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Perspectives in Biology and Medicine, Volume 13, Number 4, Summer 1970,  
pp. 618-625 (Article)

Published by Johns Hopkins University Press

DOI: <https://doi.org/10.1353/pbm.1970.0052>



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## SOME GENETIC ASPECTS OF PLANTATION SLAVERY

NATHANIEL WEYL\*

Plantation slavery was necessarily characterized by variations in mortality and life expectancy between the skilled and the unskilled, the craftsmen and the field hands, the house servants and the plantation gangs, the workers on cotton farms and on sugar estates, and the bondsmen and the free. The processes affecting birth rates and mortality within the Negro population were considerably more complex than abolitionist literature suggests, varied a great deal in relation to time and place, and were by no means unidirectional.

The estimates most commonly used of the white genetic component in the American Negro exaggerate the true state of affairs because they are based on urban Northern black populations, in which interracial gene flow was abnormally high. Differential mortality rates favored cotton and tobacco workers as against rice and sugar workers, house servants as against plantation hands, craftsmen as against unskilled laborers. This tended to give Negroes with white blood higher rates of natural increase.

Manumission of slaves, which was highly selective for white genes and which was regarded, by masters and servants alike, as a signal mark of favor, generally operated in the opposite direction. Demographic conditions conspired to decrease the rate of population growth among free Negroes far below that among slaves. This condition prevailed in the United States both because the medical care which masters gave their slaves from reasons of self-interest was markedly better than that which the free Negroes obtained for themselves and because the emancipated black population was unwanted by white society, despised, impoverished, and socially degraded. In areas such as the West Indies where the mulatto and free Negro populations enjoyed a more stable social status (one superior to that of the slaves), this difference may not have prevailed. If so, the

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comparative survival rates of free Negroes and black-white crosses would be materially different in the Antilles than was the case in the United States.

### *Geography of Race Mixture*

The best single serological index of the percentage of Negro genes is the R<sup>o</sup> chromosome combination in the Rhesus blood groups, which is cDe in the Fisher notation. Since the bulk of slaves came from West Africa, an unweighted mean was taken of the six samples from that region reported by Mourant [1, p. 394]. The average R<sup>o</sup> was 58.5 percent.<sup>1</sup> By comparison, Glass and Li found an R<sup>o</sup> percentage of 43.8 for their Baltimore Negroes, as compared with 2.8 percent for white Americans [2]. Thus, if the Baltimore sample were representative of the nation, American Negroes would have an average of 26.4 percent non-Negro genes. This, however, is not the case. A 1963 study by Workman, Blumberg, and Cooper of the serology of Negroes in Evans and Bullock counties in Georgia reported a mean R<sup>o</sup> component of 53.5 percent, indicating a racial admixture of 9.0 percent [3]. A study of James Island, South Carolina, blacks yielded an R<sup>o</sup> of 51.7 percent, or an admixture of 12.2 percent [4], and a 1958 examination of Charleston Negroes by W. S. Pollitzer revealed an R<sup>o</sup> factor of 56.5 percent, which would indicate only 3.6 percent white ancestry [5].

The differences between the indicated values for *m*, the coefficient of racial admixture, between the Baltimore and the rural Southern samples reflect the fact that miscegenation, emancipation, and migration have been historically linked. The Negro population of the Carolina-Georgia Sea Islands, of Charleston and of the northern Georgia counties studied by Workman et al. consisted to a large extent of Negroes from Angola, called *Gullahs*, who worked the large-scale coastal cotton and rice plantations, had few social contacts with their white masters, and were therefore largely isolated from interracial gene flow. The Baltimore sample of Glass and Li *per contra* consisted disproportionately of the descendants of free Negroes and of artisan and house slaves. Wherever the institution of chattel slavery prevails, emancipation is positively and high correlated with miscegenation. Since the Southern states regarded both mulattoes and

<sup>1</sup> The six groups are: southwestern Nigerians, southeastern Nigerians, northern Nigerians, pagan tribes of the Jos plateau in Nigeria, Gold Coast Ewes, and Gold Coast Ashantis.

free Negroes as security risks and took energetic measures to extrude them, the Negro population of the North was always more racially mixed than that of the South. Thus, according to 1860 census figures, 31 percent of the black population of the Northern states was mulatto, but only 12 percent of the black population of the slave states. Within the South, 50 percent of the free Negroes, but only 7 percent of the slaves, were classified as mulatto [6, p. 12].

A serological map of the Negro population of the United States, based on R<sup>o</sup> percentages, would provide the factual foundation for a realistic analysis of migration and gene flow. Unfortunately, this does not exist. Provisionally, we might estimate the Caucasian genetic component in the present American Negro population as midway between the Baltimore and the rural Southern figures, or at 16 percent.

A county-by-county analysis of the relationship between mental test scores and R<sup>o</sup> percentages would shed light on the hypothesis suggested by Jensen [7] that negative correlations exist between Negro genes and psychometric intelligence. Efforts to obtain this information from the Department of the Army (AFQT scores) and from the HEW custodians of the Coleman Report were unavailing, despite the pledge made in the latter report to "make all the data gathered by this survey available to research workers" [8, p. 2].

### *Processes Affecting Mortality*

Complaint about the mortality in the sugar areas was general and international in scope. Sir Charles Lyell, an English visitor who abhorred slavery, wrote that in Louisiana "the duration of life for a sugar mill hand does not exceed seven years" [9, p. 35]. In Cuba, Klein, a modern authority, concluded that sugar work was "exacting and grueling. Hours were long, work hard, *mayorales*, or overseers, extremely cruel, and mortality quite high by the island's standards" [10, p. 150]. Only raw *bozal* males, that is, blacks freshly introduced from Africa, were used and, during the busy season, the Negroes were allowed only five hours of sleep. "Before the introduction of the steam engine and the example of a milder treatment of the Negro by foreign residents," an American physician wrote in 1844, "the annual loss by death was fully ten percent, including, however, new slaves, many of whom died from the change of climate" [11, p. 153]. Despite improvement in the life expectancy of black cane

hands after 1830, Cuban urban slaves seem “to have been corrected more by the threat of being shipped to the [sugar] plantations than of being whipped in town” [10, p. 155].

Captain John Gabriel Stedman, whose *Narrative of an Expedition to Surinam*<sup>2</sup> is a neglected masterpiece, spent five years as a mercenary officer, putting down a Negro revolt in the Dutch colony. Stedman lived openly with his mulatto slave mistress, acknowledged their child, and became an effective critic of the barbarities of chattel slavery under Netherlands rule. Among the many subjects he investigated was the anatomy of plantation slavery, considered chiefly in terms of differential death rates. He estimated that there were 80,000 slaves in the colony. Of these, some 30,000 (artisans, house workers, and specialized estate workers) “live better than the common people of England” (!) another 30,000 “are kept in idleness and do no work in the fields”; whereas, the remaining 20,000 are “among the most miserable wretches on earth; and are worked, starved, insulted, and flogged to death” [12, p. 393].

Stedman noted that, although 2,500 Negroes were imported into Surinam from Africa annually, the slave population of the colony failed to increase. Since “each Negro has a wife or several if he wishes,” there should have been no barrier to reproduction. Asserting that it was on the 20,000 field hands that “chiefly falls the dreadful lot of untimely mortality,” Stedman inferred a life expectancy for a plantation gang worker of about ten years [12, p. 373].

Bryan Edwards, the classic historian of the West Indies, asserted that slavery in the British islands was mild, despite the admitted fact that a large annual import of African Negroes was needed to prevent the black population from dwindling. He argued that birth rates were held down by a paucity of female slaves, by polygamy among the Negroes, and by the “extreme licentiousness and profligacy of manners in most of their women, with frequent abortions and barrenness” [13, p. 428]. During the Colonial period, the estimated net annual decrease of the slave stock ranged from 4 to 7 percent yearly [14, p. 472]. Males were imported by preference, since sugar planting was heavy work. High food costs and the nearness of West Africa made importation more economical than breeding.

<sup>2</sup> “Narrative, of a five years expedition, against the Revolted Negroes of Surinam, in Guiana, on the Wild Coast of South America; from the year 1772 to 1777: elucidating the History of that Country, and describing its Productions, Viz, Quadrupeds, Birds, Fishes, Reptiles, Trees, Shrubs, Fruits, & Roots; with an account of the Indians of Guiana, & Negroes of Guiana.”

In the United States, the lower Mississippi, with its sugar estates, inspired the slaves with well-founded dread. After the transition from French to American control, "it became notorious that slaves were overworked, underfed and brutally treated to such a degree that the rate of mortality exceeded the birth rate" [14, p. 520]. A progressive improvement in living conditions followed the abolition of the African slave trade in 1808. Nevertheless, the 1850 census showed a slave mortality rate of 24.0 per thousand in Louisiana as against 16.4 per thousand in the nation as a whole. While the 1849 cholera epidemic accentuated this difference, the fact that the Negro population of the area had fewer old people operated in the contrary direction [15, p. 96].

The rice plantations were also insalubrious. White labor could not survive there due to malaria, from which the West African Negroes were partially protected by heterozygous sickling genes. Nonetheless, work in the rice fields caused severe rheumatism, pleurisy, and other pulmonary diseases [16, p. 170].

#### *Virginia and the Internal Slave Trade*

The primary source of slaves for the expansion of the new cotton belt of 1830-1860 and the development of the sugar lands of Louisiana was the depleted soil of the Eastern Seaboard. The charge that Virginia bred slaves as an industry is exaggerated, for this would imply that she selected male studs and enforced sexual abstinence when prices were low. The Commonwealth did, however, export almost 300,000 Negroes south and west during 1830-1860, accounting for almost the total increase of her servile population.

These slaves were not chosen at random. They were characterized by Ulrich B. Phillips, a defender of the Old South, as "the indolent, the unruly and those under suspicion" [17, p. 192]; by the contemporary Southern journalist D. R. Hundley (1840) as "the most refractory and brutal of the slave population" [18]; and by Kenneth M. Stampp, a historian with an impeccably abolitionist approach to the peculiar institution, as including "slaves accused of felonies . . . slaves sentenced to be transported beyond the limits of the United States," and, in one instance, twenty-four slaves "convicted of murder, burglary, rape, arson, manslaughter, and attempted insurrection" [19, p. 258]. After the Nat Turner rebellion, Virginia swarmed with slave traders ready to buy up Negro

suspects. Selling south was deemed a means of separating "a vicious Negro" from more tractable ones.

In Virginia, slaves of good character would be advertised for sale provided they were not sent out of the state and provided their families were not broken up [17, p. 191]. There were always two prices for slaves in Virginia, a domestic price and a foreign price for shipment south which was generally one-half to two-thirds higher [17, p. 192].

On the other hand, runaway slaves were often punished by being sold south, and Flanders concluded that, in the state of Georgia at least, "in the great majority of cases the runaways were mulattoes, the characteristic phrases of 'copper-colored' or 'inclined to be a little yellow' recurring throughout the advertisements" [16, p. 216].

Depending on the preconceptions and prejudices of historians, the selection of Virginia Negroes for sale south has been treated as a process for eliminating criminal and vicious elements or as one designed to reward docility and eliminate potential leaders of revolt. In either case, the selection process should have had genetic repercussions of a more or less permanent character. In an effort to check this, a count was made of the listings on every sixth page of *Who's Who in Colored America* (1950 edition), and the count was then multiplied by six. These totals of eminent Negroes were then compared with the 1910 census figures of Negro population of the Southern states. In Alabama, Mississippi, Texas, and Louisiana—four deep South recipient states of the domestic slave trade—the average number of distinguished Negroes per million of Negro population was 158, as against a coefficient of 411 per million in Virginia, the chief slave-exporting state. This seemed to establish a *prima facie* case for the view that the sale of slaves south and west was negatively selective.

#### *Free Negroes and Slaves*

Between 1850 and 1860, according to the census, the slave population increased by 28.8 percent and the free Negro population by only 12.3 percent. The figures for 1840–1850, although somewhat vitiated by the annexation of Texas with its large slave population, tell approximately the same story. The increases in both slave and free Negro numbers during 1850–1860 were almost entirely due to natural increase. Slave increments from the illegal African trade were probably more than offset by manumissions, escapes, and colonization of Liberia. The free Negro population

probably gained more from emancipation than it lost from emigration and "passing for white," yet its increase was only 40 percent that of the slaves.

Contemporary records in those Northern cities with good birth and death statistics reveal a fairly uniform pattern of high mortality among the free Negroes. In Boston, during 1855-1859 inclusive, Negro deaths exceeded Negro births by a bit less than two to one; in Philadelphia in 1860, deaths among the free Negroes were more than double births. Providence reported a Negro death rate of 41.7 per thousand and in Rhode Island and Connecticut, where deaths were reported by color, the Negro and mulatto mortality consistently exceeded natality [6, pp. 7-8].

In his classic study, *The Health of Slaves on Southern Plantations*, William Dosite Postell reviews the testimony of contemporary physicians that the Negro slave received "good care, wholesome diet, prompt medical attention, and restraint from dissipations which were injurious to his health" and was, on the whole, "healthier in the main than the whites" [20, p. 143]. Tuberculosis, cancer, scrofula, and syphilis were described as rare among plantation slaves, despite the fact that in the postbellum period the tuberculosis mortality rate was stated to be twice as high among Negroes as among whites [20, p. 143]. Postell's examination of numerous plantation records indicates that slave mortality was about equal to that of the white population in the same areas. The slave infant mortality rate for the plantations studied averaged 152.6 per thousand. By comparison, as late as 1915, the infant mortality rate for Negroes was 163 in Massachusetts, 185 in Pennsylvania, and 192 in New York [21, p. 158].

In conclusion, status, occupation, residence, and freedom for the Negro population of the United States were closely correlated with degree of visible racial admixture. Accordingly, serological indexes of negritude vary from minimum admixture in Southern rural areas characterized by large plantations to maximum admixture in Northern cities, the Negro population of which is partially descended from emancipated slaves and in part selected by the act of migration. On Southern plantations, a selective process operated in favor of those slaves with white genes and those whose appearance and character were approved by their white masters. They were more likely to be employed as house servants or skilled workers, where living conditions were better and mortality was lower. Emancipation was equally selective for Negroes with white genes, but, in this instance, the demographic results were unfavorable. Ignorant of medicine



and hygiene, relegated to the lowest, most casual, and worst paid jobs, the free Negroes neither knew how to maintain their health nor were able to afford medical care. Their mortality was consequently much higher than that of plantation slaves, and their rate of natural increase was lower.

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