

Lessons from History: Why Race and Ethnicity Have Played A Major Role in Biomedical Research

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The *Zeitgeist* and Its Embedded Assumptions in Law, Science, and Medicine

Perhaps it has always been so, but certainly in the post-Enlightenment era there are inevitable linkages between the fields of law, medicine, and science. Each of these realms of activity is embedded in the social milieu of the era, with practitioners emerging from families, communities, regions, and nations bearing deep unexamined assumptions about what is natural and normal. Equally important, these fields' theoretical accounts of natural behavior will tend to dovetail and fit each other's – most especially as they pertain to the grand social issues of the period.

For the last century and a half, a conversation with a cross-section of lawyers, scientists, and physicians at any given historical juncture would produce a remarkable pattern, consistently repeated: There would be strong enthusiasm for the idea that the “current state of knowledge and practice” is both objective and transcends the current social milieu. There would be no hesitation in acknowledging that in earlier times, their predecessors had made the understandable, if regrettable, error of having gotten caught up, mired in, or even swept away by the social and political maelstrom of the day. Today, the story always goes, lawyers and physicians and scientists are, for the most part, somehow able to levitate above the prevailing social context.¹ While there will always be dissenters, as a collectivity, these professions and professionals assert that their knowledge, and the assumptions that guide knowledge production, now, as never before, transcend the times.² Jurisprudence routinely asserts such independence,³ no less than medicine.⁴ Most declaratively, the traditional canons of science⁵ make this assertion as if it were an uncontested fact.

The current fierce debates about the role of race in science provide fascinating case material for this account – in large measure because the debate spills over into matters of clinical medicine and jurisprudence. Sharona Hoffman has recently published a paper in which she shows how the reverberations of racialized medicine will impact legal thinking and decision-making about race when the courts will have to adjudicate membership claims.⁶ When the new DNA tests for racial and ethnic ancestry markers are placed in the larger legal context of claims to legitimate or authentic membership in groups with special rights and privi-

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leges,⁷ we will see how the political issues of the times interact with and reshape legal thinking. What is less obvious is how the common-sense categories of our period (about race and ethnicity) deeply influence science. The last decade has produced a remarkable fracture of the scientific consensus about race. The editor of the *New England Journal of Medicine*, for example, has called for a moratorium on the use of race in articles published in the journal, unless or until the authors can specify how the concept is defined.⁸ But there is a profound problem with such policy: real people are not only living the *social experience* (of race), but also are being asked to self-report their racial category to census-takers, hospital in-patient desks, criminal jus-

of the pre-existing racial and ethnic designations, some critics have argued strongly that the researchers would be subject to the criticism of not knowing how widely they sampled, or if the sample “represents” the range of human phenotypes currently labeled as racial. It may well be that we are too close to the phenomenon to see clearly just how deeply embedded in this discussion of “science” are current lay understandings of race.

A recent paper entitled “Whole Genome Patterns of Common DNA Variation in Three Diverse Human Populations,” which emanated from the HapMap project, demonstrates the problem.¹¹ This paper is well-intentioned, well-crafted, and designed to help understand health differences among human population groups.

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tice personnel, educational admissions officers, bank loan officers, *ad infinitum*. Nonetheless, the literature in several fields is replete with language about “the end of race” as a legitimate concept in scientific discourse, practice, and application. This has generated strong objection, with proponents vociferously arguing that race *does* have continued meaningful use in biology, even if only as a proxy for understanding the probability of the appearance of a genetic disease in particular “population groups.”⁹

The fields of molecular and clinical genetics now find themselves between a rock and a hard place – caught in a double-bind with no easy resolution on how and when to use the folk notions of race. For example, at its inception in 2001, the Haplotype Map Project (an extension of the Human Genome Project) was baptized-in-fire by a polarizing debate about whether to strip (or use) ethnic and racial markers on tissue samples – those samples already stored, and those to be collected. The debate was exacerbated by the Congressional mandate to the National Institutes of Health (NIH) to collect and report data on health disparities between populations defined by race and ethnicity.¹⁰ The unenviable task has been to try to walk a tightrope – to figure out a way to effectively deploy in research the concept of race (or population groups designated by race) without endowing “race” with a false sense of genetic essentialism. When they use already categorized samples, molecular geneticists are necessarily “buying in” to a taxonomic system that has little to do with a molecular geneticist’s professional training or expertise (which counsels asking research participants to self-identify as to racial and ethnic categories). Yet, if researchers stripped the data

The researchers were searching for, and found, patterns of SNPs differentially distributed in three population groups, formed from a total of seventy-one persons who were Americans of African descent, Americans of European descent, or Han Chinese.

However, what makes these three populations diverse is the phenotype associated with a racial classification system – not a genotypic pattern of similarity that triggered the inquiry. Indeed, the authors note that the SNP patterns of genetic diversity that they found among African-Americans suggest more diversity than that in the other two populations – a finding consistent with our knowledge of genetic diversity on the African continent. So why was the question of genetic variation raised using these racial and ethnic categories? The answer is a scientific Catch-22. The main reason is convenience: the data were originally collected and marked that way in the Coriell Cell Repositories. That is an understandable rationale. However, by deploying these pre-existing categories, any differences that emerge are likely to be “racialized” – no matter how many caveats and demurrers appear in the text of a scientific paper. Moreover, the African-American group is said to be “admixed.” But, in terms of genotype, all three groups are “admixed.” So it must actually be the phenotype to which the authors refer with the designation of “three diverse populations.”

In the first section below, I explain how it was that during the heyday of slavery, an eminent physician’s diagnosis of a disease peculiar to slaves (*drapetomania*), a decision by the highest court in the land concerning the grounds upon which a slave was property (*Dred Scott*), and the reigning science of the period (anthropometry

and craniometry) all dovetailed. These convergences seamlessly meshed in large measure precisely because they reflected a social milieu struggling over the legitimacy of human slavery. In the middle section, I turn to the question of how biomedical research in the middle of the 20th century reflected routinized assumptions by professionals about the biological makeup of ethnic and racial groups, and how those assumptions figured prominently yet unreflectively in experiments with birth control pills in Puerto Rico. In the final section, I shift to the present, in which theories of neurotransmission as an ascending explanation of violence dovetail with the current surge in the popularity of incarceration and the medical diagnostics of Attention Deficit Hyperactivity Disorder (ADHD), revealing the prevailing *Zeitgeist*.

Dr. Cartwright and the Diagnosis of *Drapetomania*

With the hindsight of more than a century, it now seems absurd to think that medical practitioners would diagnose the tendency of a slave to run away as an illness or a disease. It is what Peter Conrad and Joseph Schneider characterized as the “medicalization of deviance.”¹² As I will try to demonstrate later in this paper, the “medicalization of escape” is still with us, and it has the contemporary imprimatur of neurological science. Thus, we should be less than smug in scrutinizing how one of the most esteemed medical practitioners of his time, Samuel Cartwright, diagnosed “the problem” of slaves who wanted to leave their masters.

First, with respect to the general health conditions of the slaves of African descent, Cartwright “noticed” important differences between whites and blacks in their respective lung capacities. Cartwright was simply reflecting the reigning medical science theories of his day, namely, that blacks had a different physiological response to disease than whites. For example, with respect to the argument about lung size difference, it was common in that period for medical doctors to take the view that blacks had a lower resistance to pneumonia, because of biologically based racial differences.¹³

You hear of the poor negroes, or colored people as you call them, being beaten with many stripes by their masters and overseers. But owing to the fact that they consume less oxygen than white people, and the other physical differences founded on difference of structure, they beat one another, when free from the white man’s authority, with ten stripes when they would get one from him....¹⁴

The violence and aggression of blacks is here said to be “natural” – when they are not under the white man’s

authority, they beat each other far more severely than whites beat them! Worse, there is a certain kind of “negro” who becomes viciously violent towards the women and children of his own race when – again – he is not under white control: “In slavery, the stripes fall upon the evil disposed, vicious, buck negro fellows. But when removed from the white man’s authority, the latter make them fall on helpless women and children, the weak and the infirm. Good conduct, so far from being a protection, invites aggression.”¹⁵

So now to the problem of the runaway slave. What might so motivate such behavior? And what is the relationship between running away, violence, and the “natural state” of blacks to serve their masters well? Cartwright believed that the white master had to strike the right balance between familiarity and discipline:

I long ago observed that some persons, considered as very good, and others as very bad masters, often lost their negroes by their absconding from service; while the slaves of another class of persons, remarkable for order and good discipline, but not praised or blamed as either good or bad masters, never ran away, although no guard or forcible means were used to prevent them.

The cause, in most cases, that induces the negro to run away from service, is as much a disease of the mind as any other species of mental alienation, and much more curable, as a general rule. With the advantages of proper medical advice, strictly followed, this troublesome practice that many negroes have of running away can be almost entirely prevented....

It is unknown to our medical authorities, although its diagnostic symptom, the absconding from service is well known to our planter and overseers, as it was to the ancient Greeks, who expressed by the single word *draepet* (a runaway slave) the fact of the absconding, and the relation that the fugitive held to the person he fled from. I have added to the word meaning runaway slave, another Greek term, to express the disease of the mind (mania) causing him to abscond.¹⁶

Drapetomania was hardly a common medical diagnosis. Runaway slaves mainly had their brushes with the law, not with medicine. But the “three-fifths of a man” doctrine which the Supreme Court enshrined with the *Dred Scott* decision (as I discuss below) was of a piece with Cartwright’s medical analysis of the natural deficiencies and physiological differences. Indeed, on an evolutionary scale, “the natural deficiencies and physiological differences” would inter-face directly with the newly emerging theories of evolution, which would in turn fertilize the soil for a decidedly racial emphasis.¹⁷ Darwinian evolutionary theory did not introduce the

scientific justification for racial stratification. Rather, evolutionary theory recast the issue of racial stratification into a systematic scientific framework.¹⁸ The theory of evolution was deeply embedded in both scientific and lay interpretations of the conventional wisdom. It guided and shaped discussions, both pro and con, regarding how to best understand one of the major social concerns of the period – slavery and its justification, and the ancillary criminalization statutes.

The *Dred Scott* decision rested on two issues critical to the status of both slaves and free blacks. First, it answered the question: Did a slave have the right to sue for his or her freedom? Here was how Chief Justice Roger Taney posed the matter:

Can a negro, whose ancestors were imported into this country, and sold as slaves, become a member of the political community, formed and brought into existence by the Constitution of the United States, and as such become entitled to all rights, and privileges, and immunities, guaranteed by that instrument to the citizen? One of which rights is the privilege of suing in a court of the United States in the cases specified in the Constitution?¹⁹

Justice Taney wrote explicitly, that “we the people” was never intended to include blacks, slave or free. He had said in 1831, and then repeated in his 1857 Supreme Court ruling, that the Constitution, the courts at every level, the federal government, and the states, all routinely denied blacks equal access to rights of citizenship, and that “neither Dred Scott nor any other person of African descent had any citizenship rights which were binding on white American society.”²⁰

The law, and the courts that interpreted the law in that period, determined that it was a crime for a slave to run away.²¹ This fit well with the medical diagnosis, which asserted that it was a “diseased” state of mind that caused a slave to want to run away from his or her master. This “medicalization of escape” became the disease of *drapetomania*, a prime example of the medicalization of deviance.²² Under the imprimatur of science, medical and legal ideas converged with the convenient idea that whites had a superior evolutionary status. It is an idea that, as we shall see, still has stubborn residues at the beginning of the twenty-first century.

Herbert Spencer and the Hierarchy of Cultures

The link between a theory of human biology and social theory has always been a significant force in the history of ideas, but only in the last 150 years has the connection donned scientific clothing. At the core of this relatively recent development is the direct link

between biological Darwinism and social Darwinism, and the direct but under-appreciated implications for the birth of human genetics. In order to appreciate the subtle, sometimes subterranean continuity between the past and the present, we must go back to those early beginnings.

Charles Darwin’s *Origin of Species* is the bible of evolutionary theory, at once a meticulous classification system of organisms and a theory of the evolving relationships between them.²³ In its simplest form, the implications of Darwin’s taxonomy are known even to grade-school children: at the bottom of the rung is the single-celled amoeba and at the top of the heap is the magnificently complex human. In between are all the combinations and permutations and mutations that form a most decidedly intricate hierarchy of organisms.

Once we get to humans at the top rung of the ladder of species evolution, biological Darwinism trails off. Like a relay sprinter in a race, huffing and puffing and tired, biological Darwinism hands the baton to the runner for the next leg – social Darwinism.

Social Darwinism looks at the biological version of adaptation, ranking species along a hierarchy of complexity in evolutionary adaptation, and questions rankings within species. Within, between, and among human groups, was there not also an evolutionary tree? As Darwin did for biological Darwinism, the English social theorist Herbert Spencer (1820-1903) would issue the canon of social Darwinism. To better understand the prevailing climate, it is necessary to recognize two important features of late 19th century thought that have been largely forgotten. The first is that Spencer dominated the social thought of his age as few have ever done. By far the most popular non-fiction writer of his era, his ideas were so popular that he sold over 400,000 copies of his books during his lifetime. In the United States, by the turn of century, Spencer had attained the status of a dominant cultural figure among a wide range of American politicians, intellectuals, educators, and public policy advocates. Indeed, he was so influential that Oliver Wendell Holmes once sardonically turned to his colleagues on the Supreme Court to remind them that “Herbert Spencer did not write the U.S. Constitution.”²⁴

While Charles Darwin set the stage, it was Spencer, not Darwin, who would develop the key concepts that would apply evolutionary theory to humans. It was Spencer, for example, who coined the phrase “the survival of the fittest.”²⁵ Herbert Spencer was not focusing his ideas on the animal kingdom, but on social life, human behavior, and evolutionary differences among humans.

“As humans can be stratified in evolutionary development, so can cultures.”

Spencer’s influence upon a newly emerging field of anthropology, the “study of man,” was also overwhelming. Not only were humans to be arrayed along a continuum of evolutionary development, but so were the races and the cultures, societies, tribes, and nations in which they lived. At an individual level, the idea of a “savage” or a “primitive” was at one end of that continuum, and at the other was the “civilized person.” So, too, there emerged the notion of a primitive or savage society.

The fundamental basis for the continuum from savage to civilized, wrote Spencer, was the developmental stage of the brain. This was explained, in turn, by the way in which humans adapted to nature, and in particular, the seasons and the passage of time. The “primitive peoples” only had a sense of time relevant to such natural events as when birds migrate, or when fall or winter or spring begins. The more advanced and more “civilized” could encompass decades, even centuries, into their thinking, planning, and “accumulation.” As such, their brain capacity was vitally stimulated and, literally, enlarged. The longer the time sequence a human could encompass, said Spencer, the higher the level of intellectual development. At the bottom of the heap were the Australian Aborigines. Just above them were the Hottentots, who were judged one notch superior because they could use a combination of astrological and terrestrial phenomena to make adjustments to time sequences and changes.²⁶ Moving up, the next on Spencer’s social evolutionary ladder were the nomads, just a rung below the settled primitives who lived in thatches and huts. Since they stored goods for future use, their conception of and relation to time was “more developed.”

Anthropology, the new scientific study of human groups across all human societies, was born in this same period of evolutionary theory, and was saturated by it. Just as humans can be stratified according to their social evolutionary developments, it was argued, so too can their cultures. It followed that, once selected individuals from “inferior cultures” came to live in “superior cultures,” there would be a limit as to what their brains, of lower development capacity, could handle. Writing exactly a century before this claim would be made again by Arthur Jensen,²⁷ Spencer noted in 1869 that black children in the United States could not keep up with whites because of the former’s biological and genetically endowed limits, “[Blacks’] intellects being apparently incapable of being cultured beyond a particular point.”²⁸

This reached its logical culmination in the work of James George Frazer (1854-1941), who produced a prodigious six-volume work, the *Golden Bough*, that

formally stratified cultures and societies along a continuum from simple to complex, from savage to civilized.²⁹ Frazer posited a three-stage hierarchical theory according to which human societies evolve from magic, to religion, and finally to science. At the bottom of the hierarchy, of course, were “primitive cultures.”

The “Hierarchy of Cultures” Translates to Biomedical Research

The hierarchy of cultures coincided with the biological hierarchy of human beings. Thus Cartwright’s characterization of blacks as being biologically suited for slavery was part of the convergence of medical, legal, social, and ethical ideas. At the beginning of the 20th century, it was still common for medical professionals to think of blacks as having a separate and distinct biology from whites.³⁰ This was in large measure the socio-historical context of the infamous Tuskegee experiment that began in the 1920s. Physicians were still arguing among themselves whether syphilis coursed through white and black bodies in different ways. The Tuskegee experiment, in which black males with syphilis were not treated with the available ameliorative drugs, was done in order to answer this question.³¹

Less well known is the work of the Rockefeller Institute for Medical Investigations. During the early 1930s, the physician and pathologist, Cornelius Rhoads, researching for the Institute, engaged in experimental work in Puerto Rico, in which he knowingly infected his human subjects with cancer. Rhoads’s attitude toward his subjects was chronicled in a letter which later served as the basis for a criminal investigation. With regard to the subjects and location of his experiments in Puerto Rico, Dr. Rhoads wrote: “What the island needs is not public health work, but a tidal wave or something to totally exterminate the population.”³²

The criminal investigation, however, exonerated Rhoads in the deaths of his patients. The prosecutor, appointed by the North American governor of the island, dismissed the case, calling Rhoads merely “a man of few scruples.”³³ Dr. Rhoads went on to direct the establishment of U.S. Army chemical warfare laboratories in Maryland, Utah, and the Panama Canal Zone. This “man of few scruples” was subsequently awarded The Legion of Merit and was appointed to the U.S. Atomic Energy Commission.

On April 5, 2004 a *Puerto Rico Herald* story surfaced what is now called “the Puerto Rican ‘Tuskegee.’”³⁴ It was reported that when Delia Mestre was a young woman, a hospital social worker would visit families throughout her barrio, “offering the women something that seemed too good to be true: A tiny tablet to keep them from getting pregnant.” “We all jumped on it quickly and didn’t look back,” Mestre recalled. “Women

were told this was medicine that would keep them from having children they couldn't support."

What unfolded from the mid-1950s to the early 1960s in this remote farming town in the foothills near Puerto Rico's east coast made Mestre and hundreds of other women the unwitting pioneers of the modern sexual revolution. Nine years of veiled research helped pave the way for a "magic pill." Participants were not informed that they were experimental subjects in research to test the world's first birth-control pill, a tablet with three times as much hormone as today's version.

There were other test groups on the mainland at the time, but similar experiments in Boston and other cities didn't last very long, partly because of the pill's side effects. It was in Humacao, a village tucked between the Cerro and Labarbera mountains, that doctors found their best "control group," starting in 1955. Until 1964 the doctors provided hundreds of women – descendents of Puerto Rico's *jíbaro*, the poorest agricultural class – with refined versions of the pill for free to test its safety and how well it worked.

Assuming the Dominance of a Single Group in Defining Anti-Social Personality

Lee Ellis and Harry Hoffman³⁵ capture a full century of anthropological research³⁶ with the following assertion: "a 'core set' of criminal acts (those which victimize others) are recognized and condemned by people throughout the world..." This biosocial perspective tends to be distinctive in defining criminality as an extreme manifestation of a type of behavior that people throughout the world recognize as socially unacceptable.³⁷

The idea of "an anti-social personality" presumes that there is sufficient consensus about what constitutes the phenotypical antithesis of "a social personality." In sharp contrast, the results of long-term research in both England³⁸ and in the United States³⁹ reveal the existence, within a single nation, of an "oppositional culture" among youth of different social groupings. Such a culture can become the source of an opposing set of norms of behavior for that group. If the researcher assumes that there is a single culture with a general consensus, then deviance from that single set of norms is best explained as an expression of a problem that is to be located within the individual – in this case, his/her anti-social personality.⁴⁰ This highly individualized conception of how one understands deviant behavior ignores the difference between explaining boredom and hyperactivity *as a relationship to one's environment* (boring or stimulating) versus a *quality of the person* (suffering from ADHD, for example). There will always be a generative tension between such vying conceptions. This can be garnered from a review of the

Diagnostic and Statistical Manual of Mental Disorders' (DSM-IV) instructions and caveats for assessing ADHD. The following is excerpted from the *DSM-IV*, regarding the diagnosis of ADHD:

Behavioral manifestations usually appear in multiple contexts, including home, school, work, and social situations. To make the diagnosis, some impairment must be present in at least two settings (Criterion C). It is very unusual for an individual to display the same level of dysfunction in all settings or within the same setting at all times. Symptoms typically worsen in situations that require sustained attention or mental effort or that lack of intrinsic appeal or novelty (e.g., listening to classroom teachers, doing class assignments, listening to or reading lengthy materials, or working on monotonous, repetitive tasks). Signs of the disorder may be minimal or absent when the person is under very strict control, is in a novel setting, is engaged in especially interesting activities, is in a one-to-one situation (e.g., the clinician's office), or while the person experiences frequent rewards for appropriate behavior. The symptoms are more likely to occur in group situations (e.g., in playgroups, classrooms, or work environments). The clinician should therefore inquire about the individual's behavior in a variety of situations within each setting.⁴¹

Intellectual development, as assessed by individual IQ tests, appears to be somewhat lower in children with this disorder. In its severe form, the disorder is very impairing, affecting social, familial, and scholastic adjustment. A substantial proportion of children referred to clinics with Attention-Deficit/Hyperactivity Disorder also have Oppositional Defiant Disorder or Conduct Disorder. There may be a higher prevalence of Mood Disorders, Anxiety Disorders, Learning Disorders, and Communication Disorders in children with Attention-Deficit/Hyperactivity Disorder. This disorder is not infrequent among individuals with Tourette's Disorder; when the two disorders coexist, the onset of Attention-Deficit/Hyperactivity Disorder often precedes the onset of the Tourette's Disorder.⁴²

Note that the *DSM-IV* does acknowledge the possibility that opposition to an alternative normative order could be at issue. This is also acknowledged by some behavioral genetics researchers,⁴³ who have said that certain segments of the same society have their own normative orders. For example, my very "social personality" in Group A is my "anti-social personality" in Group B. More perverse (and more difficult for a genetic theory of deviance, violence, aggression, and crime) is that my

higher status in one social location may derive from my low status in another.⁴⁴ This is the seed bed for the germination of an “oppositional culture.” Paul Willis, one of the premier theorists in the United Kingdom on the ways in which school socialization patterns reinforce social class, describes how working-class lads in Birmingham, England vigorously rejected “speaking like” or “acting like” the “good middle class boys.” To the extent that they revealed their aspirations to be more like the middle class, they were derided and ridiculed by their peers as class traitors, trying to “be better” and the subject of sardonic humor for not “knowing” that they would never be really accepted into the English middle class.⁴⁵

In the light of a substantial body of research documenting the importance of social class as well as cultural and racial/ethnic patterned variation, positing an “anti-social personality” presumes a singular version of normal behavior that is strangely decontextualized.

In the United States, Signithia Fordham and John Ogbu⁴⁶ detected a parallel pattern in American high schools, where blacks who succeed academically are sometimes denigrated by their peers as “acting white.” In an oppositional culture, getting into trouble with the opposition is the source of increased affirmation by one’s own group. This social behavior is endorsed not only as “normal” – but *vital* to survival. Fordham and Ogbu suggest that a number of African-American youth have adopted “an oppositional collective or social identity and an oppositional cultural frame of reference.”⁴⁷ In the light of a substantial body of research documenting the importance of social class as well as cultural and racial/ethnic patterned variation,⁴⁸ positing an “anti-social personality” presumes a singular version of normal behavior that is strangely decontextualized.

The Biology of Violence

In September 1991, the National Institute of Mental Health (NIMH) issued a program announcement with the title *Research on Perpetrators of Violence*.⁴⁹ The announcement was explicit in its aim to further research on cost-efficient measures that might “prevent” violence, beginning with clinical assessment. In specifying the priority areas of research interest, the Violence and Traumatic Stress Research Branch of the NIMH specified that “studies may focus on risk factors and proce-

dures that contribute to the occurrence and influence the course of violent behaviors (e.g., neurochemicals and neuroendocrines, and parent-child rearing practices).”

However, we have already noted that what constitutes a criminal is not as straightforward as it appears. One way of defining a criminal is to simply say that it is someone who has committed a crime. There is a competing definition, though, which characterizes a criminal as someone who has been *convicted* of a crime. Not all those who commit crimes are convicted.⁵⁰ Only a small percentage of such persons are arrested, fewer still are prosecuted. Only a fraction of these are convicted, and even a smaller percent are incarcerated. Se-

rious students of the topic have reported for at least the last three decades that for the bulk of crimes committed (that is, reported and known to the police), the fall-away rate can be as high as eighty percent. In Jerome Skolnick’s study of a police department in a major United States city, less than twenty-five percent of burglaries were cleared by arrest and prosecution (much less conviction and incarceration).⁵¹

To understand the sieve of the criminal justice system that produces the remarkable racial and ethnic skew of human subjects that show up in prisons, it is necessary to track the sequence of what happens in the criminal justice system all the way from the commission of the act (characterized in law as a “crime”) to the point of conviction, and then to the ultimate decision to incarcerate. Starting with the arbitrary figure of 1,000 burglaries, it is generous beyond the best empirical research now available to say that 700 will come to the attention of the police.⁵² Of these, at most 300 will be “cleared by arrest,” and a maximum of 180 will go to trial. Of these, at most 120 would be convicted (often, plea bargaining lessens the “crime” to a different category). Of these, no more than seventy-five will ever spend any time in prison. To designate this as the “criminal population” for purposes of research is obviously not a sound scientific procedure. Yet, it is these records that researchers overwhelmingly rely upon as the basis for pursuing subsequent research on the “genetics” or “biology” of criminals. The assumption lodged in the genetic explanation of criminality based upon prison incarceration studies is that the population “in hand” (in contact with the institutional sieve) reflects the putative genetics of the phenomenon.⁵³ Evolutionary psychology has waded into the debate about the biological basis of violence, and this in turn has penetrated the popular literature. In a remarkable essay that appeared in the *New Yorker* in March 1995,

Robert Wright synthesized a lay version of “the biology of violence.”⁵⁴ In this essay, Wright does the near impossible. He tries to reconcile Frederick Goodwin’s statement that inner city blacks can be analogized to monkeys in the wild,⁵⁵ with what he characterizes as an anti-racist version of evolutionary psychology. According to Wright, believe it or not, comparing violent inner-city males to monkeys isn’t necessarily racist, or even necessarily right wing. On the contrary, a truly state-of-the-art comprehension of the comparison yields what is in many ways an archetypically liberal view of the “root causes” of urban violence. Note that a similarly “progressive” and anti-racist sentiment helped fuel the Tuskegee experiment on untreated syphilis.⁵⁶ One must not be surprised by the twists that can be invoked.

Wright relates the evolutionary psychologists’ account of why Goodwin’s remarks are not really racist. Wright reports that Michael McGuire, an evolutionary psychologist at UCLA, has done an extensive study of serotonin levels in monkeys. A particular type of monkey that McGuire and his colleagues have studied, the vervet monkey, has a clear social status hierarchy: the lower status monkeys defer to the higher status monkeys over access to resources, most particularly, to females. The higher status monkeys have a higher level of serotonin. The lower status monkeys, with their lower serotonin levels, “tend to be more impulsively violent.” McGuire then switches to humans, noting that from his studies of serotonin levels in fraternity members, the officers in those fraternities have higher levels of serotonin than do the regular fraternity brothers.⁵⁷ Moving back to the monkeys, McGuire says for the monkey “on the way up...before he climbs the social hierarchy by winning some key fights with other males – [the] serotonin level is unexceptional. It rises during his ascent...”⁵⁸

Wright applies this to oppressed peoples. He casts them as lower in the social pecking order. As an adaptive response, their serotonin levels decrease, and they become more prone to violence. Males in particular have had a survival issue when it comes to being “dissed” (or disrespected). Wright then notes:

All this suggests a hypothesis. Maybe one function of serotonin – in human and non-human primates – is to regulate self-esteem in accordance with social feedback; and maybe one function of self-esteem is, in turn, to help primates negotiate social hierarchies, climbing as high in the ladder as circumstance permits. Self-esteem (read serotonin) keeps rising as long as one encounters social success. Variable self-esteem, then, is evolution’s way of

preparing us to reach and maintain whatever level of social status is realistic.⁵⁹

Biologizing difference is taken one step further in the July 8, 1995 issue of the *New Scientist*. An article entitled “Genes in Black and White” makes some extraordinary claims.⁶⁰ In 1993, a British forensic scientist published what is perhaps the first DNA test explicitly acknowledged to provide “intelligence information” along “ethnic” lines for “investigators of unsolved crimes.” Ian Evett, of the Home Office’s forensic science laboratory in Birmingham, England, and his colleagues in the Metropolitan Police, claimed that their DNA test could distinguish between “Caucasians” and “Afro-Caribbeans” in eighty-five percent of the cases.

The implications of determining, for legal purposes, who is and who is not “officially” a member of some racial or ethnic category are profound. Yet the idea of deciding upon “degree of whiteness” or “degree of Indianness” is not new. The U.S. Congress passed the Allotment Act of 1887, denying land rights to those Native Americans who were “less than half-blood.”⁶¹ The U.S. Government still requires American Indians to produce “Certificates with Degree of Indian Blood” in order to qualify for a number of entitlements, including being able to have one’s art so identified.⁶² The Indian Arts and Crafts Act of 1990 made it a crime to identify oneself as a Native American when selling artwork without federal certification authorizing one to make the legitimate claim that one was, indeed, an authentic (“one-quarter blood” – even in the 1990s) American Indian.⁶³ As noted above, it is not art, but forensics that ultimately will be most closely tied to using genetics to try to identify who is “authentically” in one category or another.

Summary and Conclusion

With the hindsight provided by a full century, we can see with great clarity how the professions of law and medicine, and the science that influences them, are all enshrouded in the dominant assumptions of the era. Slavery and Reconstruction were both influenced and “explained” by evolutionary theory – from the ways in which scientists studied the shape and size of human skulls to justify slavery and racial stratification,⁶⁴ to the medical diagnosis of the pathological conditions that would impel a slave to try to run away from her or his master.⁶⁵ The legally upheld criminal-surety agreement and *Dred Scott* are now characterized as obviously flawed legal theory, but the cog-like fit of these legal views with the science of the period is explicable by the theoretical warrant provided by “the spirit of the times” – the *Zeitgeist*. We can clearly see how Dr. Cartwright could get away with medicalizing escape and thus med-

icalizing “deviance.”⁶⁶ Yet we fail to see how our own medicalization of escape from boredom in the classroom by youngsters from certain class backgrounds (brought up on channel-flipping, cascading flip-frame video imagery) reflects the current *Zeitgeist*. This will undoubtedly bemuse historians who, 150 years hence – in the middle of the 22nd century – may re-analyze why the nation was so ready to deploy Ritalin to deal with a runaway diagnosis of ADHD.

In a parallel fashion, most of those engaged in the search for the genetic basis of criminality are now scrupulously avoiding the issue of race. But this is only because of the current hypersensitivity of the connection in the public domain, termed “politically incorrect” in the now prevailing political winds. That will change as the war on drugs, declining welfare support, a down-sized labor force in the secondary sector of the economy, and the skyrocketing growth of prisons converge. People of color will dominate the population of those incarcerated in state and federal prisons even more than they do now.⁶⁷ Just as the attack on welfare and affirmative action were simmering issues in private boardrooms and private golf clubs for decades before the full-scale political attack moved to the public domain, so too the next decade will witness an outburst of behavioral genetics research, buttressed by the molecular reinscription of race tying crime to biological processes, and then correlating those biological processes to race. It is not beyond conjecture that it will be an African American who will lead the charge, fully supported by the Pioneer Fund or some equivalent well-funded, conservative think tank or funding source. The banner will be the academic and intellectual freedom to fearlessly pursue a topic wherever it may lead. Most people will fail to recognize that such work will be driven by the prevailing winds, the *Zeitgeist*. Those winds will be perceived as natural and normal. “The spirit of the times” will be taken for granted.

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