RACIAL IMAGES OF THE "CRIMINAL": A COGNITIVE DISORDER

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I. PRELIMINARY OBSERVATIONS

These remarks are offered to express my regret that this symposium was held and that its proceedings are being published.[1] The subject of much of the discussion was not an observable phenomenon capable of study, but a stereotyped image of the *criminal*, a person supposed to be different in some essential way from normal folk, an image that exists only in the imagination. The image has a race and gender—it is a picture of a black man—which is based not on scientific data, but on a bad habit of thinking.

Let us take an example: Deborah W. Denno's research on lead intoxication as a cause of violent crimes committed by chronic offenders, research Roger Masters seized upon to support his own speculations.

II. PROFESSOR DENNO'S BLACK CRIMINALS

Deborah W. Denno presented two papers at the symposium and her presentations captured the spotlight. Her works purported to give a biological explanation of differences between men and women, and between blacks and whites in violent criminal behavior.[2] Both talks were based on a single large research project.[3] In her account at this symposium, and in other published accounts of this research, Denno reports her conclusion, based on this study, that lead intoxication is a principal cause of violent crime, and that the principal factor accounting for race and gender differences in crime statistics

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1. As I shall try to explain, three papers which most closely addressed the symposium's central topic, the biology of criminal behavior, were works of advocacy, not scholarship. See *infra* Parts II-V, discussing two papers by Deborah W. Denno, *Gender Differences in Biological and Sociological Prediction of Crime*, and *The Unfamiliar Link Between Lead and Crime*, delivered at the Symposium on Biology, Behavior, & the Criminal Law, Vermont Law School, April 11 and 12, 1997, respectively [hereinafter Symposium]. These two papers were combined into one, Deborah W. Denno, *Gender Differences in Biological and Sociological Predictors of Crime*, 22 VT. L. REV. 305 (1997) [hereinafter *Predictors of Crime*] for this publication. *See also infra* Part VII, discussing Roger D. Masters, *Brain Biochemistry, Environmental Pollution, and Crime*, given at this symposium April 12, 1997 and published here as Roger D. Masters, *Environmental Pollution and Crime*, 22 VT. L. REV. 361 (1997).

2. *See, e.g.*, Mark Hansen, *News: Finding the Root Causes: Some See Solutions to Crime in "Nature vs. Nurture" Studies*, A.B.A. J., July 1997, at 20; *Predictors of Crime*, *supra* note 1.

3. The underlying research project, the "Biosocial Study," is reported in DEBORAH W. DENNO, BIOLOGY AND VIOLENCE: FROM BIRTH TO ADULTHOOD (1990) [hereinafter BIOLOGY AND VIOLENCE].

is the greater susceptibility of black men to lead intoxication.[4] There is, however, no basis for this conclusion in Denno's research.

A brief summary of Denno's research may be helpful. Denno selected 987 black adult Philadelphians examined during infancy and childhood as part of an earlier, larger medical study on birth defects.[5] She obtained school and police records for this group.[6] Using the medical study data in conjunction with school and police records obtained for this group, Denno seeks certain predictors of juvenile delinquency and criminal behavior identifiable at birth or during childhood.[7] The best one can say of her research is that the results were primarily negative. Except for the unsurprising finding that more boys than girls were later arrested by the Philadelphia police, Denno found no factor in childhood that could be used to accurately predict later school discipline or arrest records.[8]

Lead exposures were not directly studied. The children's blood was not tested for lead, nor did the medical investigators, or Denno herself, look at possible sources of lead exposure. Her conclusions rest on a handful of diagnoses of pica, an eating disorder; some of the more severe cases of pica in her group were said to show the symptom of lead intoxication, presumably caused by the ingestion of peeling lead-based paint.[9] Even if there were some validity to this measure of lead intoxication, the claim that it explains juvenile offenses or adult crimes is misleading.

Of the 987 subjects studied, 210 were juvenile offenders, and a somewhat different group of 133 were adult offenders. There was apparently a slightly higher rate of lead intoxication among males who committed juvenile offenses than among non-offenders. Even if the correlation between lead intoxication and male juvenile offenses is not simply a matter of chance, however, the correlation that Denno reports would explain no more than roughly two percent of the number of juvenile offenses among males in this study.[10]

No correlation between lead intoxication and adult offenses was found in either men or women. Of the 133 adult offenders, only five were

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4. *See Predictors of Crime*, *supra* note 1, at 321; *see also* Deborah W. Denno, *Considering Lead Poisoning as a Criminal Defense*, 20 FORDHAM URB. L.J. 377, 378 (1993) [hereinafter *Considering Lead Poisoning as a Criminal Defense*].

5. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 30.

6. *See id.* at 30-32.

7. *See infra* notes 48-50 and accompanying text.

8. *See infra* notes 48-50 and accompanying text.

9. Neither the numbers of lead intoxication cases, nor the diagnostic basis is given anywhere in her report, though some of the numbers can be extracted from tables of mean values. See *infra* note 10 and accompanying text. In the fifty-page appendix, devoted to the experimental variables, lead intoxication is not mentioned. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 127-87.

10. The data are taken from tables in BIOLOGY AND VIOLENCE, *supra* note 3, at 90-91, discussed in Part VI *infra*.

considered to have lead intoxication; there were eighteen cases of lead intoxication among the 854 non-offenders. Although the rate among offenders was slightly higher than among non-offenders, this difference was apparently not significant, as it rested upon the occurrence of two cases of lead poisoning beyond what might otherwise be expected, among the 133 offenders in the group.[11] The lowest crime rates and the highest rate of lead intoxication—two cases in twenty-four—were found among the female adults; the lowest incidence of lead intoxication—zero—was found among adult male one-time offenders; among male repeat offenders, however, there is a slight excess of lead intoxication—three cases among fifty-nine men.[12] Generally, however, adult correlations seem to run the opposite direction from those in juveniles, and there is an overall negative correlation between lead intoxication and crime among adults.[13]

There is a similar negative finding as to lead poisoning among female juvenile offenders. The only substantial predictor of crime that is claimed by Denno, therefore, is childhood lead intoxication among juvenile males. However, it is highly unlikely that lead poisoning would affect juvenile males, but not juvenile females or adults of either sex. One suspects that the finding of lead intoxication among juvenile males is a chance fluctuation, or an artifact of the research method.[14] Yet, even in her more extensive published reports, Denno gives no discussion at all of the negative and inconsistent correlations or of the strikingly higher rates of lead intoxication—and lower crime rates—among adults overall.

Let us explore the reasoning by which Denno nevertheless produced the dramatic conclusion that lead intoxication is a major cause of juvenile delinquency and adult crime: "[O]ne of the Biosocial Study's major findings was particularly striking: Among males, lead poisoning, a factor related to the urban environment, was among the strongest predictors of crime . . . ."[15]

III. HOW THE IMAGE OF THE BLACK CRIMINAL WAS CREATED

The subject of this conference is *behavior*, and several of the papers used the term *criminal behavior*, which is taken to be identical to *crime*; but a vast and unexplained gap between behavior and crime is hidden behind this careless use of scientific terms. When we speak of behavior as a subject for

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11. *See id.*

12. *See id.*

13. *See, e.g.*, BIOLOGY AND VIOLENCE, *supra* note 3, at 86-88 (discussing gender differences with regard to other variables, but omitting mention of the large differences in lead intoxication rates).

14. Denno claims statistical significance for the difference. *See* discussion *infra* notes 43-54 and accompanying text.

15. *Considering Lead Poisoning as a Criminal Defense*, *supra* note 4, at 378.

scientific investigation, we usually mean animal behavior—stereotyped or at least measurable responses that have no individual meaning, no human or moral content.[16] Behavior can be replicated in a laboratory situation or observed as an isolated phenomenon in the field.

Law students learn in their first-year studies that the law rarely concerns itself with behavior as such. If my hand reaches out to touch your shoulder this may be a welcomed caress, an actionable assault, or both. A prize-fighter or a football player may be far more violent, on a day-to-day basis, than the person for whom street crime is a career. Gang members and professional criminals may develop a professional detachment and may depersonalize the objects of their violence as surgeons and soldiers do. I am not aware of any studies of the behavior involved in street crime, but we have heard at this conference a number of off-hand characterizations. Criminals are said to be impulsive, which may sometimes be the case, and also said to be cold and lacking in the ability to form warm feelings for their leaders, which also may sometimes be the case.[17]

In truth, there is no reason to think that such an entity as *criminal behavior* exists. Even murders, taken as a type of violent crime, are wildly different one from the other. The drunken murder of a spouse has no apparent behavioral relation to the cold-blooded slaying of a robbery victim, or the delusional slaying of a person imagined to be an enemy, or the accidental killing of an arson victim. When people speak of criminal behavior without defining it, we seem to be dealing, not with a phenomenon, but with a stereotype—a vivid mental image one has of the criminal type, with his despicable tendencies.[18]

This is not an abstract or technical point. So far as we know, street crimes are disproportionately committed by people who have chosen criminal careers, who know they are risking violent injury and who expect to spend some time in jail, but nevertheless make the narrowly rational—if immoral—decision to continue on their course.[19] We have no particular reason to suppose that street criminals are behaviorally or biologically different from the average member of the population; calling them *habitual* or *chronic* offenders, as Denno does, gratuitously conveys an unwarranted impression of

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16. *See* OXFORD ENGLISH DICTIONARY (1989) (providing the fifth definition of behavior as "the manner in which a thing acts under specified conditions or circumstances, or in relation to other things").

17. *See infra* notes 73-81 and accompanying text (discussing Roger Masters' presentation).

18. *See* Hansen, *supra* note 2, at 21, table (summarizing a study of 987 black, inner-city residents and the numbers of crimes committed by males versus females).

19. *See generally* THE ECONOMICS OF RACE AND CRIME (Margaret C. Simms & Samuel I. Meyers, Jr. eds., 1988). Some recent research on rational choice models of crime is collected in Robin D.G. Kelley, *Playing for Keeps: Pleasure and Profit on the Postindustrial Playground*, *in* THE HOUSE THAT RACE BUILT: BLACK AMERICANS, U.S. TERRAIN 195, 225 & n.4 (Wahneema Lubiano ed., 1997).

disease. So far as we know, career criminals do not differ physically or behaviorly from corporate officials or law professors. The search for criminal traits and types, carried on fruitlessly for over a hundred years, is perfectly unjustified.

The search is also dangerous: the investigator may be tempted to find what she is searching for; the search itself may seem to validate the stereotype on which it is based; and perhaps even justify the graver consequences of prejudice. Let us see how this happened in Denno's case.

IV. DENNO'S STUDY

Denno analyzed data that resulted from a study carried out during the 1960s, the Collaborative Perinatal Project,[20] a study of pregnancy and infant and childhood mortality in fifteen medical centers across the country. About 60,000 pregnant mothers and each child born in the study were profiled with regard to a range of biological and social factors. The children were repeatedly examined and tested up to age seven.[21]

Denno focused on the Philadelphia center. She was able to find about 1,000 black adults, born from 1959 to 1962, who were examined as children, who had remained in Philadelphia, and for whom school and police records could be obtained. School and crime records—achievement test scores and arrest and conviction records—were treated as dependent variables. These were compared with the birth and childhood data, which were treated as independent or *causal* factors.[22]

This comparison of the medical Perinatal Project data with certain later school and police records was called the *Biosocial Study*.[23] The hypothesis, never clearly stated in Denno's reports, was that factors originating in birth or childhood influenced later test scores and criminal behavior of adolescents as well as adults.[24]

All the subjects Denno selected for the study were characterized as black, although the basis for this characterization was not stated.[25] Her project, supported by the National Institute of Justice,[26] became a search for birth and

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20. Denno's paper was based on the results of a larger study, the Cooperative Perinatal Project. *See supra* text accompanying notes 6-10.

21. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 31.

22. *See id.* at 29-33. I speak of the Biosocial Study for convenience as Denno's own research, but the project was originally designed by Marvin E. Wolfgang, her dissertation supervisor. *See id.* at ix-xiii, 2-6. Although Denno repeatedly characterizes her study as *longitudinal*, this is incorrect and misleading. It was a retrospective study of adults who remained near their place of birth.

23. *See id.* at xi.

24. *See id.* at 2-4.

25. *See id.* at 30.

26. *See id.* at xii.

childhood predictors of later arrest and conviction records in this black population.[27] Furthermore, her study group included only adults who were poor and black.[28]

I will say a little more about the research design in a moment. But this feature of the study jumps out at one immediately: all of the subjects were black.[29] Nearly half the male subjects had police contact or arrest records, and these records were used as the measure of juvenile delinquency and adult crime.[30] During her oral presentation, Denno acknowledged that police reports may show not only criminal or delinquent conduct, but also police prejudice. She did not seem troubled, however, that nearly half of her sample had youthful police contacts and therefore were characterized as *delinquents*. In fact, she went on to talk of the young men subjected to repeated police contacts as *chronic offenders*.[31]

Treating school discipline reports and police contacts, including self-reports, arrests and convictions, as if these were all indisputable and objective evidence of criminal behavior, Denno then isolates from these sources her *crimes of violence*, not distinguishing among the sources of data except to code the *offenses* for severity. She thus creates the impression that some unitary sort of behavior was involved in juvenile police contacts as well as adult robbery, assault, rape, and murder, and that this behavior simply varied in intensity.[32]

Finally, Denno went on to erect the figure of the chronic or habitual criminal, a black man prone to repeated crimes of violence from childhood on, and it was this specter that she was truly investigating.[33] The inference that his disturbance was organic—that he had been poisoned by lead intoxication— may lead to the conclusion that he is a helpless and irremediable criminal.[34]

As we shall see, there is really no evidence, even in Denno's study, that lead poisoning causes crime, however defined. But for the moment I want to emphasize the perspective from which this mistaken study was undertaken. The problem is not just that Denno is careless with her data; she shows the unfortunate effects of doing research while in the grip of a preconception.

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27. *See id.* at 3-5.

28. *See id.* "Given a sample of individuals who have high-risk characteristics, which factors distinguish those individuals who become criminals from those who do not?" *Id.* at 3-4.

29. *See id.* at 36.

30. *See id.* at 33 ("[D]elinquent or criminal status in this study is based on total police contacts, not just arrests."); *see also id.* at 52-55, 72-75 (providing the numbers of juvenile and adult offenders).

31. *See Predictors of Crime, supra* note 1.

32. *See id.*

33. *See* BIOLOGY AND VIOLENCE, supra note 3, at 43-44.

34. *See id.* at 4.

We have here a good example of the manner in which images of violent crime and chronic offenders are socially constructed. The mother of one of Denno's black subjects in inner Philadelphia may be afraid of violence too, afraid that her child will be murdered; but she may also be afraid that her child will be poisoned by lead in the air, water, and peeling paint. To this mother, the risk of murder is only one of a series of risks imposed on her children by their environment. The question of crime may appear a bit differently to her than it does to Denno. Murderers and victims alike are black, so our imaginary mother is not troubled by racial images of violent black men. Undoubtedly, she wants murderers arrested and punished. But she may be wondering why such an environment is allowed to exist, and why she and her children are subjected to it. The criminal behavior that concerns her most, in short, may lie outside the ghetto in which she lives.

Let us construct a somewhat different image, so that we can see how arbitrary Denno's assumptions really are. Exemplars of my image of the criminal would be the corporate executives and government officials who distributed lead-contaminated milk to poor children of color—in the United States and abroad—during the 1960s.[35] Another example cited during the conference is Lord Jeffrey Amherst, commander of British forces in North America during the French and Indian War, who conceived the military tactic of distributing small-pox-contaminated blankets to Native Americans.[36] These are not the sort of criminals that our scientists seem to have in mind, but I do not believe the difference lies in the biology of the criminals.

Stereotypes pervade the discussion at every level. For instance, we have ample grounds for believing that prejudices and stereotypes are to some degree embedded in the definition of crimes. The victims of lead poisoning were here taken to be criminals, while their poisoners, never having been arrested, did not come within Denno's or Masters' studies. To take another familiar example, penalties for the sale of crack cocaine, a street drug, are more severe than penalties for the sale of powder cocaine, an expensive item which more often changes hands in private spaces protected by the Constitution.[37] While there may be good reasons for punishing crack sales more severely than cocaine sales, we are apparently seeing two different forms of the victimization of the poor.

The criminal law is neutral in a sense—it punishes both rich and poor for selling crack. (Or, as Anatole France noted in an earlier day, the law in its

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35. *See* Kevin P. Shea, *Canned Milk*, ENV'T, Mar. 1973, at 6.

36. *See* George W. Christopher et al., *Biological Warfare: A Historical Perspective*, 278 JAMA 412, *available in* 1997 WL 13337724 (1997).

37. *See* United States v. Stelivan, 125 F.3d 603, 605-06 (8th Cir. 1997); U.S. SENTENCING GUIDELINES MANUAL § 2D1.1 (1997).

majesty prohibits rich and poor alike from sleeping under bridges.[38]) Seemingly neutral laws in practice, however, may punish only the poor; and if race prejudice traps into poverty disproportionate numbers of people with a particular skin color, some of them will commit the crimes of the poor. A picture of the criminal begins to emerge. It is futile and dangerous to study the biology of people labeled as criminals in this way.

The effects of stereotyped images are greatly exaggerated when, as very likely did happen in Philadelphia in the 1960s, law enforcement officers act on them. Then, of course, they become self-fulfilling prophecies. We should view Denno's delinquency and conviction records with considerable suspicion. Furthermore, the overwhelming majority of convictions are the result of plea bargains, and do not represent any sort of adjudication of fact. For these and many other reasons, arrest and conviction records are not a straightforward indicator of any sort of behavior. Considering the very small effects that Denno is reporting, as we shall see, large biases are likely to have swamped her study.

So even violent crime—at least as an object of study—is socially constructed in the sense that some violence is accepted as normal, if regrettable, and some is condemned as criminal. Offenses or crimes recorded by police include all sorts of behaviors that would be inoffensive in other settings.

Let us take this a little further. As we have seen, Denno's study rests on a particular set of data: information about the birth and childhood of a group of blacks who grew up in Philadelphia and records of their later police contacts.[39] By studying blacks alone, Denno and her colleagues felt they had isolated a group of potential future criminals (a *high risk* population).[40] Their purpose was not to study the causes of crime generally (the children were not studied or examined after age seven), but to learn how to identify the future criminal while still in childhood, as well as the future chronic offender who is known to commit a disproportionate share of crimes.[41] (In Denno's report, three percent of the population were charged with roughly half of all the police contacts, which quickly came to be spoken of as offenses.)[42]

By limiting the study to a relatively homogeneous group of black children, Denno eliminated from consideration the effect of factors usually associated with crime—economic conditions and race. By treating only

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38. *See* Anatole France, *Le Lys Rouge*, *in* 2 OEUVRES (Gallimard ed. 1987) (1894), *cited in* Kimberlé Williams Crenshaw, *Color Blindness, History, and the Law*, *in* THE HOUSE THAT RACE BUILT, *supra* note 19, at 285 n.6.

39. *See supra* notes 30-31 and accompanying text.

40. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 30.

41. *See id.* at 4.

42. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 41, tbl.2.2, 44.

factors present at birth and in childhood as potential causes of crime, she evidently hoped to isolate essential qualities, those that persist over a lifetime, and accordingly eliminated any influences of adult circumstance and experience. The result was predictable: adult influences having been excluded, whatever she found would seem to be essential qualities of the study subjects, all blacks; yet the influence of race prejudice would be invisible. She could hardly help constructing an image of a typical criminal as a man with a black face, poisoned in childhood, and rendered dangerous.

Imagine a different study, designed without preconceptions, a study of persons convicted of similar crimes on similar evidence, taking into account not only childhood factors but also contemporary ones, including the race of the perpetrator and the economic conditions and actual career choices available at pertinent times. I do not know of any such study—but the possibility provides a sort of thought experiment against which to test the inherent bias of Denno's. Such a study would show the perhaps decisive influence of contemporary factors on arrest and convictions records; childhood factors might be shown to be insignificant. We do not know because Denno's study obscures such questions, while her presentation misleadingly implies that they have been answered.

Because of the bias built into her study design, all that her data clearly seem to show is this: adult black men who had grown up in Philadelphia were more likely than the black women in the study to be arrested and prosecuted for crimes there. None of the childhood factors that Denno studied differentiated very well between those men who were arrested and those who were not, and a fair summary of the study as a whole would be that its search for causative prenatal or early childhood factors produced negative results. Negative results are important, to be sure. The study data help us to see that factors operating contemporarily with the crime may be more likely to influence crime statistics than prenatal or early childhood ones, which is what one might have supposed. So far as is known or has been discovered, there is no such thing as a criminal type. But this is the opposite of the conclusion Denno draws. How can this be?

V. DENNO'S DATA

Professor Denno's study did identify some slight possible effects of childhood influences. Correlation coefficients for childhood factors reported in the study tend to range around 0.1, which by conventional interpretations would explain roughly one percent of the variability in the data.[43] Juvenile

43. The coefficients are given in BIOLOGY AND VIOLENCE, *supra* note 3, at 90-91. Denno made

delinquents and adult criminals differed from non-offenders in this modest way with regard to a few measurements made in childhood. As already noted, there were some slight and apparently contradictory differences with regard to lead intoxication.[44] Denno's report focuses entirely on these few—possibly chance and certainly weak—correlations. Let us see how this is done with regard to the factor of lead intoxication.

As we have already noted, there were twenty-three cases of childhood lead intoxication among all 987 subjects; five of these cases affected children who went on to become adult criminal offenders.[45] Even assuming that there is some meaning to the classification *offender* in this study, five cases of lead intoxication among 133 adult offenders does not appear to be an especially powerful predictor of adult crime, and the differences between offenders and non-offenders does not appear to be statistically significant.[46]

Denno does not rest with this apparent negative result, however, but continues to make ever finer comparisons among ever more finely divided groups of subjects. She compares lead poisoning between men and women, but the rate of lead intoxication among women is considerably higher, and the rate of criminal offenses considerably lower, than among men.[47] This result

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no effort to estimate the causal importance of individual factors, but simply ranked them in order of magnitude, so that the rather modest correlation of 0.177 between juvenile "offenses" and "lead intoxication" among males is ranked second among the factors leading to delinquency, as if the study had included all possible factors, which it did not. The coefficients are apparently regression coefficients, but correlations and regressions are identical with regard to data in the form apparently given here. *See* JAMES H. DWYER, STATISTICAL MODELS FOR THE SOCIAL AND BEHAVIORAL SCIENCES 49-50 (1983). I use the more familiar term.

44. *See supra* notes 11-13 and accompanying text.

45. Lead intoxication data are not given clearly or separately, but must be deduced from tables in which the research results are summarized. Of the 54 adult, male, repeat offenders, for instance, apparently three suffered from "lead intoxication;" among the adult males who committed a single offense there were no cases at all, while among the 378 male non-offenders, there were four cases. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 72-73. The "mean" incidence of lead poisoning among the 54 is given as .06, with each case scored as 1 or 0. By multiplying the total number in the sample (54) by the mean (.06), one discovers that three cases of lead poisoning were found in this group. Because of the way lead intoxication is defined, it is not possible to distinguish among degrees of lead exposure or intoxication. The small, if inconsistent, measured differences among adult male chronic offenders are said to be statistically significant at a low level, $p < .05$. This is stretching a point. At this level of significance, roughly one in twenty factors would show this seeming correlation purely by chance; but hundreds of factors were screened and 22 were reported. *See infra* note 52 and accompanying text.

46. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 72-75. The mean number of lead intoxication cases among the 378 non-offender males is given as .01. Multiplying .01 by 378, and rounding to the nearest whole number, gives four cases of lead intoxication. The total calculated for all groups is 23 cases of lead intoxication, of which seven were found in males and 16 in females. Denno does not report the male versus female data or offender versus non-offender data as significant. She gives some correlation coefficients in two tables, in which the larger numbers of cases of lead intoxication among women bear a slight inverse relation to the number of offenses attributed to women. *See id.* at 78-81, tbls.4.3, 4.4.

47. *See id.* at 72-75, tbls.4.1, 4.2.

is not mentioned anywhere in her conclusions. She compares lead intoxication among male offenders and male non-offenders, but this too appears to be unsatisfactory. It is only when male offenders are further subdivided into juvenile and adult, and single and repeat offenders, that significant differences begin to appear. The difficulty with this sort of process, however, is that while it may identify subtle effects, it may also produce random results, for if one continues to divide and re-divide the sample in different ways, differences among the subgroups will eventually appear, simply by chance.

The impact of lead intoxication on adult male offenses may be such a chance result. The coefficient of correlation between childhood lead intoxication and adult offenses among men is given as a vanishingly small 0.08. There was a total of three cases of childhood lead intoxication among the 109 adult male offenders, and only four cases among the 378 non-offenders.[48] The numbers of cases are quite small and the whole difference may be accounted for by a single case among the male offenders.[49] Lead intoxication at age seven—had it actually been measured—is evidently a rather poor predictor of adult crime; a correlation of 0.08 is usually interpreted to mean that this factor accounts for less than one percent of the observed variability in the data. Yet Denno reports it as "significant" and a "major finding."[50]

And so it goes. There is said to be a significant correlation between lead intoxication and male (but not female) juvenile offenses, at a rather modest level.[51] The correlation between cases of lead intoxication and numbers of juvenile offenses among males is given as 0.177, which, if statistically significant would predict or explain roughly two percent of the juvenile offenses. Denno concludes that this is the strongest predictor of juvenile delinquency and crime that she found; as indeed it was. But the strongest is weak indeed.

The statistical significance of even these slight results is open to question. The method Denno followed allowed her to sort through hundreds of variables found in the medical research data with which she was working, and to compare them with school and crime data sorted in dozens of ways. From the thousands of possible correlations, she selected twenty-two independent variables and a handful of correlations said to be statistically significant, at levels ranging from $p < .05$ to $p < .001$. This means that the

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48. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 80, tbl.4.4. There apparently was a total of only three cases of lead intoxication among the 109 adult male offenders. *See id.*

49. *See id.*

50. *See Considering Lead Poisoning as a Criminal Defense*, *supra* note 4, at 378.

51. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 92.

observed correlations might appear purely by chance—in a group of measurements this size—from one time in twenty, to one time in a thousand. But if one tries hundreds of presumably independent variables, and thousands of possible correlations, quite a few such *significant* correlations can be expected, purely by chance. Denno's reports of her research do not include any discussion of this possibility, and it is unclear whether she took it into account.[52]

Putting even the best face on the results, then, they are not very dramatic: no prenatal or childhood factor is a strong predictor of crime; no such factor stands out very sharply among even the weak predictors; and none is clearly significant. Yet Denno repeatedly singles out childhood lead intoxication as a cause of crime in black men; in the symposium she repeatedly described it as the strongest and most significant predictor of crime.[53]

The emphasis on lead intoxication is particularly disturbing because the data on which she bases her conclusions was collected from 1959 to 1969, when the sources of lead poisoning were not yet widely known. The subjects of her study were not tested for lead poisoning, and no measurements of lead exposure or blood lead levels were made during the study. Denno fails to mention any of this, and her speaking of high levels of lead intoxication, implying a quantitative measurement which was not in fact performed, seems misleading.[54]

The lead intoxication Denno reports is based on a retrospective analysis of the medical examinations of the children, in which lead intoxication was apparently reported as a symptom of pica—the eating disorder which prompts some children to eat inorganic materials, including paint chips.[55]

Pica is certainly a potential factor in lead poisoning, but there are many other routes of exposure, and we now know that many or most of the study subjects living in inner Philadelphia probably had elevated blood lead levels; many more than were identified through the study probably had clinical lead poisoning.[56] Lead poisoning, therefore, was probably common but unobserved among the non-offenders as well as the chronic offenders. Thus, the slight influence of lead intoxication found in the study may be no more than a chance fluctuation, or an artifact of the manner in which the research was

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52. There is very little discussion in BIOLOGY AND VIOLENCE of the statistical methods employed.

53. *See Predictors of Crime*, *supra* note 1, at 315, 317, 320, 321.

54. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 92.

55. Denno discusses lead intoxication as a disorder "related to eating," *id.* at 106, although it is now well known that much lead exposure occurs via air and water. In table 5.1, "Childhood Behaviors," lead intoxication is listed under "eating," separately from pica, which suggests that it was diagnosed when children were observed eating lead-based paint. *See id.* at 98-99. *But see id.* at 118 (discussing a case in which lead intoxication was apparently diagnosed as a symptom or complication of pica).

56. *See, e.g.*, Shea, *supra* note 35.

conducted. Some of the subjects may simply have fallen afoul of prejudice or presuppositions about black children held by the investigators. This was not a blind study, the investigators were aware of the race of their subjects, and the published report includes a suggestion that pica is just the result of poor maternal supervision.[57]

Strengthening our suspicion that this is an artifact is the curious observation that female criminals seem not to have been driven to crime by their lead intoxication. There were two reported cases of lead intoxication among the female criminals in the study, there were fourteen cases among non-offenders, and a weak negative correlation was found.[58] Denno might announce with almost the same confidence she places in her other results, that lead intoxication and neurological damage protect women from committing crimes.

Denno dismisses the discrepancy with the unfounded speculation that boys are more vulnerable to lead poisoning than girls. There is no evidence for this whatsoever, and indeed lead intoxication was found more often among girls than among boys in her study.[59]

Denno's study, in short, did not include reliable data about either lead exposure or violent behavior, and even the weak relation it found between lead intoxication and crime among some subjects is doubtful. Rather, she seems to have given a misleading report of the data, providing only those results which supported the conclusion that black men become chronic offenders in part because of their supposed vulnerability to lead intoxication, while omitting data that suggest the contrary.

This misleading presentation of Denno's data follows from the original design of the study. Recall how the research was conducted: only blacks were studied and all factors except birth and childhood influences were eliminated as independent variables. A ragbag of data from school and police records were arranged on an arbitrary continuum. Denno made no assessment of the real usefulness of childhood factors in predicting adult crime; she simply selected the childhood factors that were the *strongest* predictors. Denno then proceeded to single out lead intoxication as if it were the single cause of adult crimes of violence, and emphasized its importance in predicting who would become those *chronic offenders* who committed most of the *violent crimes*.

A study pursued in this fashion had to arrive at this result. The study could only produce the strongest predictor of adult violent chronic offenders, however weak it was, and these had to be black men with a persistent defect from childhood. What Denno accomplished here is not the discovery of some

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57. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 106-07.
58. *See id.*
59. *See* BIOLOGY AND VIOLENCE, *supra* note 3, at 72-75.

previously unanticipated factor. We are seeing only the restatement in apparently neutral scientific language of the *habitual criminal* stereotype: a violent black man whose behavior is dictated by essential factors; who is helplessly, uncontrollably, violent.

VI. THE REVIVAL OF SOCIAL DARWINISM

Why does Denno focus so tightly on the supposed chronic criminal? In her oral presentation, to make a statistical point, Denno seemed to argue that if you take the chronic offenders and lock them up forever, crimes would drop by about half.[60] She laughed when she said this and is not to be taken as intending this result. She seems to have first advanced her lead-poison theory as a potential criminal defense;[61] and she now speaks of humane and inexpensive medical treatments for criminals. But we have here a glimpse into the nature of the fantasy, the stereotype, that determines research designs.

The stereotype is an old one, and the habit of dressing it up in scientific garb is also old. Denno begins one report of her research with an interesting historical note:

> Research on biological features of criminal behavior, and its accompanying controversy, is not new. Over a century ago Cesare Lombroso, an Italian physician, suggested that some individuals were "born" criminals with distinctive physical features . . . . Lombroso's research was severely and justifiably criticized in both substance and methodology . . . . His major formulations, however, portrayed an originality . . . and influence and, appropriately or not, they have had a large impact on modern criminological theory and studies of crime.[62]

Perhaps it will not be amiss to quote another passage on the same subject. One hundred years before this symposium, Justice Oliver Wendell Holmes delivered a famous address, *The Path of the Law*, in which he said:

> If the typical criminal is a degenerate, bound to swindle or murder by as deep seated an organic necessity as that which makes the

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60. *See* Symposium on Biology, Behavior, and the Criminal Law, Vermont Law School (Apr. 11-12, 1997), at 59 (transcript on file with *Vermont Law Review*) [hereinafter Transcript].

61. *See Considering Lead Poisoning as a Criminal Defense*, *supra* note 4; *see also* Deborah W. Denno, *Gender, Crime and the Criminal Law Defenses*, 85 J. CRIM. L. & CRIMINOLOGY 80 (1994).

62. BIOLOGY AND VIOLENCE, *supra* note 3, at 1.

> rattlesnake bite, it is idle to talk of deterring him by the classical method of imprisonment. He must be got rid of . . . .[63]

Justice Holmes was also speaking of the work of Cesare Lombroso, whose research has had a profound impact on American law, via Justice Holmes, as well as on modern criminology. I do not think the similarity in thought to Denno's momentary fantasy is coincidental. The same sort of stereotyped image lies behind both, and behind the other presentations here.

The co-sponsor of this conference is the Gruter Institute for Law and Behavioral Research, and many of the participants, including Drs. Denno and Masters, have appeared in other Gruter conferences and publications. Dr. Margaret Gruter, founder and president of the institute, is herself a prominent scholar in the field of law and biology. She and Masters, executive director of the institute, are the joint editors of several compendia of research supported and published by the Gruter Institute. An early collection seems to set the theoretical structure for later work—*Ostracism, A Social and Biological Phenomenon*—which purports to demonstrate that all legal systems are partly based on a biological phenomenon called *ostracism*.[64]

Ostracism, Gruter and Masters say, is a behavior by which members of a tribe exclude a deviant or abnormal member. This behavior, said to be common among primates, sets the biological limits on individual rights in human societies. The following passage gives the flavor of the argument:

> Social groups will use ostracism, a social form of rejection, to protect their continuity or cohesiveness . . . . We can call ostracism a form of rejection by a group of conspecifics—rejection by an organism or a society that acts as a unity and that, in rejecting, might or might not correct some imbalance. By excluding a nonfunctioning or destructive element, it may repair, so to speak, the circuitry necessary for organizational functioning. The parallel to biological organisms rejecting foreign bodies or parasites is obvious.[65]

This, of course, is the familiar thinking of an earlier age. Although at times Gruter seems to be speaking in metaphors, the notion that social groups are literally organic entities is treated as a fact throughout the volume. Ostracism of deviants is said to be observed among chimpanzees, and is taken

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63. Oliver Wendell Holmes, *The Path of the Law*, *in* 3 HOLMES'S COLLECTED WORKS 391, 400 (S. Novick ed., 1975) (address delivered at Boston University, Jan. 8, 1897).

64. *See* OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON (Margaret Gruter & Roger D. Masters eds., 1986) [hereinafter OSTRACISM].

65. *Id.* at 124.

to be an adaptive response of the group. The phenomenon, assumed to be the same at all times and places, is traced through human history up to the present time. Deviants are assumed to be biologically abnormal, and the tribal response is taken to be both a result and a salutary mechanism of natural selection.[66] Modern legal systems, and the concept of justice, are said to be partly based on this instinctive group response to deviants.[67]

Masters' contribution to this theory seems to be his notion that criminals are biologically abnormal (in a way having something to do with brain chemistry), and accordingly a group's extrusion of criminals has an evolutionary rationale.[68] In highly organized states, the sanctions of ostracism are delegated to "specific officials and institutions such as prisons,"[69] but the underlying response is the same.

What is most disquieting about these pronouncements is their self-assurance. They are not accompanied by any discussion of what might have gone wrong in the past with this same naturalistic tradition, with any thought for inherent problems. But the theory that ostracism is a kind of immune reaction of an organic society merely puts into pseudo-scientific language the old fantasy that a race or nation is a transcendental being, an organism; it is the fantasy that lies behind racial hygiene, ethnic cleansing under compulsion of state power, compulsory sterilizations, and many other horrors of the twentieth century.

The Gruter Institute's central project seems to be founded on this mistaken identification of social groups with biological organisms—so that classes and nations are again said to evolve through a competition between groups for survival. Gruter says rather coolly that social change may lead to extinction or near-extinction for some individuals or groups, such as the Tasmanians.[70] Masters has developed a familiar-sounding theory of social evolution—based partly on information theory and partly on genetics—in which societies and cultures compete for survival.[71]

This is Social Darwinism, *redivivus*. I do not believe and certainly do not mean to suggest that Gruter or any of the speakers at the conference intend the sort of results that Social Darwinism had in the past. But they are not as

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66. *See id.*

67. *See, e.g.*, ROGER D. MASTERS, NATURE OF POLITICS 219-27 (1989).

68. *See also* Roger D. Masters, *Serotonin and Behavior*, *in* THE NEUROTRANSMITTER REVOLUTION: SEROTONIN, SOCIAL BEHAVIOR, AND THE LAW 24, 31 (Roger D. Masters & Michael T. McGuire eds., 1994) (referring to the "discovery that some individuals may have a genetic predisposition to impulsive violence or deviant behaviors," which he considers the principle implication for the "law and policy" of recent brain research) [hereinafter THE NEUROTRANSMITTER REVOLUTION].

69. MASTERS, *supra* note 67, at 220.

70. *See* Margaret Gruter, *An Ethological Perspective on Law and Biology*, *in* THE SENSE OF JUSTICE: BIOLOGICAL FOUNDATIONS OF LAW 95, 101 (Roger D. Masters & Margaret Gruter eds., 1992).

71. *See generally* Masters, *supra* note 69, at 117-52.

troubled by their assumptions as they should be. If the notion of the organic nature of society is correct, and law and morality are its expressions, then it follows that individuals may be freely sacrificed in the interests of group survival—a doctrine that Justice Holmes, an ardent evolutionist, briefly succeeded in writing into American constitutional law and that could equally well be cited by the defendants at Nuremberg.[72]

One is reminded that eugenics, the science of racial hygiene, was founded on a metaphor: the health of the supposed social organism, the metaphor that Gruter has revived. Eugenics was always a progressive project, portrayed as neutral and benign. The difficulty was not only that it was misused by malevolent people, as it was, but that the whole project was founded on a mistake.

VII. ROGER MASTERS' THEORY

Masters has whole-heartedly embraced Denno's claim that lead poisoning is an important cause of crime, apparently without any careful study of the underlying data. He has found some other data that show lead pollution and crime tend to be found in the same places, and he believes this phenomenon supports the exaggerated claims that Denno makes. Even supposing Denno to be right, however, Denno's "discovery" of an environmental cause of crime seems to contradict Masters' earlier speculations that crime is caused by a genetic defect in brain metabolism.

But nothing can defeat a theory as all-encompassing and untethered as Masters'. He accepts Denno's results and now speculates as to conceivable or inconceivable quirks of heredity and environment that in his view might combine to make black men especially susceptible to the effects of lead poisoning, and then go on to lead a life of crime.

The parts of Masters' argument are difficult to fit together. Reporting research that in part predates Denno's work, Masters announced from the podium results of a study which he claims establishes a metabolic link between black men and violent crime[73] This same study found an inability of criminals to form properly warm feelings for political leaders, an inability which is somehow related to their failure to take pleasure in obeying the law. The principal evidence is that incarcerated prisoners do not respond warmly to a smiling picture of the President of the United States.[74] The criminal

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72. *See* Buck v. Bell, 274 U.S. 200, 207 (1927); SHELDON NOVICK, HONORABLE JUSTICE: THE LIFE OF OLIVER WENDELL HOLMES 477 & n.65 (1989).

73. *See* Transcript, *supra* note 60, at 79-80.

74. *See* Roger D. Masters, *Difference in Responses of Blacks and Whites to American Leaders*, POL. & LIFE SCI., Aug. 1994, at 183.

behavior of which these prisoners have been convicted supposedly results from a fault in brain metabolism that somehow involves the neurotransmitter serotonin; it is the lack of serotonin which keeps them from enjoying the sight of their smiling President and from enjoying law-abiding behavior.[75]

The principle merit of this theory seems to be that it fits into the previously established framework of Masters and Gruter's principle of ostracism. Criminals have a biological abnormality; society reacts with a sort of immune reaction, expelling the abnormal criminal from its otherwise healthy body.[76] The evidence for the defect in serotonin metabolism is anecdotal, to put it kindly, and seems to have been collected after the fact to support a presupposition. The strongest evidence is said to be found in a clinical study of thirty-six prisoners conducted fourteen years ago and not since confirmed.[77] The subjects were chosen because they had committed or attempted unusually cruel murders, and had been diagnosed with a variety of severe psychiatric disorders. The prisoners who had attempted or committed premeditated murders had been diagnosed as suffering from paranoia or passive-aggressive disorders, and had higher serotonin levels than the other prisoners, who were said to have committed impulsive crimes and were sufferers from impulsive personality disorders.[78] There is no effort to determine whether the paranoids, convicted of premeditated crimes and therefore presumably serving longer sentences, were treated differently in prison from the impulsives.

Even if this were a valid report, it would not support Masters' thesis. The paranoid—and therefore presumably calm—inmates whose crimes are described as premeditated, and therefore presumed not to be impulsive (a lawyer may have some doubt about the confusion of categories here), were as cruel and violent as the serotonin-depressed prisoners who supposedly were impulsive. Masters ignores the paranoids, however. He assumes, on no evidence whatsoever, that most crimes of violence are impulsive.[79] He further assumes that psychotic prisoners represent impulsive criminals generally;[80] hence crime is caused by low serotonin.[81] There is no epidemiological evidence for any of this.

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75. The prisoners were divided by race, and the black prisoners seem to have been even less moved by the sight of their smiling white President than their white compatriots. *See id.* Presumably the gene for this trait is more common among blacks.

76. *See generally* OSTRACISM, *supra* note 64.

77. *See* Markku Linnoila et al., *Low Cerobrospinal Fliud 5-Hydroxyindoleacetic Acid Concentration Differentiates Impulsive from Nonimpulsive Violent Behavior*, *in* THE NEUROTRANSMITTER REVOLUTION, *supra* note 68, at 62.

78. *See id.*

79. *See* Masters, *supra* note 1, at 364-65, 367.

80. *See id.*

81. *See id.* at 367.

Where does the lead poisoning come in? Unfortunately, the supposed link between lead poisoning and crime was discovered after these speculations were first published, so it may seem that Masters is now trying to fit his serotonin theory to the supposed facts.[82]

And what now explains the racial differences in crime statistics? Are black men more susceptible to lead poisoning than whites, as Denno claims? It is at this point that Masters is apparently aiming. He supposes that adult black men suffer from calcium deficiency (for which there is no evidence) because a genetically determined trait, lactose intolerance, is slightly more common among African Americans than whites, and black children are bottle-fed more often than whites, which somehow leads to a calcium deficiency in the children.[83] The calcium deficiency leads (through more speculation) to an exacerbation of the disturbance of serotonin metabolism supposedly caused by the lead poisoning.[84] Or perhaps it somehow induces the damage from lead poisoning; which somehow leads to criminal behavior in the adult.

This last leap is the most impressive. We are told that serotonin is necessary for calm behavior, an assertion for which there is no epidemiological evidence. Impulsive acts are said to result from a lack of calmness, a claim for which no evidence is offered. Career criminals are said to be less calm and therefore more impulsive than other people, a conclusion for which there is no evidence; crime is therefore a serotonin deficiency, caused by lead poisoning and genetic defects in blacks, QED.

We see that we have arrived by tortured speculations at the same sort of construction of the criminal image that Denno accomplished more directly. It is this image which remains constant; the speculations shift and change. For over a century we have been told that the criminal is an observable type; today he is a black man with an organic defect; presumably the healthy body of society acts to ostracize this deviant.

But what are we now to do with Masters' first discovery, the revelation that criminals feel coldly toward their political leaders? Is this attributable to a genetic defect (the genetic cause of crime) that accounts for their choosing a career of drug dealing and mugging? These criminals are not impulsive, they are too calm. Perhaps the cause of their crimes is an excess of serotonin.

Masters imagines yet another previously unsuspected physiological mechanism by which pleasure at law-abiding behavior serves as a damping

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82. Masters continues to rely on Linnoila et al., which was first published in 1983. *See supra* note 77. Denno did not publish her full report of the Biosocial Study until 1990, *see* BIOLOGY AND VIOLENCE, *supra* note 3, and did not emphasize the lead poisoning factor until her 1993 paper on criminal defenses. *See Considering Lead Poisoning as a Criminal Defense*, *supra* note 2.

83. *See* Transcripts, *supra* note 60, at 84, 86-87.

84. *See* Masters, *supra* note 1, at 368-70.

mechanism to suppress the impulse to commit crimes. One begins to be reminded of the scholastic who, when Galileo announced his observation of mountains on the moon, answered that the valleys must be filled with a transparent substance that preserved the perfect spherical shape of this heavenly body. In a lifetime of reading scientific research studies, I do not recall finding an equally tenuous chain of speculations in print.

I may be making too much of Masters' idle remarks, of course. Neither Denno nor Masters is a biologist, and their research shows at most that pollution and crime are found together, which is hardly surprising. Lead poisoning, so far as the data show, and to the extent it is being observed at all, is another result of common causes—presumably poverty and racism—that trap some people in substandard housing. Here they are exposed to peeling paint and lead pipes, in streets heavily contaminated with auto exhaust; circumstances in which lead poisoning is common and crime is a rational career choice.

Denno's and Masters' speculations, therefore, are unjustified. There is nothing to speculate about, no mysterious phenomenon that requires investigation. We have no more reason now than before the "discovery" of a link to lead poisoning to speculate about biological causes of crime or genetic differences between the races that may give rise to it. Only a stereotyped image of the criminal drives this research forward.

There are, on the contrary, a number of reasons not to waste time and resources, in the process implicitly justifying racist prejudices in the law enforcement community, by looking for race-based causes of crime. Given the wide swings in crime statistics over short periods of time, and the wide variations in crime statistics from place to place, it would be surprising indeed if variations in biology played any important role in crime statistics.

And so I object to these fruitless speculations, even if they are only frivolous and easily shown to be so. The discussion, rooted as it is in stereotypes, cannot help but exacerbate racial misconceptions. The research reported here poses questions of the form, "When did you stop beating your wife?" Such questions are equally improper in a courtroom and a scholarly symposium.

Studies of black people designed to discover something about criminals are gratuitous additions to a sorry history of racial talk on this subject. Earlier bearers of the tale "have represented black communities, black families, and black bodies as the bearers of stigma, disease, danger, violence, social pathology, and hypersexuality."[85] Indeed, such talk has had a price of its own.

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85. Rhonda W. Williams, *Living at the Crossroads: Explorations in Race, Nationality, Sexuality and Gender*, *in* THE HOUSE THAT RACE BUILT, *supra* note 19, at 136, 140.

The question that perhaps needs to be addressed is not whether racially distributed criminal traits somehow cause or explain crime, but why intelligent and seemingly well-intentioned people continue to make the mistake of studying the biology of criminals in the forlorn hope of finding the causes of crime. I would like to hazard an answer to this question.

VIII. RACE PREJUDICE AS A COGNITIVE DISORDER

Let us begin with the racial stereotype that seems to drive the discussion. Racial differences in crime statistics are plain to see, and arguments that link race and crime, or culture and crime, seem to many people to be intuitively well founded, and confirmed by the statistics. The idea is hard to shake. One must go through an elaborate argument to see the flaws in the latest revival of the claim that one race or another is particularly prone to crime. It is difficult to trust logical analysis; only the obvious persuades, as good lawyers know. The seeming reality of race, and the image of the black man as criminal, are hard to dispel.

A number of things are plainly at work, including one's sense of the reality of race. This is not necessarily a product of prejudice. People often have a positive sense of the reality of race. From W.E.B. Du Bois's startling paean to "the unifying ideal of Race;"[86] to Toni Morrison's eloquent plea for race without racism, for race as a home;[87] the positive reality of race has often been proclaimed by people of color. (We can substitute the fashionable euphemisms of culture or ethnicity if we wish, without altering the meaning.) Racial nationalisms, white and colored, are familiar features of the political landscape. The naturalness and intuitive appeal of this mode of thinking, in both its positive and negative manifestations, is what requires explanation.

The social construction of race, gender, and sexual orientation has been the object of a great deal of recent study which I will not attempt to summarize. The motives and mechanisms that are offered to explain the social construction of race often share in the phenomenon that is to be explained, however. Race is said to be a social construction, built upon white prejudice.[88] Racism is therefore caused by race prejudice—a perfectly circular explanation. Another common explanation is the presumed wish of the privileged to create a permanent underclass.[89] But why base an economic

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86. W.E.B. DU BOIS, THE SOULS OF BLACK FOLK 7 (Dover ed., 1994) (1903).

87. *See* Toni Morrison, *Home*, *in* THE HOUSE THAT RACE BUILT, *supra* note 19, at 3.

88. See, for example, an otherwise admirable work, IAN F.H. LOPEZ, WHITE BY LAW 137-38 (1996).

89. *See, e.g.*, Cornell West, *Afterword*, *in* THE HOUSE THAT RACE BUILT, *supra* note 19, at 301-03.

system upon the arbitrary and painfully constructed category of race? Again, we seemingly have race prejudice, or at least prior images of race, to blame for the creation of race.

I should think that a more interesting object of study for my Darwinist friends than the evolution of an imaginary criminal behavior trait is the peculiar persistence of these irrational categories of perception and the persistent mode of thinking which obliges one generation after another to construct unreal stereotypes and force other people into them. Let us try to describe in neutral terms the mistake that was made in the design of this symposium and in some of the research reported here; perhaps the mistake will give us some insight into this persistent phenomenon.

CONCLUSION: THE COGNITIVE BASIS OF RACE

Ideas of personal identity may begin with observations of difference. We notice gender differences very early and children notice, or are told very soon, about the importance of skin color. People who resemble us with regard to these traits, and those who differ from us, we sort into groups, regardless of their other characteristics.

These are familiar observations. What I think is less often noticed today, although it was a commonplace of the science of an earlier age, is the tendency to choose a single face or figure to represent the whole group. Children are very good at recognizing faces and it appears that from childhood on we organize our perceptions of other people into a manageable number of types. Sometimes other living forms are used—animal totems, cartoon characters—to stand for Us and the varieties of Them, but images of typical faces and figures seem to be universal.

This may be a quirk of our neural anatomy, with a good evolutionist origin, for all I know. Whatever it is, a little reflection will confirm that most people organize their perceptions of others in this way, into groups organized around some noticeable difference and typified by a characteristic figure. The figure is no more than an aid to memory and perception, but it often takes on the vivid life of a work of art.

Stereotyped images are ubiquitous, and may have their origin in the mass media rather than individual experience. We call them stereotypes—meaning that they are mass-produced—for good reason; but stereotypes have their peculiar power because they correspond to a common mode of thinking. Even when discussing rather abstract questions, we often have in mind, without sufficiently paying attention to them, implicit images of the persons who have rights, and to whom we attribute such qualities as intelligence or freedom of speech. And so it happens that a complex of features become linked in our

minds and embedded in a single vivid image. There is a stereotype for Us, who have rights, as well as for Them, who may not.

Stereotypes have both a gender and a race—indeed it seems to be difficult to form an image of a face without giving it a gender and racial identity. Presumably these are encompassing categories that we form at an early age. There are different stereotyped figures for the black man and black woman. Similarly, we may have an image of the Asian woman that is quite inconsistent with the Asian man. *Woman*, however, is stereotyped as white, which puts women of color in a difficult situation.[90] Susan Sontag pointed out years ago that we easily form such images of people who are marked out by disease.[91] The consumptive woman was a romantic figure to the Victorian age; today there are conflicting images of the AIDS sufferer.[92]

Racial stereotypes are both familiar and distasteful, and so may escape attention in a scholarly discussion. But these images help explain the subterranean workings of prejudice—why Dartmouth College excluded Jews of the "kike" type;[93] or why homosexuals and women find themselves excluded from various racial nationalisms.[94]

The most dangerous sort of image is undoubtedly one in which race, gender, and disease are fused to create a monster: the degenerate criminal familiar from the days of Cesare Lombroso. Criminologists apparently still pursue this bogeyman, the Big Foot or unicorn of social science. Like other mythical beasts, it exists only in the realm of metaphor.

The creation of such metaphors seems to be a neutral process, in itself, and perhaps plays its role in the creation of works of art. The difficulties come when somebody uses a position of power to impose a stereotype. Then images are gradually erected into hierarchical social institutions and finally enforced by law. The metaphor becomes a prison.

What I think we are observing at this symposium is the earlier stages of the process. A number of academic professionals are using their positions of freedom to construct an image of the criminal as a black man; and I fear that this will be followed by still more social institutions and laws that confirm and enforce the unreal stereotypes with which we begin.

When even well-intentioned people today form images of the criminal, their image has a gender and race—it is a picture of a black man, or at least a

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90. *See, e.g.*, Williams, *supra* note 85, at 136.

91. *See generally* SUSAN SONTAG, ILLNESS AS METAPHOR (1979).

92. *See generally* FRANK MORT, DANGEROUS SEXUALITIES: MEDICO-MORAL POLITICS IN ENGLAND SINCE 1830 (1987); SUSAN SONTAG, AIDS AS METAPHOR (1988).

93. *See* Frederick J. Frommer, *Dartmouth Confronts Its Anti-Semitic History*, VALLEY NEWS (New Hampshire), Nov. 17, 1997, at 1.

94. *See* Williams, *supra* note 85, at 139.

man of color.[95] The image is so powerful, seemingly tangible and frightening, that discussion of crime seems to proceed under its baleful gaze. But the image is a fanciful one. There is no criminal type and no criminal tendency, so far as is known after a century of futile search. The creation of the degenerate criminal's image is just a quirk or habit of thought. Crimes are committed by ordinary people for ordinary reasons; or so a scientist must assume.

In the present state of scientific knowledge—or ignorance—of the manner in which the human nervous system functions, one cannot even speculate as to whether there is a neurological or evolutionary basis for this image-forming habit. One can easily imagine that it has adaptive value; I offer that speculation with at least as much basis as those we heard at the symposium. But talk of "evolution" and "adaptive" value is no more than another metaphor. It makes the point that this mode of representing groups of people by means of a single image seems to be deeply embedded in our cognitive apparatus, perhaps as deeply as concepts of spatial extension and temporal sequence.

Racial stereotypes, in short, are not physical entities, but they have the more powerful reality that Du Bois claimed for them—the reality of an ideal. All the more reason for us to be conscious of their limitations and their potential for misuse.

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95. L. Buddy Gwin, Coordinator of Vermont Law School's First Nations Environmental Law Fellowship, pointed out very forcefully during the conference that Native Americans have been subjected to a similar process, as have Jews and others.