EDITORIAL

Dalton Conley*

From the days of Francis Galton's eugenic theories of the heritability of intelligence and criminality on through the controversial, bestselling book by Richard Herrnstein and Charles Murray, *The Bell Curve* (1996), introducing genetics to discussions of social behavior in humans has been morally controversial. This has generally led to an intellectual firewall between mainstream social science and biological data.

However, recently there has been intense interest in collecting biomarkers, in general, and genetic data in particular, among social scientists. Within the United States, the National Longitudinal Survey of Adolescent Health (Add Health) has been a pioneer in the collection of biological data, including DNA markers from a sample of monozygotic and dizygotic twins. In 2006, along with other biomarkers such as HDL blood levels, the Health and Retirement Survey (HRS) also collected saliva samples to extract DNA for sequencing and analysis. The HRS subjects are being genotyped using a million-marker chip (Add Health is also adding genome-wide data to its Wave IV release). The Wisconsin Longitudinal Survey (WLS) is also collecting DNA samples, and the Panel Study of Income Dynamics (PSID) is considering adding such a module as well. In many ways, the United States is a laggard in collecting such data – possibly due to the increased salience of privacy concerns as compared to other societies. Iceland's Decode project has DNA data on almost the entire census of the citizen population. The United Kingdom has launched an ambitious study that will attempt to collect genetic data on 500,000 respondents. And the Scandinavian countries already have genetic samples that can be linked to rich administrative datasets. Dozens of millions of dollars have been invested in assembling these datasets. These new datasets contain countless opportunities for answering questions that could not be explored until very recently because of the

* Dalton Conley is university professor in Sociology and Dean for the Social Sciences at New York University (former Chair of the Department of Sociology). He has written extensively on the relationship between biology and society. He is currently pursuing a PhD in Biology at the Center for Genomics and Systems Biology at NYU. dc66@nyu.ed

costs involved in the comprehensive genotyping of large numbers of individuals.

The collection of these data represents a major shift for the social sciences as they engage questions around the heritability and genetic bases of social behaviors. Namely, for a long time, modeling the effect of genes on social outcomes among human populations was the province of behavioral geneticists who relied on adoption and MZ v. DZ twin comparisons in order to quantify the degree of (unmeasured) genetic influence on behavioral phenotypes. These methods often rested on a number of critical assumptions that have been challenged elsewhere (see, e.g., Goldberger 1984). The shift to the study of genetic markers on specific loci – such as single point mutation polymorphisms (SNPs) – would seemed to offer hope for those interested in an explicit research program aimed at specifying and measuring gene-specific effects for complex traits such as behavioral phenotypes. Furthermore, it should (in theory) facilitate the studying of genetic-environmental (GE) interactions that has long been a goal of social scientists fond of expressing the dependence of genetic expression on social structure.

However, how do we get from the sociological adage that "a gene for aggression lands you in prison if you're from the ghetto, but in the boardroom if you're to the manor born" to a serious empirical research program on the study of GE interactions? While recently there has been intense interest in collecting biomarkers, in general, and genetic data in particular, among social scientists, we have often been at a loss as to how to properly analyze these data once we have them. This challenge is made all the more intractable by the fact that few of us social scientists enjoy a deep understanding of the underlying molecular biology that go into creating genetic data. The result has been, for the most part, a series of flawed models that have only contributed to social scientific suspicion of genetic data. In different ways, the papers in this volume wade into this intellectual swamp and analyze the meta-discourse around these issues in areas ranging from the potential for genetic discrimination, to the so-far failed promise of genetic therapies to the role of "genoism" in popular film. While these essays themselves do not pursue an explicit research agenda for resolving the empirical challenges I outline above, they do provide a cautionary tale for social scientists who seek to over-interpret the tentative results the field has so far generated.