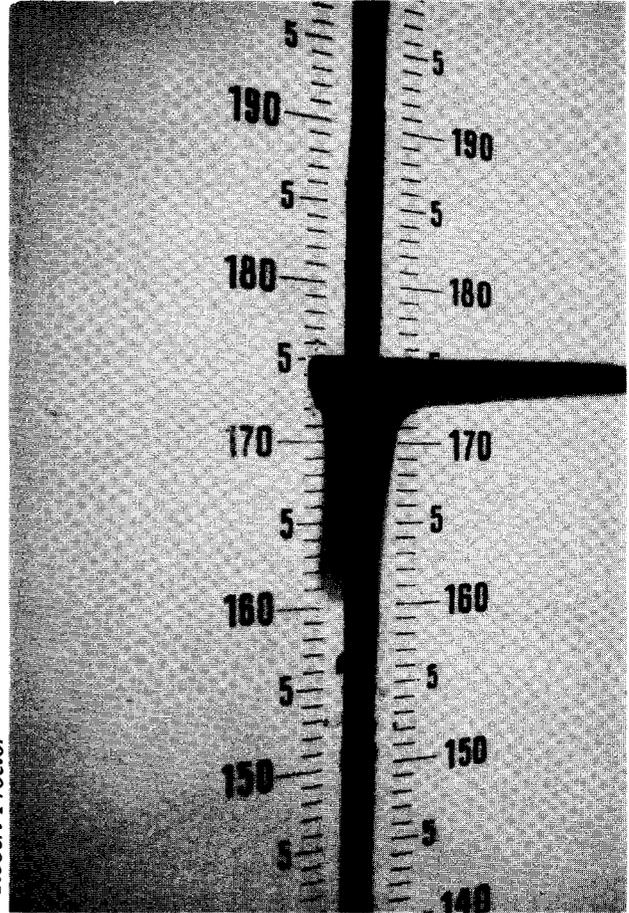
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Racial hygiene journals used graphics like this one to criticize "excessive" expenditures on disabled children (1500 Reichmarks/yr. for blind and deaf children; 950 Reichmarks/yr. for retarded children) compared with expenditures for "normal" children (125 Reichmarks/yr.), in a campaign that eventually led to the "elimination" of the "unfit" in hospital gas chambers.



Robert Proctor

Ziel und Weg (Goal and Path) was the leading journal of the National Socialist Doctor's Association. This cover page shows leading members of the Association in a 1933 celebration, "We're taking over the leadership."



Robert Proctor

In the concentration camp at Buchenwald, some 8000 Russian prisoners of war were executed during "medical exams" by shots fired into their necks through a slot disguised as this device for measuring height.

"The Prussian Ministry of the Interior is looking for five doctors to serve in the concentration camp at Osnabrück. Salary: 10 Reichmarks/day plus free room, board and services." (Job notice in Ziel und Weg, 1933.)

Das Preussische Ministerium des Innern sucht für Konzentrationslager in der Nähe von Osnabrück fünf Aerzte.
 Bedingungen: RM. 10.— täglich Gehalt, dazu freie Wohnung und Verpflegung.
 Meldungen umgehend erbeten an:
 Herrn Ministerialrat Dr. med. L. Conti
 Medizinalabteilung des Preuß. Ministerium des Innern, Berlin W. 8, Leipzigerstr. 3.

Robert Proctor



A Dachau concentration camp victim of Nazi medical experimentation collapses after being subjected to low pressures simulating those faced by pilots bailing out at high altitudes. (National Archives, Washington, DC.)

ning to wonder whether it is proper that former SS and SA* functionaries sit on the board of directors of the German Medical Association, and whether it is proper for the German medical community to be directed by a former Colonel in the SA.

There is also a growing consciousness that racial hygiene was not just a German phenomenon, that in fact a large Nordic movement flourished in the United States long before the Nazis rose to power. The American Emigration Restriction Acts of 1924 and the various sterilization laws dating back to 1907 in the US served as models of racial policy to early Nazi medical men looking for international legal precedents.

There is finally a growing consciousness that racial hygiene may live under many different names, and that the past is very much still with us. Criminal biology, a major research area in Nazi science, is again on the rise.

*The SS (*Schutzstaffel*) and SA (*Sturmabteilung*) were select military units known for their dedication to Nazism.

American research as recent as January 1982 purports to demonstrate that criminality is a genetic disorder.⁹ Hormones are being examined in search of the molecules which will explain why "what is" ought to be, whether this involves differences in the math ability of men and women, or differences in intelligence between blacks and whites. And the trend to blame the social order on a natural order is not restricted to the capitalist West: Dr. Guenther Doerner, endocrinologist at the Humboldt University of East Berlin, has recently conducted experiments in an attempt to prove that homosexuality in humans might be treated or even prevented by appropriate *in utero* injections of hormones into the developing fetus.¹⁰

In his 1954 history of the *Destruction of Reason*, Georg Lukacs argued that biologism (biological determinism) in philosophy and sociology has always been the basis of reactionary world views. Perhaps this has not always been the case—perhaps there have been times that nature has been appealed to in pursuit of genuine progress, or that organismic analogies have served to help bring down oppressive orders (one thinks of Enlightenment philosophy in the first instance, Hobbes in the second). But in the 20th century, and even much of the 19th, the appeal to biology as a source of inspiration for the structure of human society has played a largely conservative, and sometimes tragic role. Racial hygiene in Nazi Germany was an extreme case of "biologism," but neither the first, nor certainly the last. It is a history that we have yet to conquer. □

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A BLACK PSYCHIATRIST EXAMINES RACISM

An Interview with Dr. Alvin F. Poussaint

Interviewed by Connie Phillips

Mental health care in the US, especially for blacks, neglects issues of race and class—deep-rooted problems of our society. Dr. Alvin F. Poussaint has been Associate Professor of Psychiatry at Children's Hospital Judge Baker Guidance Center (Boston, MA) for three years. He was Associate Dean of Students at Harvard Medical School for three years after he received his degree in psychiatry from Cornell in New York. Educated mostly in New York, Dr. Poussaint became increasingly politicized as he went through medical school—especially at UCLA, where he was the only black student. He also co-authored *Black Child Care*.

SftP: Before we talk about your perspective on mental health care, can you describe your present position and a little about your background?

Poussaint: I supervise trainees in psychology, social work and psychiatry. In addition to the teaching, I do clinical work, mostly with the Family Support Center, which deals with families in which there has been a death, life-threatening illness or incarceration. We focus on bereavement and grief. We might counsel families in which there has been child abuse when the abuse leads to a death. One of the goals of the clinic is support of the family through a difficult time and help

Connie Phillips is a teacher and writer. She is a long-time member of Science for the People.

with the psychological problems that accompany the disruption of the family after a death or incarceration. Young children may act out, become anti-social—it's a critical time to practice preventive psychiatry.

We consider incarceration an equivalent experience to death because when a father or mother or brother is put in jail for 20 years, that's a loss. The reactions are similar, but there's a stigma attached. The Family Support Center is available to families during the crisis and the counseling may continue for more than a year. There's a sliding scale fee for the services; some families use Medicaid.

SftP: How does the public know about your services?

Poussaint: We put out the word in a variety of ways, usually agency or hospital referrals. We have the most difficulty getting referrals from people who have been incarcerated, because people feel it isn't legitimate for them to seek help. Within that community of people, there's more suspicion of social service agents, who, they feel, have not served them properly. Incarcerated people are treated as the fringes of society and feel social services will be condescending or rejecting.

SftP: Can you comment on your training?

Poussaint: I grew up and did my undergraduate work in New York, to which I still feel attached. When I explored other cities and environments for medical school, I still found New York exciting and inter-

esting. In many New York Schools, including the Ivy League, there's a lot of overt racism, and you could be very isolated. I stayed in New York because my friends and support were there.

After I left Columbia, I went to UCLA for my psychiatric internship and training and a new experience. I found UCLA less accepting of minorities despite its reputation as a paradise. I was the first black intern. By this time, though, I was used to being in that position. I was one among the many and had adapted to that. The people in LA were not accustomed to seeing black people. I returned to New York at Cornell.

SftP: What were your experiences at Harvard like?

Poussaint: For 2½ years I was Director of Student Affairs as well as Associate Dean of Admissions at Harvard Medical School. There are racial problems at all institutions to work out. By the time I got to Harvard, I was much more of a political person and much more aware of how to move strategically. I had been in the civil rights movement in Mississippi with SNCC, CORE and SCLC.* By the time I arrived in Boston, I had acquired a more political and activist orientation. I came expecting not to be comfortable; I came with the understanding that I had a certain job to do. My role was, in part, adversary.

*SNCC: Student Non-Violent Coordinating Committee; CORE: Congress on Racial Equality; SCLC: Southern Christian Leadership Conference.



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“If a patient feels discriminated against, he or she needs to be helped to understand the issues politically.”

That was the reality, unlike in medical school when I wanted to be accepted by everyone else. I wanted to change racial, institutional problems.

SftP: Are medical schools different today in terms of racism?

Poussaint: Minority admissions since 1969 have doubled. Harvard has been a leader—in four years, Harvard went from about 1% minority to 20%. It happened because of people like Dr. Ebert, Dr. Eisenberg* and myself. I couldn't have done it alone without support from key faculty. The faculty endorsed these moves because, even though they were mainly conservative people, they were part of a big institution that felt less threatened than a smaller school. Schools like Harvard also take pride in leading the way. The sense of Dean Ebert was that it was time minorities moved into medicine and Harvard had to do something about it. It was supported by the times we were in; there was a lot of support from faculty and society. Harvard opened up to minority students but not without difficulty and problems.

I provided counseling for minority students on a variety of issues, including strategical and political ones. We had a strong alliance. I was also very involved with the white students, particularly those who were progressive and activist and supported minority students on their issues.

*Dr. Ebert was Dean of Harvard Medical School for over ten years. Dr. Eisenberg is a Professor of Psychiatry at Harvard Medical School.

SftP: What political issues were you involved in at Harvard?

Poussaint: The political issues involved recruiting minority students, educating the admissions committee about the issues and problems and trying to re-define the question of merit: who should get in and why; how much credit should someone receive who's been through very difficult circumstances? We helped the admissions committee modify certain rigidities around standardized testing, becoming more broad and diverse in their notion of colleges. There still is, to a lesser degree, a tendency to deal with certain schools that aren't mainstream, say black colleges, differently. The first black student to graduate from Harvard with honors came from an all-black state college in Mississippi. There was work getting a wider perspective.

SftP: What are some issues around blacks and psychiatry?

Poussaint: There's no question that psychology is like other fields and institutions in the US in having a lot of racism. Sometimes it's harder to uncover because it's clouded by psychological hokus-pokus. Psychologists and psychiatrists have certain kinds of values and prejudices that affect how they evaluate a patient.

It's been documented that many white therapists have a tendency to see black patients as schizophrenic and paranoid; this has to do with some of their own projections. Blacks are seen by police as being more criminal. Mental health people tend to see blacks as having more

severe disorders, being more crazy and more frightened. Therapists often use psychiatric jargon to express the same kinds of images and notions of inferiority in blacks. For instance, a therapist will say that a patient has a “primitive character structure.” Blacks are more often described as being psychopathic. There is neglect and no understanding of the environmental situation that blacks come from, and a denial that racism even exists in the society.

There are white therapists who refuse to deal with racism as an issue with black clients. They dismiss it. They see the key issue as how to get along with a mother or father. It's clearly an individual, intrapsychic orientation to most of psychiatry. As long as that's so, therapists will be willing to downplay the effects of the environment. It's a provincial notion of environment. The model of the environment is often mommy, daddy and children in the suburbs. When you take people out of that framework, there's no understanding of what people have to go through. There is a lot of narrowness. It isn't just true for blacks, but for other populations.

In addition to racial bias, I think psychiatry and psychology have a very strong class and educational bias. Therapists often come themselves to be involved with the more educated, more well-to-do standardized American class. Poor people don't seek out mental health care because of money. The kind of therapy offered is inappropriate for people with different kinds of backgrounds, with different expectations of why they went to see a doctor.

When I was working at the Columbia Point housing project*

*The Columbia Point housing project was a primarily minority and low-income project located in the Boston harbor area.

when I first came to Boston, doing outreach, many black families wouldn't let me into their apartments. When I tried to find out why, they were very afraid of me. They felt that I was going to come in, talk to them, write up a pink paper and lock them up. That was their notion of what psychiatrists did. And that was true, that was real. The only time that population had anything to do with psychiatry was when they heard about a friend or relative being grabbed by the police, taken to a hospital, and a psychiatrist would lock them up. So they see psychiatrists almost in the role of protector of a different sort of society, similar to the police. Frequently, poor people don't get any service except to be committed to a state hospital.

SftP: How severely will Reagan's cutbacks affect mental health care?

Poussaint: First, the cutbacks will cut down on the number of people going into the mental health field. Students will gravitate towards those fields where they will make the most money because of loans they're carrying. There will be a change in attitude of society towards minorities because there will be fewer students willing to work with poor people. It's not going to be rewarded—it will become passé. I see a return to the stigma of being called a "do-gooder"; that there's something wrong with people who are concerned with society at large. That's not sophisticated; it's immature. Bringing a lot of conservative people into government will shape young and old people's attitudes towards poor people—more blaming the victim and a cynicism about the ability of anyone's ability to do anything about it.

I get more calls these days from people who want to discuss the "underclass," this particular group that will be here forever and there's nothing to be done about them. For about five years now, people have been asking what makes this

"underclass" behave the way they do. To me that implies that society is unwilling to change the nature of the social system. If you believe in an underclass then what you have to do is control them. More jails are being built so you can not only control but punish them: take away their food stamps, do anything to make it rough on them. There's no sympathetic attitude towards the have-nots.

The only hopeful sign is that unemployed people are joining the underclass; people who are looking for a job and want to work but are sleeping in the street. From that group I think you'll find a whole new movement, because people like school teachers are in that group. When the system says it won't support you, you have to make it on your own. If you have a network of relatives and other people to help you, you may get through; otherwise, you'll be in deep trouble. Homeless, able-bodied people will become politicized—if they don't, there's no hope for them. If you get an alliance between those people and poor people, you may see a whole political movement. That has to happen at some point.

As long as the administration continues to rule in the direction it is, and particularly if their projections are faulty, which they're very likely to be, then the whole economic picture will prove to be based on myth. The only thing the administration is reasonably sure about securing are not jobs for people, but their own positions of wealth, their own jobs. Businesses stay happy because they have no commitment to hire more hands. That trend is bad for minorities and poor people, and for white people on the fringes. It's just going to take longer for the white people to catch on.

Many whites are voting for measures out of prejudice because they think things like Prop 2½ and Prop 13* are directed against black people when they are really directed against them. Whites go out and vote and think that people on wel-



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fare will be kicked out of work and they find they're out of a job also. They're going to learn the hard way.

In terms of cutbacks affecting my work, mental health is a large and neglected part of the total health-care picture and it always has been. It's being put aside as less important; it's considered a luxury and a frill. It's as if crazy people, like poor people, are responsible for their condition.

SftP: What about your own clientele and racism?

Poussaint: Racism has to be dealt with in counseling both black and white clients. It's always an issue—someone who denies that is either being blind or doesn't want to see it.

If I treat a white person in therapy, over time, race will become an issue. It's in the psyche of all Americans. Black people also use a lot of denial about race. They have to be helped to see how it fits into their lives. My approach is not to help them adjust but to see the issues which help them develop a balance between wanting to take on a battle about it and self-destruction. For instance, if a client is being mistreated on a job and they leave, I have to help them work on maintaining their dignity, maybe bringing about some change. So part of

*Prop. 2½ and Prop. 13 are recent laws passed by referendum in Massachusetts and California, respectively, setting a limit to state property taxes, *without* reforming the tax system as a whole.

what you're helping people with is politics and strategy without, at the same time, getting their head chopped off. If a patient feels discriminated against, he or she needs to be helped to understand the issues politically.

I think people engaged in struggle often deny what the problem is. I've had black patients tell me they've never experienced racism. When that happens, something is severely wrong. People can have a very narrow notion of what racism is. When they read in a newspaper that a white policeman shot and killed a black ten-year-old, that's racism. They have to react. If they read that blacks are born genetically inferior and have low IQs, that affects them personally—that's racism. I have to help them deal with the pain of the experience of denying racism. Racism is always there—it's always an issue.

I also have to deal with racism being used in the opposite way. A black patient will sit there and tell you that every problem they have, from constipation to the inability to get along with their girlfriend, is all related to racism. Across the board: flunking a physics test is related to racism.

Still, I think the race issue is enmeshed in American society, in profound kinds of ways. You can feel it and see it, even in a movie with no blacks.

If I walk into a room with a black patient, they look up in surprise, then they look pleased—it's a race issue. If I walk into a room with a white patient, they're also momentarily surprised. It's always there. Even with people who work for me. If they're white, they're handling a lot for me, political matters, phone calls, patients, and they have to find some balance. Lack of acquaintance with the issues for all people is a serious problem.

SftP: What kinds of movements are there in psychiatry with respect to racial issues?

Poussaint: A number of years ago, the Black Psychiatric Association of

America tried to get the National Institute of Mental Health to declare racism a mental disorder which they refused to do. That would establish racism as an abnormality. That wouldn't excuse it, but would stigmatize it. Racism wouldn't be accepted as a normal way of functioning. It's similar to the struggle gays and women had with psychiatry.

In Boston, I guess there are about twelve black psychiatrists; nationwide, there are about 500-600. I don't just recommend black patients to see black doctors—it depends on the problems and the doctor. Black psychiatrists are more organized because they've had a battle trying to get minority issues dealt with in training therapists. You can't always call a person a racist when it's the whole society that's responsible. A white psychiatrist who goes through training without ever seeing a black patient, or learning about black issues, will be ignorant when it comes to dealing with a black patient. Even if that person is well-intentioned.

There was a move to include minority and discrimination issues in all psychiatric training. The American Psychiatric Association approved that for residency programs. Psychiatrists, when they finish their training, are supposed to be capable of serving all people, not just a small segment of the population. That's been accepted in principle; how much is being done varies. It should be part of the training for all social workers, anybody dealing with people. You leave people with good intentions, grappling on their own with issues after they've been propagandized through society and the media. They have difficulty even if they think they're working it out. After many years, a person may become arrogant about their point of view and unwilling to listen and hear. Psychiatrists have to be trained to deal with race issues because they permeate society, from elementary school.

Reagan and the boys just decided that it's okay to give tax exemption

to schools that discriminate. That's like giving people lawful permission to be prejudiced. That issue was handled in the civil rights law back in 1962 which stated that institutions receiving federal funds are not to discriminate. Subtle forms of racism are hard enough to deal with, but accepting open policies is going back to the 1940s.

SftP: Can you comment on blacks and science in general?

Poussaint: One of the weaker areas in education is science and math. A major effort has to be made to get black and minority students into science and it has to start in pre-school. For traditional reasons, blacks have been pushed into service fields and the entire science area was highly discriminatory. Black students aren't always able to identify with a white professor and vice versa. Our system is too damning—we don't like people who stumble. They'll get wiped out after one or two mistakes. A black student gets a C grade in, say, Chemistry, and is told that they'll not make it. Pre-med advisors often say that, because a lot of medical schools expect perfect records. As long as that's done, it's discrimination against people who come from disadvantaged backgrounds who may have to struggle more psychologically, socially, and academically to make the transitions. Black students don't get enough encouragement to stick it out. It doesn't allow for late development, which is common among people from disadvantaged environments. I didn't learn how to speak well until medical school—I was terrified to speak up in high school . . . A small thing like that can really interfere with your education, and your relationships with peers and professors. If you don't know how to talk properly, or you do poorly in a course, then you're considered dumb and that is just not true. Cultural and traditional ways can interfere with someone's progress in academic situations. Many fall by the wayside. □

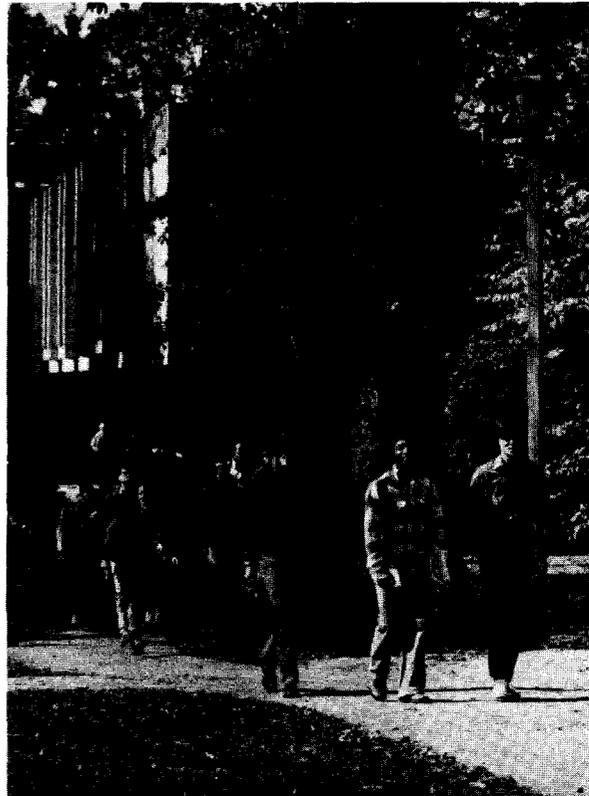
SCIENCE EDUCATION: THE HAVERFORD EXPERIMENT

by **Freddye L. Hill**

Afro-Americans and Puerto Ricans are not receiving an adequate education in science, especially mathematics, that would allow them to pursue college degrees or career training in science or related fields. Haverford College, a liberal arts college in Pennsylvania, has had remarkable success in preparing students for graduate and professional schools and for careers in science. However, it has not had the same degree of success with minority students. Overall, 80 percent of minority students who enter Haverford as freshmen graduate; however, the attrition rate of those who enroll in science or medicine is very high. Over the last eleven years, 92 percent of minority students failed to complete requirements for medical school admission. Only six minority students over the last eleven years have graduated from Haverford with degrees in the natural sciences. Some newly funded programs show excellent promise of changing this record.

In this article I describe this effort, what led to it, and how it addresses the problems that minority science students experience at a mostly white college. Haverford is attempting to reduce the attrition rate, and to attract more minority students into the natural sciences. This effort centers around the development of courses, programs, and strong supportive services. The Quaker heritage of the college, and the increased enrollment of minority students beginning in 1968 are two important internal forces relevant to the development of these programs. Most of the minority students who were admitted to Haverford in 1968 were from diverse racial and ethnic backgrounds, and also from very diverse educational backgrounds. They were mostly from the large urban Afro-American and Latino communities of the Northeast and their experiences and outlook were radically dissimilar and distinct from those of most white students, faculty, and administrators.

The early experiences of minority students at Haverford were similar to the experiences of minority students in other elite and not so elite institutions. The



Walter Holt

major problems were the hegemonic nature of white middle class culture, the lack of minority faculty or administrators who could act as role models, and the fact that the college had too few minority students to form a viable and sustaining community as a counter to what some perceived as the insidious exclusion of minorities from the non-academic life of the community. In essence, attention focused on academic issues and concerns about the quality of life.

Minority students wanted to create an environment to which they could feel connected; an environment tolerant and respectful of their racial, ethnic, and class

Freddye Hill is the Associate Dean and Director of Minority Affairs at Haverford College in Philadelphia, PA. She is an educator and activist trying to eliminate the dichotomy between science and everyday life.

Ms. Hill is concerned with social, political, and economic issues. She teaches sociology and advises students.

heritages and experiences; an environment which would allow them to be themselves without feeling a sense of shame or ambiguity. The students needed an environment in which they could develop skills, talents, and interests related to their heritages, their experiences, and the needs of the communities from which they came; and, correspondingly, an environment which would allow them to develop and grow academically and intellectually.

During the early 1970s, the lack of a supportive environment for minority students at Haverford disillusioned a number of them. If one examined all of their paper credentials, they had the ability to fulfill the academic requirements at Haverford; nonetheless, many of them experienced academic difficulty, with less than one-third of the black students who entered in 1968 graduating on schedule. Dean Kannerstein observed, "Many, if not most of the students in academic jeopardy were having problems, *not because of any lack of ability, but because of real difficulties in feeling a part of the community.*"

Confrontation Sensitizes College Community

Confrontation between the minority students and the rest of the Haverford community began in the early 1970s and continued sporadically until the spring of 1980. The demands, for the most part, have centered around quality-of-life issues and the need for curricular innovations and reforms.

The early confrontations had the effect of dramatically forcing the Haverford community to reaffirm its Quaker traditions and commitments, as well as opening new forms of dialogue between minority students and the rest of the community. During these dialogues, many faculty, administrators, staff, and students committed themselves to improving the overall quality of life for minority students.

The resolution of these confrontations resulted in a number of changes which have had a significant impact on the accessibility of science education for minority students, and have led to a reduction in the high attrition rate of minorities in science.

Pre-First-Year Summer Program

Minority students felt that a key factor in their academic performance and adjustment to Haverford was their inadequate high school backgrounds. They felt that a summer program designed to provide them with academic and social-survival skills was necessary. The Pre-First-Year Summer Program is a five week voluntary program begun in 1972 that now enrolls 50 students a year from Haverford, Bryn Mawr and Swarthmore. It

introduces minority students to the rigorous academic climate and intense social life of the tri-colleges. The program is not remedial; it develops academic skills and other survival skills.

Minority students ordinarily do not interact with faculty, administrators, staff, or upper class students on the same level as white students, especially when they are experiencing difficulty. In the social component of the Pre-First-Year Program, minority students meet faculty, administrators, and staff in an informal setting before classes begin and learn how to interact with them with ease. These students then do better in all of their courses, especially in science.

The program's social component leads to the development of social bonds and social networks, all of which facilitate academic success and the ability to cope with the many pressures of the college, the problems of late adolescence, and homesickness. Interaction with several upper class Puerto Rican tutor-counselors who work with the program has been especially helpful for students from Puerto Rico; they have begun to feel comfortable, and their learning has been enhanced.

The academic component of the program consists of six courses, of which four are required: writing, mathematics, computer programming, physics with a lab, sociology, and philosophy. The inability of most minority students to perform well on tests in the natural sciences and in mathematics is related to their lack of training in analytical and abstract thinking or in problem solving. We have found that most have been trained to memorize material and find it very difficult and tedious to retrain themselves to think and study in another mode. All of the Pre-First-Year Program courses emphasize the development of strong analytical, quantitative, and problem solving skills. The process of learning how to think of and approach a subject matter in a different way requires a lot of sensitivity on the part of all parties involved, especially faculty and administrators.

Innovative Science Program

The Natural Science Division has made aggressive attempts to ensure that minority students have equal access to majors, and receive both academic and non-academic support. Haverford has received a grant that has helped provide innovative and experimental courses, supportive services, and financial assistance to minority students interested in majoring in chemistry, mathematics, or physics.

There are chemistry and mathematics courses which are slower paced; they allow minority students, and many white students, to acquire the knowledge and

skills necessary to do well in the higher level courses. The courses are not remedial, but focus on developing the skills necessary for a science or premed major. They are taught by distinguished members of the Chemistry, Mathematics, and Biology Departments. Since minority students who take the courses get behind in the science sequence, special funds are available for them to take summer courses. This allows them to take a normal course load in their junior and senior years.

This year, the instructors in the Pre-First-Year Program developed an integrated mathematics, physics, and computer course, which has been invaluable in preparing students for calculus and computer science. A real gain of this integrated approach to science has been the demystification of computer programming and calculus. Minority students who had weak backgrounds, or who had extreme math anxiety, have all done reasonably well in these courses this fall. None of them, for example, have failed in any of these courses



and all expect to take more computer courses at Swarthmore and the University of Pennsylvania.

A minority faculty member has developed an informal course to teach computer text editing to minority students, faculty, staff, and any other interested persons. There is a tremendous amount of enthusiasm about learning computer text editing, which, in a strange way, has sparked an interest in computer programming in some of the non-science majors.

One of the earliest concerns of minority students at Haverford was the lack of minority role models at the college. There are no black or Latino professors in the natural sciences; there is one Asian teacher in mathematics. Haverford's Visiting Scholars Program has addressed part of this problem. Minority scientists are invited to give formal lectures in their areas of research

and scholarship; they also informally talk with minority students about the problems minorities face in science, and about how they can use science.

Advising and Tutoring

The two most successful components of Haverford's supportive service programs are minority advising and tutoring. The advising program consists of special seminars on study skills and problem solving in science which are held during the first weeks of the fall semester. They cover topics such as:

- the nature of, and expectations in, science courses at Haverford
- what is a good sequence of courses for science majors or for those interested in engineering or medicine
- where to get help, if needed
- how to approach course material, how to take notes in class and when reading texts or other material
- how to recognize what is important and what is not
- how to work and study effectively in groups (encouraged by the College) in preparing homework, lab assignments, and in preparing for exams
- general techniques of problem solving in science.

Minority students meet with their science advisor five or six times a semester, especially before and after major exams in science courses. The advisor closely monitors their progress and establishes links with instructors.

The tutoring component has provided extraordinary tutoring and has developed into an excellent peer counseling and advising program. Although most of the tutors are paid, many tutor as an expression of their commitment to ensuring that minority students excel in science. It appears that the success of minority tutors is not grounded solely on the quality of tutoring, but rather in the fact that minority tutors become role models and, by their very presence, are able to reassure the underclass students that minority students can make it.

Pre-Sophomore Program

A student's sophomore year is crucial, because it prepares the student for entry into the various departments as majors. Consequently, it was during the sophomore year that most minority students dropped out of science tracks. The Pre-Sophomore Program was designed in 1981 so that students of the tri-colleges who experienced difficulties during their first year would

have a chance to overcome some of their weaknesses and to acquire the skills necessary to survive courses such as organic chemistry, molecular and cell biology, and physics in the next year. Of the three Haverford students participating in the program, two are doing exceptionally well and have developed good relations with members of the Chemistry and Biology Departments. Their participation in courses is better than or equal to their peers. The third is experiencing difficulty.

Saturday Program for High School Students

The ten year old "Saturday Program" prepares minority students from some of the worst high schools in Philadelphia for college admission. Minority students at Haverford initiated and funded the program, teaching a wide range of courses including Afro-American history, Afro-American literature, mathematics, and courses related to women. The college will now supplement these with mini-courses taught by Haverford faculty members, assisted by minority student volunteers. Some of the courses to be offered are problem solving in physics, a review of genetics, and computer programming. The program will be expanded beyond High School juniors and seniors to include sophomore and first year students as well as students from more diverse schools. The college will then be able to reach more students before they are turned off to science by the often inadequate teaching and the other multifarious "turn-offs" of the Philadelphia school system. Haverford's minority students will be positive role models for the high school students, most of whom know few people who are studying science or who have careers in science. Hopefully, the program will be a stimulus for those who had not considered careers in science or medicine.

Responding to the Needs of the Community

The black and Latino communities are under-represented in science, medicine, engineering, and the many careers which require a background in science. To merely increase their representation in these areas does not in any way address the long-term problems and needs of these communities, nor does a numerical increase of minorities in these areas guarantee that minority scientists will respond to the needs of their own communities. A meaningful science education for minority students should include a rigorous academic component that will facilitate the increased participation of minorities in all areas of science, medicine and engineering. So that young minority scientists will be able to respond to their communities, colleges must develop rigorous and innovative social and

academic components that will broaden their moral, spiritual, philosophical and political dimensions. If society is to change, colleges must train men and women who are committed to saving the world, rather than destroying it in the race for power, fame, and fortune. □



“ In the 1970s no journal made as important a contribution to American socialist theory as **SR**. It directed attention to the fiscal crisis of the state before anyone had ever heard of a property tax initiative. It synthesized modern feminism and Marxism. It developed a socialist politics that was fully democratic . . . It remains a beacon of light for socialists. ” JOHN JUDIS, IN THESE TIMES

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THE THIRD NATIONAL SCIENCE FOR THE PEOPLE CONFERENCE

The Boston Science for the People Chapter is planning the Third National Conference. It will be held May 28-31 at the Community for Non-Violent Action in Voluntown, CT. The purpose of the conference will be to discuss SftP political activities, the magazine, fundraising, and directions for the future.

SftP members and subscribers are encouraged to attend the conference. If you are interested in attending or want more information, contact SftP Boston Steering Committee, 897 Main St., Cambridge, MA 02139, (617) 547-0370.

book review

by Bertram Bruce

Bad Blood: The Tuskegee Syphilis Experiment

by James Jones, The Free Press, New York, 1981.

In 1932 the United States Public Health Service (PHS) began deliberately withholding treatment for syphilis from 400 black men. For forty years, until 1972, government scientists and private physicians in and around Macon County, Alabama carefully recorded the effects produced by untreated infestations of the spirochete, *Treponema pallidum*. These effects included gummas (rubbery tumors), crusty ulcers on the skin, bone deterioration, liver deformity, lesions of the aorta, blindness, paresis (a softening of the brain that produces paralysis and insanity), and death. The stages of the disease's development and the consequences of not treating it were all known in 1932. And so was a cure.

Bad Blood: The Tuskegee Syphilis Experiment, by James Jones, is a chronicle of the appalling cruelty that turned people into "subjects" for the sake of science. The men in the study were told that they had "bad blood"—but the "treatment" they received was only aspirin and iron tonic. The PHS worked with local doctors to ensure that no antibiotics or other treatments would be given that might alter the progression of the disease.

Letting the principals tell the story in their own words, from journal articles, newspapers, PHS memos, letters, and interviews, Jones shows in frightening detail how a racist society can betray even the lowest standards of decency. To this day there has been no apology from the PHS officers directly involved in the experiment and the only outcome of a suit against the US, the Department of Health Education and Welfare, the PHS, the Center for Disease Control, the state of Alabama and others was a cash payment of \$37,500 (less lawyers' fees) to the survivors, and lesser payments to the heirs of those who did not survive.

The first mention of the infamous syphilis experiment usually raises the

question of how it could have gone on for so long without being exposed. Jones shows that there was no coverup; the experiment was regularly reported in medical journals and at medical conferences. It involved not only the PHS but also the Tuskegee Institute, the Veterans' Hospital in Tuskegee, and both white and black doctors in Macon County. Over the years, the study became a training ground for young physicians. Where else could one go to see prime examples of the debilitations of syphilis?

The study was not the product of a mad scientist working alone in a secret laboratory. Nor was it the playing out of some gruesome fantasy of people who hated blacks and poor people. The doctors involved were in fact among the progressives of their day. They were the first to conduct large-scale syphilis treatment programs for blacks. As Jones says, their "argument that social class had a direct bearing on health attacked the very foundations of the racist belief that the high black mortality was due to racial inferiority." These doctors worked hard to draw national attention and support for improving the health and economic conditions of blacks. When money for treatment ran out during the Depression, the study was proposed as an alternative preferable to doing nothing at all. Jones shows, however, that the relatively liberal attitudes of these PHS doctors were rooted in prevailing attitudes about race and class. Blacks were to be helped because they were a "weaker race"; if they were not treated, their "degeneracies" might spread to the rest of society.

Jones lets the syphilis experiment tell itself, only stopping to point out numerous ironies along the way. Despite the sacrifice of people for the glory of science, virtually nothing was learned—the study was bad science on methodological as well as political and moral

grounds. Yet nothing seemed capable of stopping it. For example, a PHS staff member, Peter Buxtun, insisted in 1967 that the patients in the study were not volunteers—"they were nothing more than dupes and were being used as human guinea pigs." But his objections were essentially ignored. Even the discovery that penicillin was an inexpensive, safe and effective cure for syphilis only prolonged the study—never again would scientists have the opportunity to study "uncontaminated" subjects.

Bad Blood is a focused and well-researched account. But as valuable as the book is, I was left with frustrations at the end, unanswered questions and issues that Jones seemed to skirt. I wanted to know more about what other studies the PHS (and other agencies, such as the National Cancer Institute) were, and are, conducting. I wanted to know more about the country that failed to notice and then, despite the newspaper accounts and the 1973 Kennedy hearings, practically condoned the study. It took eight months after the story broke in the *Washington Star* for the surviving "subjects" to receive treatment. I wanted to read more about the development of racist beliefs of scientists and the logic that governed the progression of the study. And I wanted to know more about how that logic operates in less obvious circumstances. These questions are clearly beyond what the book sets out to do.

On its own terms, however, the book is difficult to fault. It is a gripping story that reads like a novel in which any ending would be good, as long as there is one. It is also a good reference on medical care for blacks, and on the relationships among medicine, theories of race and the economic roles and conditions of blacks in 19th and 20th century United States. □

Bertram Bruce is a member of the Sociobiology Study Group.

book review

by Joseph Alper

The Legacy of Malthus: The Social Cost of the New Scientific Racism by Allan Chase, Knopf, New York, 1977.

Since the early nineteenth century, theory after theory has been proposed purporting to show the genetic inferiority of women, non-Nordic peoples, and the poor. Allan Chase's *The Legacy of Malthus* is a historical study of such theories.

Chase begins with Thomas Malthus, who argued that the poor are poor because they are genetically unfit. In succeeding chapters Chase discusses many of the nineteenth and twentieth century genetic theories for feeble-mindedness, poverty, crime, lack of intelligence, moral degeneracy, and disease. The proponents of these theories argued that welfare and public health programs were a waste of money since they did not attack the root cause of the problems—namely bad genes. Only eugenics programs involving the sterilization of the unfit and strict immigration laws to keep the unfit out of the United States would prevent the degeneration of the "American" people.

One of the great strengths of Chase's book is that he sets these racist theories in their social, economic, and political context and shows that they were not an aberration, but served to legitimize the policies of the ruling class. To make his point Chase employs a much broader definition of racism than is normally used. For him racism involves the persecution and suppression of any group in society—especially the poor. In fact, for Chase scientific racism is "free of all racial, religious, and cultural biases. It is not concerned with people but simply with . . . the maximization of profits and the minimization of taxes on those profits, especially when those taxes are earmarked for promoting the health, education, and personal welfare" of working people. Thus, hookworm and pellagra were labeled genetic diseases so that

money would not have to be spent on public health or in providing a living wage, just as Jensen's 1969 article proposing that blacks are genetically ineducable was used to justify the elimination of costly head-start programs.

Chase's central theme is that scientific racism is responsible for the sorry state of American public health and social welfare. The US ranks 16th in infant mortality among the nations of the world because scientific racists have persuaded a succession of all-too-willing Congresses and Presidents that the poor are biologically unfit and are poor *because* they are unfit, and their problems are irremediable. Millions of children are not immunized against polio, measles, German measles, diphtheria, and tetanus, and suffer from mental retardation as a result of malnutrition, while millions of others lack adequate schools and housing.

Perhaps the most important lesson of Chase's book is that scientific racist theories of the past were put forward by leading scientists and academics of the day. These scientific racists were not the ancestors of the Ku Klux Klan or the Birchers, but of E.O. Wilson, the most prominent of the human sociobiologists, who is a Professor of Zoology at Harvard University, and of Arthur Jensen, Professor of Psychology at the University of California. Carl Brigham, a Professor of Psychology at Princeton, wrote *A Study of American Intelligence* (1923) in which he stated that "the Nordic type is superior to the Alpine" and that the average Russian (a euphemism for Jew) had a mental age of 11.34 years. In *Is America Safe for Democracy?* (1921) William McDougall, chairman and Professor of Psychology at Harvard wrote: "The superiority of White literates to White illiterates is due . . . not wholly or

mainly to their schooling but rather to an inborn greater capacity for intellectual growth." In 1937, Ernest Hooten, Professor of Anthropology at Harvard University, identified certain "criminal racial types" and concluded: "We must abandon hope of social palliatives and face the necessity of dealing with biological realities."

Chase labels the theories of these men and the dozens of others he discusses as "pseudo-science." I believe that this characterization is misleading. The works of the old scientific racists were published in the most reputable and prestigious scientific journals of the day, were taken seriously by the other scientists and were treated as science. Where these theories were challenged by other scientists of the time, the differences were regarded as scientific disputes; it was not a question of one set of theories being scientific and the other not. One such challenge came from Joseph Goldberger, who showed in 1915 that pellagra is not genetic in origin but simply a nutritional deficiency disease. Goldberger's findings were not put into practice until nearly twenty years after he published them because in 1917 a 444 page report of the Pellagra Commission of the New York Postgraduate Medical School and Hospital discounted his work as demonstrating only "false correlations" and not a causal connection between poverty and the disease.

Labeling the theories of scientific racists as "pseudo-scientific" is unproductive for two reasons. First, it is unconvincing to the majority of the "edu-

Joseph Alper works in the Department of Chemistry at the University of Massachusetts in Boston, MA. He is a member of the Science for the People Sociobiology Study Group.

cated public," who believe that science is whatever is published and accepted by scientists. (This definition of science is not silly, in fact, since there is no other "objective" definition of science.) Second, characterizing these theories as pseudoscience plays into the hands of a Wilson, who claims that his theories are the first which deserve to be termed scientific. We must remember that each succeeding theorist of scientific racism believed that his work provided a scientific foundation for his views and

attacked his critics for being "unscientific." Sixty years ago McDougall was accusing those who rejected his theory on the inheritance of intelligence of "denying also the theory of organic evolution. . . For the theory of the heredity of mental qualities is a corollary of the theory of organic evolution. The latter cannot be true if the former is not true." The words might be Wilson's.

Chase's book is unique among those on this subject because of its wealth of quotations from the writings of scientific

racists and because of its extensive (60 pages) documentation and bibliography. It is flawed by being overly long and somewhat repetitious and, most importantly, because it makes no mention of women as an oppressed class and the object of an enormous literature justifying sexism. Despite these limitations, this book should be read by everyone concerned with the social and political implications of biological theories and with the role they have played in our society. □

History of Race

Continued from page 9

In the late 1800's the underdeveloped world began to change as the advanced industrial countries, primarily Great Britain, France, the US and Germany, began to divide these territories into private colonial empires. In the process they seized control over a number of what they termed "inferior races." The "white man's burden"—the theory that the domination of inferior races was a natural process which was raising the standards of human society and government—became part of the overt justification for colonialism. Thus, the colonial domination of a subject people becomes, like slavery had, an inevitable biological reality rather than a question of politics or economics.

Neocolonialism and Anti-Racist Theories

After World War II, the colonial empires began to crumble as the peoples of Asia and Africa fought for independence. The fight against direct colonialism had to include a fight against one of its main ideological props—the theory of racial difference. This struggle was reflected in the United Nations which held a series of conferences on race from 1949-1967. These conferences gathered together anthropologists, biologists, sociologists and other scientists from around the world and resulted in these conclusions:

1. (1949) For all practical purposes "race" is not so much a biological phenomenon as a social myth.
2. (1964) All men living together belong to a single species and are derived from common stock; pure races in the sense of genetically homogenous populations do not exist in the human species and there is no national, religious, geographic, linguistic, or cultural group which constitutes a race.
3. (1967) "Race" in the biological sense, is totally irrelevant to racial attitudes and thinking.
4. (1967) The division of the human species into "races" is purely arbitrary and conventional and should not imply any hierarchy whatsoever.¹²

The fight against racialism was reflected in the US where after World War II a number of prominent scientists came to the forefront. This was the era of Ashley Montagu, Ruth Benedict, Margaret Mead, Theodosius Dobzhansky, Ethel Toback, and many others. Their books were promoted and their ideas popularized throughout the country. Even the UAW-CIO joined in producing and distributing an animated color film "Brotherhood of Man," based on Benedict's pamphlet *Races of Man*.

Like the abolitionists, many of the modern fighters of racialism flourished in the US because they represented an important school of thought within the capitalist class. The end of direct colonialism—the open and total control of one country by another—came to be seen as necessary to promote US financial interests. The newly free ex-colonial territories were open to investments and loans and a consortium of US and other international banks poured billions of dollars into them. This soon led to a situation where a country was politically independent but economically controlled by outside financial interests—neocolonialism.

By the mid-1960's, most of the anti-colonial struggles had come to an end with many countries gaining political and economic freedom while others had thrown off the chains of direct colonialism only to be fettered by loans and debts. The fight against the use of theories of race as a defense of colonialism was also essentially over, and except for a few places such as South Africa, racial inferiority is no longer used as an open justification for the control of one country or people by another.

The Civil Rights Movement

However, like a chameleon, the concept of race evolved with the changing political and economic environment. During the 1960's and 1970's, racial theories began to be used in a way that tended to cloud issues, conceal problems and misdirect those looking for answers to questions raised by this movement for legal



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and economic equality. But the US government's active support of the anti-colonial movement presented a problem at home. How could the anti-colonial, anti-racist sentiments expressed in the international arena be reconciled with the existence of segregation and discrimination at home? This problem was solved by the coalescence of two interests—the struggle of the black masses against discrimination and oppression, and the desire of Capital to industrialize the South in order to utilize the relatively cheap non-union labor to be found there. The fusion of these interests resulted in the Civil Rights movement which began in the late 1950's.

Industrializing the South meant putting both black and white workers into the same factory which made the workplace more efficient and therefore profitable. You only need one bathroom and one water fountain, for example, though these are fairly minor considerations. More importantly, you also have a workforce whose demands for higher wages, and better working conditions, can be met with attempts to try to divide the workers along color lines, thus weakening their collective power. Thus at this time, integration was explicitly favored by many capitalists and was perceived to be in their economic interests. This fact, along with the developing popular struggle for civil and economic rights, pushed the US government into supporting the Civil Rights movement. Government support, however, was contingent upon the movement remaining nonviolent, reformist, essentially non-economic, and focused on the South.

By the early 1960's, the Civil Rights movement began to break out of its narrow boundaries and spread into the Northern ghettos—into the heartland of the American proletariat. As it spread, sensitive economic and political questions were raised and white workers were drawn into the struggle for economic and political equality. This situation was explosive and indeed it did

lead to social turmoil. In 1966 Watts erupted, and in 1967, 8 cities, including Newark and Detroit, rose in rebellion. In most of these instances, black and white workers fought together against perceived common enemies—police brutality, and poverty.

The government responded to this crisis with a program designed to reduce social disruption—"The War on Poverty." The strategy was to pump money into key urban areas to cool out the volatile situation. The ideological accompaniments to this basically economic program were "Black Nationalism" and "the fight against racism." However, these ideologies had the effect of splitting the movement for economic and civil rights, again along racial lines. The importance of trying to contain the Civil Rights movement to be a "fight against racism"—that is, trying to make racism a moral question instead of a political or economic one—was put forth in the government's master plan, *The Report of the National Advisory Commission on Civil Disorders—The Kerner Report*. This report laid all the blame for the urban disorders on white racism.¹³

Furthermore, the importance of fostering "Black Nationalism" as a means of dividing the Civil Rights Movement along racial lines is exemplified by the assassination of Malcolm X, who more than anyone else of his era spoke for the black proletariat. As long as Malcolm X espoused a black separatist—Black Nationalist—perspective, he did not significantly threaten the political system, since his appeal to whites would clearly be limited. However, in 1964, upon returning to New York after a trip which included a pilgrimage to the Muslim Holy Cities of Mecca and Medina, Malcolm X responded to a question about his attitude towards whites by rejecting his earlier attitudes which had made it impossible for him to ally with whites.¹⁴

During the summer of 1963, in a number of major cities, black and white workers had overlooked whatever animosities existed between them and fought side-by-side for their common good. Now a major black leader was reflecting this unity. This unity represented a serious threat to key political forces within the US. Perhaps not coincidentally, within a year, Malcolm X was assassinated.

The situation remained grave for the government throughout much of the decade of the 1960's, but by the end of 1968 the situation became manageable. The Civil Rights movement was well on the way to being broken up into segments representing Black Power, Brown Power, Red Power, Puerto Rican Power and others. Many whites had become alienated, and the movement that had threatened to unify the working class had been reduced to only fighting racism.

Since its introduction, the “fight against racism” theme has continued as the main ideological underpinning of the movement for equality. While this had fit in with ruling class strategies during the 1960’s, the economic realities of the 1970’s and 1980’s are stimulating the return of “scientific” racial theories that claim to prove the inequality of humankind. The work of Jensen and Shockley, and the Sociobiology of E.O. Wilson are harbingers of this revival. While Wilson has shied away from directly dealing with the question of race, his recent discussion of the genetic basis of cultural differences lays the groundwork for racist arguments.

Dangers of the 1980’s

Now during the 1980’s the economic boom spurred by the industrialization of the neocolonies and the reindustrialization of Europe has come to an end. With the development of the multinational corporation, countries which were formerly importers of manufactured goods are now exporters of manufactured goods. For example, instead of importing clothing, Brazil, Taiwan, Korea and a number of other countries now produce clothing for sale in the highly competitive international market. By the mid-1970’s, the world markets started to become glutted with more goods than could be sold, and the capitalist world has slid fairly steadily into economic depression ever since.

During the post World War II period, US corporations had been able to steadily increase their profits in significant measure at the expense of the rest of the world. Some of these “super profits” have “trickled down” to the American workers in the form of a higher standard of living. However, the deepening depression of the 1980’s is reducing the profitability of the multinational corporation. In order to keep profits up, US cor-

porations are turning on their workers by trying to take back many of the concessions and advances of the past 50 years, and preparing to try to force the standard of living down, perhaps to the level of the Latin American workers—our companions in the integrated hemispheric market.

Today at least some elements of the US capitalist class are in much the same position as the slave holders were in the 1830’s. Faced with growing opposition to their policies, they are beginning to call upon racist theories in the guise of science to justify increased repression. And, like the 1830’s, some scientists are rallying to their defense. There are also a large number of scientists actively opposing these developments on the basis of the fact that the “races” are equal, and that Shockley, *et al.*, are racists. However, this is using the old Civil Rights type strategy to challenge these new racist strategies, and in the long run it will not work. It is time to take another course.

It is time to argue clearly to the people of this country that “races” do not exist in any relevant sense, and that superficial physical differences between people can not legitimately be used to justify social, political or economic inequality. People must come to understand that the division of humankind into “Races” was the by-product of a theory that arose firstly as a defense of slavery, and which later was expanded to help justify imperialism. Hopefully when people become aware of the economic and political uses to which racial theories were put, it will be easier to convince them that the concept of race itself is scientifically indefensible. □

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Earl Dotter

resources

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NATIVE AMERICANS

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MINORITIES

Occupational Disease Among Black Workers: An Annotated Bibliography; Morris Davis and Andrew Rowland, Labor Occupational Health Program (2521 Channing Way; University of California; Berkeley, CA 94720), 1981, 80 pp., \$7.00.

Summarizes several hundred research papers, journal articles, and studies dealing with the health of Black workers.

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NEW YORK: **New York City Chapter:** c/o Red Schiller, 233 E. 21st St., Apt. 18, New York, NY 10010. (212) 254-1365. **Stony Brook Chapter:** P.O. Box 435, E. Setauket, NY 11733. (516) 246-5053. Steve Risch and JoAnn Jaffe, 909 N. Tioga St., Ithaca, NY 14850. (607) 277-4097.

NORTH CAROLINA: Marc Miller, 51 Davie Circle, Chapel Hill, NC 27514. (919) 929-9332; (919) 688-8167.

OHIO: Jenny Thie, 2147 Fulton Ave., Cincinnati, OH 45206. (513) 281-6149. Nici Ilnacik, Rt. 1, Albany, OH 45710.

RHODE ISLAND: Carolyn Accola, 245 President Ave., Providence, RI 02906. (401) 272-6959.

SOUTH CAROLINA: Keith Friet, 522 Savannah Hwy. Apt. #5, Charleston, SC 29407.

TEXAS: **Austin Chapter:** c/o Ed Cervenka, 911 Blanco St., No. 104, Austin, TX 78703. (512) 477-3203.

VERMONT: Steve Cavrak, Academic Computing Center, University of Vermont, Burlington, VT 05405. (802) 658-2387; (802) 656-3190.

WASHINGTON: Phil Bereano, 316 Guggenheim, FS-15, Univ. of Washington, Seattle, WA 98195. (206) 543-9037.

WISCONSIN: Rick Cote, 1525 Linden Drive, Madison, WI 53706. (608) 262-4581.

OUTSIDE U.S.

AUSTRALIA: Lesley Rogers, Pharmacology Dept., Monash University, Clayton, Victoria 3168, Australia. Janna Thompson, Philosophy Dept., La Trobe University, Bundoora, Victoria, Australia. Brian Martin, Applied Mathematics, Faculty of Science, ANU, P.O. Box 4, Canberra, ACT 2600, Australia. Tony Dolk, 17 Hampden St., Ashfield, NSW, Australia.

BELGIUM: Gerard Valencuc, *Cahiers Galilee*, Place Galilee 6-7, B-1348 Louvain-la-Nueve, Belgium.

BELICE: Ing. Wilfredo Guerrero, Ministry of Public Works, Belmopan, Belice Central America.

CANADA: **Ontario:** Science for the People, P.O. Box 25, Station "A," Scarborough, Ontario, Canada M1K 5B9. **Quebec:** Doug Boucher, Dept. of Biology, McGill University, Montreal, Quebec. (514) 392-5906. Bob Cedegren, Dept. of Biochemistry, Univ. of Montreal, Montreal 101, Quebec, Canada. **British Columbia:** Jim Fraser, 848 East 11th Ave., Vancouver, British Columbia V5T 2B6, Canada.

DENMARK: Susse Georg and Jorgen Bansler, Stigardsvej 2, DK-2000, Copenhagen, Denmark 01-629945.

EL SALVADOR: Ricardo A. Navarro, Centro Salvadoreno de Tecnologia Apropia-da, Apdo 1892, San Salvador, El Salvador, Central America.

ENGLAND: British Society for Social Responsibility in Science, 9 Poland St., London, W1V3DG, England. 01-437-2728.

INDIA: M.P. Parameswaran, Parishad Bhavan, Trivandrum 695-001 Kerala, India.

IRELAND: Hugh Dobbs, 28 Viewmont Park, Waterford, Eire. 051-75757.

ITALY: Michelangelo DeMaria, Via Gian-nutri, 2, 00141, Rome, Italy.

JAPAN: Genda Gijutsu-Shi Kenkyo-Kai, 2-26 Kand-Jinbo Cho, Chiyoda-Ky, Tokyo 101, Japan.

MEXICO: Salvador Jara-Guero, Privada Tepeyac-120-INT, Col. Ventura Puente, Morelia, Mexico.

WEST INDIES: Noel Thomas, Mt. Moritz, Grenada.

WEST GERMANY: *Forum fur Medizin Und Gesundheitspolitik*, Gneisen-ouster, 2 (Mehnhof), 100 Berlin 61, West Germany. *Wechsel Wirkung*, Gneisen-ouster, D-1000 Berlin 61, West Germany.



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