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GOVERNING MENTALITIES

> Governments are as responsible for the mental health as for the physical health of their citizens. . . . Governments, as the ultimate stewards of mental health, need to set policies—within the context of general health systems and financing arrangements—that will protect and improve the mental health of the population.—World Health Report 2001
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> The managing of a population not only concerns the collective mass of phenomena, the level of its aggregate effects, but it also implies the management of population in its depths and its details.—MICHEL FOUCAULT

Managing the details and potentially unruly depths of the "mentality" of populations is a central aim of contemporary techniques of governmentality.[1] The post–World War II founding of the U.S. National Institute of Mental Health (NIMH) announced a new purposefulness and promise of efficiency in the campaign to regulate the mental health and disease of citizen-subjects: "The guiding philosophy which permeates the activities of the National Institute of Mental Health," wrote its founding director in 1949, "is that prevention of mental illness, and the production of positive mental health, is an attainable goal. . . . Since this must be done as rapidly and economically as possible, *techniques for a mass approach to the problem* must be developed" (Felix 1949, 405, italics mine). As the state-sponsored ambition to produce "positive mental health" for all is generalized by 2001 into the World Health Organization's global address to governments as "the ultimate stewards of mental health," it seems reasonable to wonder—with a cer-

tain sense of historical dis-ease—what *techniques for a mass approach* to the problem of governing the mental health of entire populations have been developed in the last fifty years. How has disordered "mentality" in its aggregate effects and its symptomatic depths been made into an object of governmentality? What technologies of knowledge and power are today at work transforming the heterogeneous, elusive languages of mental suffering into the robust data useful for its rationalized regulation and administrative control?

The emergence of U.S. biopsychiatry in the last decades of the twentieth century signals the persuasive consolidation of one particular mass approach to problems of psychic distress. Situated within the multisited, postmodern processes of biomedicalization described by Clarke et al. (2003, this volume), biopsychiatry embraces a medicalized model of mental disorders while claiming a scientific status for contemporary psychiatric practices of diagnosis and treatment. At the same time, biopsychiatry has become all but inseparable from the funding and financial structures, research agendas, advertising and marketing campaigns, and globalizing ambitions of the transnational pharmaceutical industry (Breggin 1991; Healey 1996, 2002; Horwitz 2002, 211–12; Metzl 2003; Petryna, Lakoff, and Kleinman 2006). Indeed, the industrial production and consumption of psychopharmaceutical drugs appear to have delivered on the NIMH's mid-twentieth-century goal of efficient, cost-effective techniques for a mass approach to mental health.

Biopsychiatry in the United States has played a lead role in ushering in an era of mass(ive) "pharmaceutical governance" (Biehl 2004) of mental health and illness through three interrelated accomplishments. First, the standardization and operationalization of the official language of psychiatric diagnosis, established in the 1980 edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-III*), introduces a new order of things in the entangled realms of psychiatry and psychotherapy, medicine, the pharmaceutical industry, the legal system, the insurance industry, social and self-identity, and popular discourse (see Kirk and Kutchins 1992; Lowe 1995; Wilson 1993). Hailed by its promoters as a "significant affirmation on the part of American psychiatry of its medical identity and its commitment to scientific medicine" (Klerman 1984, 539), *DSM-III* offers a purportedly objective, empirically oriented classification system for mental disease, where each diagnostic "thing" (each specific disorder) is defined

by a systematized, standardized set of observable criteria (see American Psychiatric Association [APA] 1980). Second, bolstered by this new epistemic order of diagnostic things, biopsychiatry supports a popular commonsense and professional consensus that each discrete, mentally disorderly thing has its own discrete and targeted treatment. Each scientifically speakable disease has its own specific—and presumably scientific—cure. Third, biopsychiatry naturalizes this coupling of standardized psychiatric diagnostic entities with scientifically sanctioned treatments by modeling mental disorder as an expression of an underlying brain or biological dysfunction. Like the medical model of organismic disease that it tries to mirror and extend, the biopsychiatric imaginary of brain dysfunction as the fundamental context for understanding psychic distress legitimates biological intervention as an appropriate, even exemplary, technique for regulating disorderly mentalities. Psychopharmaceutical drugs as effective technoscientific treatments for a wide range of psychic and emotional disturbances have become, by the early twenty-first century, a normalized practice in biopsychiatry, general medicine, and everyday life.

The contemporary routinization of the psychopharmaceutical governance of mental suffering and psychic difference converges historically not only with the ascendance of U.S. biopsychiatry and the related technoscientific, economic, and social contexts associated with processes of biomedicalization but also, I argue, with broader post–World War II transformations in the very techniques of governmentality itself. Governmentality, as Foucault theorized its eighteenth-century emergence in European nation-states, marks the "birth of a new art" for exercising power and constituting knowledges (Foucault 1978/2000, 217). Organized explicitly around the problem of the health and welfare of the population and the possibilities of knowledge materialized by social statistics (rates of birth, disease, and death; the patterned movements of people, epidemics, and capital), the art of modern governing builds on a biopolitical regime of power/knowledge in which the life—or "bios"—of a population is perceived as a new *subject* of needs and desires, and a new *object* of perpetual administration and government.

If, as Clarke et al. (2003, this volume) suggest, today's institutional and technoscientific networks of computerized information constitute one key feature of "biomedical governmentality," then it may be useful to consider how computer and information technologies more broadly are shaping

contemporary practices of governing the life and the lived "mentalities" of populations. How to think about biomedical and biopsychiatric governmentality as a symptom of something we might call "cybernetic governmentality," or the birth of a new art of regulating populations through the post–World War II communication and information sciences—christened "cybernetics" by their founding figure, Norbert Wiener (1948, 1950)? Derived from the Greek word *kybernetics* (referring to automated mechanisms of governing or steering, as in a steamship), cybernetics—which influenced the design of the first computers and helped launch the informatic infrastructures of power in which we move today—may have shifted late-twentieth- and early-twenty-first-century techniques of governmentality in directions that Foucault never adequately theorized. Cybernetic governmentality, founded on new material and imaginary circuits of communicative feedback and information exchange, extended through techniques of electronic automation and computer simulation, enfleshed in flexible networks of modulated and continuous control, may touch on what the sociologist C. Wright Mills (1959, 166) struggled to theorize in 1959 as an emergent "postmodern" era. Electrified by new forms of social power, Cold War U.S. society was, Mills feared, drifting toward a political economy and a social psychology dominated by electronic communications technologies. Even as Arnold Schwarzenegger, telematic cyborg, today governs one of the more powerful economic and cultural regions on the planet, cybernetics as a technology of social governance remains a curiously undertheorized concern.

So while my limited aim in this chapter is to tell a story of the rise of computer-simulated diagnosis of mental disorders—or the "informatics of diagnosis"[2]—as a key element of U.S. biopsychiatry and the biomedicalization of psychic distress, I want to situate that story within a broader, speculative history of cybernetic techniques for governing mentalities. Simulation, automation, and informatic modeling today are becoming pervasive, everyday techno-social practices, assembling humans, computers, information, "mentalities," and imaginaries of control into a flexible array of social-cybernetic forms and technoscientific formats. How to reassemble our own theoretical imaginations and empirical investigations into an adequate analytics for mapping such shifts, even as those shifts partially and perceptually remap us? At the empirical heart of my story is the rewriting in 1980 of the *DSM-III*, the APA's official psychiatric diagnos-

tic classification system, in an informatic language of codable symptoms and computerizable criteria; I trace this transformation to over a decade of experimental efforts to develop computer simulations of psychiatric diagnosis and to automate couplings of specific diagnoses with specific drug treatments. The *DSM-III*'s informatics of diagnosis make possible the first national epidemiological studies of the prevalence of discrete, differentiated mental disorders in the U.S. population, generating "mentally disorderly" statistical subpopulations that can become new objects of biomedical governance and new subjects of psychopharmaceutical desires. My theoretical aim is to locate this transformation of the *DSM* and the ascendance of U.S. biopsychiatry within a historically specific techno-social dream of automated, informatic control of human mentalities—a (social) science fiction dream of cybernetic power that begins at the uncanny crossroads of the U.S. military and a public mental institution. Here psychiatry, cybernetics, and the Cold War U.S. campaign to inhabit outer space together start to imagine the techno-logics necessary for the cybernetic regulation of psychophysiological processes—in institutionalized mental patients and human astronauts—and the informatic infrastructures of their everyday governance.

Psycho-cyborgs at Rockland State

> After the implosion of informatics and biologics, simulation is not derivative and inferior but primary and constitutive. "All life is an experiment."
> —DONNA HARAWAY

> Not only simulation of central nervous system activity, but a direct tie-in—sort of a psycho-cyborg—is at least conceivable.
> —KLINE and LASKA

The ruins of Rockland State mental institution are today available for online viewing. On my computer screen, a series of digital images display the abandoned, dilapidated buildings that once housed nearly eight thousand mental patients; an empty dentist chair in a vacant room, barred window in the background; in the children's ward (the caption tells me), a small steel bed frame lying on its side, and a note inside an open drawer —"GET OUT"—scrawled in crayon.[3] Rockland State Hospital in Orange-

burg, New York, is still open for business, and the website includes a digitalized photo of the recently built main hospital complex that now towers over the ghostly sprawl of decaying buildings. Here, in the ruins of informatic images and electronic traces of absence, a history of cybernetic governmentality flickers through the very framings of cyber-technology itself. This is a history of the present, then, and of techno-social forms of perception and power that inform the very subjects we are becoming.

In 1960, two researchers from Rockland State travel to Brooks Air Force Base, Texas, to present their paper "Drugs, Space, and Cybernetics: Evolution to Cyborgs" (Kline and Clynes 1961). They attend a symposium, organized by the U.S. Air Force, addressing the unprecedented "psychic stressors" and behavioral challenges of sending humans into outer space. An array of "informed physicians and scientists" are invited by the U.S. military to identify and solve the interdisciplinary, biopsychosocial problems of manned space flight: "Man's behavior is a joint function of many kinds of influences arising both inside and outside the body, and . . . the understanding and control of this behavior can be achieved only through the joint efforts of all the life sciences" (Benson 1961, vi). Paper topics at the symposium range from the neurophysiology of stress to experiments with monkeys inside U.S. missiles, hypnosis as a space tool, and the psychosocial problems of small groups.

In their contribution to the Air Force conference, Nathan Kline and Manfred Clynes of Rockland State Hospital introduce for the first time the figure of the "cyborg"—an imagined assemblage of *cyb*ernetic and *or*ganismic processes necessary for the successful control of human behavior and psychophysiological functioning in extraterrestrial space (Kline and Clynes 1961, 347–48). While the cyborg is a kind of hybrid techno-human creation, it is also Kline and Clynes's name for a method—"the Cyborg technique"—which supplements or simulates bodily processes via the "biochemical, physiological, and electronic modification of man's existing modus vivendi" (346). Pharmacology is the most significant cyborg technique imagined by Kline and Clynes for the automated, self-regulating control of the cybernetic man-machine system in outer space. Modeling the central nervous system as an automated cybernetic mechanism, Kline and Clynes envision a science fiction series of pharmaceutical devices for simulating biological and psychological equilibrium (or homeostasis) through a control loop of constant informational feedback. For example, should the

unusual stress of long-term space flight precipitate a psychotic episode in the cyborg, the authors suggest the possible administration of psychopharmaceutical drugs via remote control from earth (369–70).

These early fantasies of cyborg control techniques are not the ravings of mad scientists but the cheerful astral projections of two scientists of "madness" whose research activities on spaceship Earth are profoundly influential and richly funded. Nathan Kline, a psychiatrist and director of the research department at Rockland State Hospital, plays a major role in establishing the new field of psychopharmacology for the treatment of mental illness in the 1950s and 1960s (see Kline 1956). As director of the Dynamic Simulation Lab at Rockland, Manfred Clynes conducts award-winning research on "the organization of the body's nervous system and its cybernetic control" and the basic "brain algorithms" underlying the "biocybernetics" of emotions (Clynes 1995, 45; also Clynes 1973). While the cyborg is originally conceived as a solution to problems in outer space, cyborg research more generally, Kline and Clynes argue, can contribute to "a clearer understanding of man's needs in his home environment" (Kline and Clynes 1961, 346). Their sentiments are echoed in the concluding remarks at the air force symposium: "What was discussed here is not only space oriented. It has implications throughout the field of mental health.... The possible *use of special devices to . . . automate man* . . . offers interesting opportunities for research that will benefit not only space travel but general medicine as well" (Flaherty 1961, 375–76; italics mine).

To understand, then, the full scope of the techno-social dream of continuous, modulated, automated control embedded in cybernetic governmentality, we need to look more broadly at the ambitious terrestrial deployment of "cyborg techniques" at the institutional and organizational levels of Rockland State Hospital. "Part of what makes the world real," notes Donna Haraway, cyborg theorist and historian, is the worldly "dreamwork" materializing in the shifting, shimmering borderlands between social reality and science fictions. "Clynes and Kline are a great example. They were actually involved in real projects, in an institutional environment of multiple real projects. Social reality was being made to happen there, and it was fantastically dreamworked" (2006, 153). If the cyborg is a kind of militarized dream of the automatic regulation of extraterrestrial "man," cybernetic governmentality is the institutionalized dreamwork trying to make real the techno-social (science) fictions of automation and

informatic management made more materially possible through the Cold War spread of computer and information technologies.

Rockland State Hospital becomes well known (famous or infamous, depending on the audience) as a center for psychopharmacological experiments with mental patients, starting in the early 1950s. By the mid-1960s, Nathan Kline has built the Research Department at Rockland into an internationally renowned center for the testing of dozens of potential new psychopharmaceuticals, with a new "model" research ward, a staff of two hundred people, and a $1 million budget (over half of the budget comes from pharmaceutical industry funding, and private and federal government sources).[4] Less well known is the centrality of computers and the dream of electronic automation to Rockland State's research, clinical, and administrative activities in the 1960s and 1970s. In *Computers and Electronic Devices in Psychiatry* (1968), Nathan Kline and Eugene Laska situate their notion of the psycho-cyborg within the technoscientific and organizational context of "psychoelectronics," that is, the embeddedness of electronic technologies at all levels of the psychiatric institution: from "treatment" techniques like electroshock therapy to the computer evaluation of clinical and epidemiological data; the computer automation of psychiatric diagnosis and patient case histories; and the electronic tracking of "the whereabouts of each patient at all times" (Kline and Laska 1968, v–vi).

During the same years that the pharmaceutically enhanced, extraterrestrial cyborg materializes out of the experimentally drugged mental patient at Rockland State Hospital, Kline and his colleagues are modeling an early exercise in cybernetic governmentality within the experimental spaces of the computer-enhanced mental institution.[5] In 1963, with grant money from the NIH, Kline opens a computer laboratory at Rockland equipped with a state-of-the-art IBM computing machine (to supplement the existing psychoelectronics laboratory and Manfred Clynes's Dynamic Simulation Lab). The computer lab is a precursor of what will become the Multi-State Information System for Psychiatric Patients (MSIS), a computer-based clinical and administrative management information system operational by 1975 in public and private mental health institutions in seven states, with a central computer facility at Rockland State (Spitzer and Endicott 1975). Emerging from the information management capacities of the new computers, and the observation that there exist "enormous areas of overlap" in the information needed for psychiatric treatment decisions, hospital ad-

ministration, and clinical and epidemiological research, the MSIS attempts to automate the circulation, storage, and analysis of data in a "total hospital system" (Laska and Kline 1968, 7–8).

"At the center of everything is . . . a centralized, integrated computer file," writes Kline in 1967 as he tries to merge a speculative future of cybernetic information systems with the pragmatic present of the modern mental institution (Kline and Logemann 1967, 544, 547). By using standardized forms that can easily be coded for computerized data input, "uniform information can be collected from hospitals and psychiatrists the world over" (Laska et al. 1967, 120). SCRIBE, a computer program developed by Kline and his colleagues at Rockland for the "Systematic, Complete, Interlingual, Brief, Expandable" production of automated patient case histories, promises to translate a sequence of numerically coded questionnaire responses into a structured, computer-produced clinical narrative available in multiple languages. Not only will the automated case history aid the "overworked psychiatrist," but it will allow the efficient, standardized exchange of patient data between clinical and research activities within the hospital, and between different hospitals using the same forms (ibid.). In the longer term, such data can be stored in computerized archives, enabling the hospital administrator to "discover trends in his patient population" or to validate the efficacy of drugs for the treatment of specific disorders (Kline and Logemann 1967, 547–48).

The Multi-State Information System for Psychiatric Patients (MSIS)—designed and housed in Rockland State's Information Sciences Division, in collaboration with New York State's Department of Mental Hygiene—begins to implement these automated, electrified fantasies in the early 1970s. An "integrated" set of standardized forms is developed for use in participating psychiatric hospitals, and the MSIS can produce narrative case histories "written" by computer (although real-world problems quickly set in as clinicians report that the automated histories are too boring to read) (Spitzer and Endicott 1971).

But the most dramatic value of the MSIS to the modern mental hospital appears to lie in the systematic, integrated reach of new forms of electronic measurement, surveillance, and control enabled—sometimes automatically performed—across an expanding range of objects and practices. Designed initially as a record-keeping and administrative system to help rationally manage large patient populations, the MSIS produces "auto-

mated data" that allow hospital administrators to "know" the populations they manage in new ways, through computer-generated statistics that reveal institution-specific patterns previously invisible to the administrative gaze (Spitzer and Endicott 1975, 816). And if once upon a time the target object of surveillance and control in mental hospitals was the institutionalized patient, the MSIS begins to organize—even encourage—an integrated surveillance of both patient population *and* doctors' performance, both mental illness *and* its professionalized treatment. While in one hospital, nurses use the MSIS to produce daily individual and aggregate reports on "patient behavior" on each ward, in another, psychiatrists state their goals at the beginning of treatment and then receive periodic computer queries about their progress in reaching those goals (ibid.).

Most significantly, mental illness itself is monitored and managed in new ways through the computer simulation of psychiatric diagnosis and the automation of drug treatment decisions—two additional features built into the informatic infrastructure of the MSIS. While still experimental and controversial, these features of the MSIS promote the value of empirically based rules—capable of being incorporated as computerized algorithms—in directing both diagnostic and drug treatment practices in the mental hospital. "Computer-assisted drug prescription could be more effective than 'doctor's choice' of medication," report Spitzer and Endicott in their review of the MSIS and other automated psychiatric information systems (1975, 824). And evidence of the computer's strengths in simulating the diagnostic practices of "expert" clinicians suggests that computer-based diagnosis of mental illness can be more reliable, more explicit, and more "scientific" than the notoriously unreliable and nonstandardized diagnoses of doctors (ibid., 822; Spitzer and Endicott 1974). "Future work" on computers in psychiatry promises to bring together these two fields—diagnosis and drug treatment—by "programming the logic of current therapeutic knowledge regarding interaction between patient characteristics and drug response," that is, by maximizing informational feedback between specific symptoms of a mental disorder and the prediction of how those symptoms will respond to a specific drug (Spitzer and Endicott 1975, 825).

If the cyborg is first envisioned in 1960 as a technique for regulating and controlling humans' psychophysiological functioning in outer space, cybernetic governmentality, as experimentally launched at Rockland State, stakes out related but far more ambitious methods for the informatic man-

agement of mental distress and of everyday practices of diagnosis, treatment, measuring, and monitoring in the mental institution. While the cyborg marks an emergent form of techno-social *subjectivity*, cybernetic governmentality marks an emergent form of techno-social *power*. Based on the real and imagined capacities of computerized information systems to surveil and simulate a range of complex human-machine-institutional processes, cybernetic governmentality in the mental hospital attempts to network populations of patients and doctors, symptoms and technoscientific treatments, electronic information and institutional procedures, future goals and present performance, into a systems architecture of integrated management and modulated controls. Just as U.S. psychiatry in the 1970s grows disenchanted with the psychoanalytic power of dreams, a (resolutely unanalyzed) dream of informatic control begins to motivate and materialize biopsychiatry's new language of diagnosis and its embrace of psychopharmacology as a mass approach to psychic suffering. The publication in 1980 of the *DSM-III* signals not only the ascendance of U.S. biopsychiatry but the incorporation of an informatics of diagnosis at the very heart of biopsychiatric practice, and the possibility of cybernetic techniques of governing "mentalities" diffusing beyond the institutional and imaginary infrastructures of the mental asylum.

Algorithmic Imaginaries: Computing the *DSM-III*

> Any concept that can be operationally defined . . . can be coded for computer analysis. . . . As psychiatry becomes increasingly based on actual knowledge, rather than on theoretical speculation, so will the value of computers to psychiatry increase.
> —SPITZER and ENDICOTT

> The "algorithmization" of mental illness constitutes perhaps the most remarkable new world view within the heart of psychiatry.
> —ALASDAIR DONALD

Since its first edition in 1952, the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) is published by the American Psychiatric Association as a professional guidebook for the classification and diagnosis of psychic and emotional distress. Adapted from the psychiatric classification system developed by the U.S. Army during World War II, the *DSM-I* identifies just

over one hundred disorders, described primarily in a psychodynamic and psychoanalytic language; a majority of the disorders are defined as psychological (and not biologically based) disturbances, with anxiety and unconscious defenses playing a central role (APA 1952). With the third edition of the *DSM* published in 1980, the APA introduces a radical break with the previous language of psychiatric classification: the more than 260 diagnostic entities identified in the *DSM-III* are operationalized in an avowedly empirical and "atheoretical" language of explicit, specified, observable diagnostic criteria (APA 1980, 7). From a psychoanalytically inflected vocabulary of neurotic personality and unconscious conflict, the language of psychiatric disease takes a symptomatic turn toward the styleless style of scientific objectivity and medicalized precision. Robert Spitzer, chair of the APA task force that produces the *DSM-III*, calls the extraordinary changes in the manual's form and content a "signal achievement for psychiatry" and an important advance toward the "fulfillment of the scientific aspirations of the profession" (Bayer and Spitzer 1985, 187).

The transformation in psychiatric diagnostic language inaugurated by the *DSM-III* also marks a foundational moment in the establishment and hegemony of U.S. biopsychiatry. "Jurisdiction over categorical diseases was a prerequisite for the entry of psychiatry into the new prestige system of biomedicine" (Horwitz 2002, 61). Defining discrete categories of mental disorders through carefully enumerated criteria, the *DSM-III* creates a standardized diagnostic currency that can be valued, circulated, and exchanged in ways that parallel the circulation of "diseases" in the biomedical realm. Critics warn that the construction of the *DSM-III* marks a "remedicalization of American psychiatry" and a brazen demotion of a clinically oriented biopsychosocial approach that had been dominant for decades, promoting instead a new "research-based medical model" of mental disease (Wilson 1993, 399–400). With biopsychiatry's "diseases of the brain" displacing psychosocial notions of unconscious conflict or environmental stress, the shifting language of psychiatric diagnosis both expresses and makes possible fundamental transformations in psychiatric practice. While purportedly remaining neutral vis-à-vis questions of causation, the new language of the *DSM-III* lays the epistemic groundwork for a brain-focused, biologically based etiology of mental disorder and its contemporary corollary—pharmaceutically based treatment techniques (Horwitz 2002, 64–67; Healy 1997, 231–37).

A number of economic, cultural, political, and professional factors are regularly cited when explaining the revolution in U.S. psychiatric diagnostic language accomplished by the *DSM-III*: psychiatry's desire to mimic medical science in the face of political critiques of mental illness as a myth and psychiatry as a form of social control; the demand for specificity in both mental illness categories and their treatments created by the insurance industry and new FDA regulations regarding drug efficacy; a bid for greater professional power by research psychiatrists invested in scientific method, biological approaches to mental disease, and the growing business of clinical drug trials; and state and federal governments' push for more rationalized mental health policymaking and more reliable psychiatric statistics on disease epidemiology and treatment outcomes.[6]

But such accounts pay virtually no attention to an emerging informatics of mental health management and related techno-social trajectories of computer and information systems that also animate the history of U.S. biopsychiatry and the scientized tongues with which psychiatry learns to speak. In the archive of passionate controversy that accompanied the publication of the *DSM-III*, the issue of computerization rarely appears.[7] Once, in a widely publicized debate with Robert Spitzer over the new *DSM* at the 1982 annual meetings of the American Psychiatric Association, George Vaillant proclaims that psychiatry "has more in common with the inevitable ambiguity of great drama than with *the DSM-III's quest for algorithms compatible with the cold binary logic of computer science*" (Vaillant 1984, 544; italics mine). Is it possible that behind the *DSM-III*'s move to operationalize each mental disorder with a systematic, rule-bound set of explicit criteria lies another desire—perhaps more powerful even than the pursuit of scientific procedure? Another drama at least as compelling and contagious as the reign of rational method in psychiatry?

In the years just before his appointment as chair of the APA task force overseeing the publication of the *DSM-III*, Robert Spitzer works extensively on computer simulation of psychiatric diagnosis, trying to replicate in the realm of electronic code what clinical psychiatrists perform in their daily practice. In the late 1960s and early 1970s, Spitzer and his colleague Jean Endicott design a series of computerized diagnostic programs—DIAGNO I, II, and III—for use with an IBM computer system (see Spitzer and Endicott 1968, 1969; Fleiss et al. 1972; Spitzer et al. 1974). Against all claims that the complexities of clinical judgment can never be translated into comput-

erized information, Spitzer and Endicott state that, on the contrary, any concept that can be defined operationally in a limited number of words can be coded for computer analysis (Spitzer and Endicott 1975, 835). Formulating diagnostic categories in such a way that they can be translated into computerized data, Spitzer and Endicott pursue the transformation of mental disorders into patterns of information that can be manipulated by computer algorithms.

By the mid-1970s, DIAGNO III is installed for use at Rockland State Hospital as part of the Multi-State Information System for Psychiatric Patients (MSIS) (Spitzer and Endicott 1975, 823). Spitzer and Endicott report enthusiastically on the potential not only for computerized diagnosis of mental illness but also for linking automated diagnoses to automated drug treatment recommendations. They cite a computerized system, developed by the psychiatrist Donald Klein and his colleagues, that classifies patients into diagnostic categories and predicts how the diagnosed patient will react to different drug treatments. "The computerized diagnoses were in substantial agreement with carefully made clinical diagnoses and predicted response to drugs as well as did the clinical diagnoses," they note (824–25).

In 1974, summarizing their computer work to date, Spitzer his colleagues argue that the ultimate obstacle to "simulat[ing] the diagnostic practices of expert diagnosticians" lies not with the technological constraints of the computer but "in the traditional diagnostic system itself" (Spitzer et al. 1974, 198, 202). In particular, the low reliability of the psychiatric classification system hinders the development of valid diagnostic procedures for computers as well as clinicians.[8] And so the effort to computerize diagnosis turns into the drive to improve the reliability of psychiatric diagnosis. "Our current effort," Spitzer reports, "is in the direction of a change in the diagnostic system itself with emphasis on simplification, *explicit criteria*, and limiting the categories to those conditions for which validity evidence exists" (203; italics mine). With support from the NIMH, Spitzer and a team of colleagues begin working on the Research Diagnostic Criteria (RDC)—a set of specified criteria operationalizing each of twenty-five selected mental disorders—as the next, necessary step in improving diagnostic reliability (Spitzer, Endicott, and Robins 1978).

When in 1974 Spitzer is appointed chair of the APA committee overseeing the development of the third edition of the *DSM*, he invites Jean

Endicott, Donald Klein, and two psychiatrists from Washington University at St. Louis (where early experiments in computerized diagnosis are also conducted) to join the original nine-person *DSM-III* task force. This critical nucleus of the task force's members shares not only a biologically based approach to mental disorder but a background in computer-simulated approaches to psychiatric diagnosis. The pursuit of greater reliability in a psychiatric classification system targeted for computer simulation morphed into the development of the 1978 Research Diagnostic Criteria, which served as the template for the explicit, specified criteria that became the hallmark of the new diagnostic language ushered in by the *DSM-III* in 1980. Jean Endicott recollects how, in moving from the design of automated diagnostics to the development of the Research Diagnostic Criteria, "we used to laugh and kind of say, okay, we'll stop trying to teach the computer to act like a clinician. And we're trying to teach the clinician to apply logical rules, kind of more like a computer."[9] (Endicott interview). By the time the logical rules of diagnosis are embedded in a set of specific inclusion and exclusion criteria for each *DSM-III* diagnostic category, the automation of psychiatric diagnosis has been partially achieved—not by successful computer simulation but through a shift in diagnostic language and the diagnostic performance it demands. Here, in the *DSM-III*'s informatic reformatting of each diagnostic entity, *the clinician simulates the computer simulation of psychiatric diagnosis.* The heterogeneous interpretive practices and variations in clinical experience and judgment that had previously informed psychiatric diagnosis are replaced by an *informatics of diagnosis* institutionalized by the *DSM-III*, in which the performance of diagnosis mimics the operations of an automated computer system—moving through a discrete set of logical, standardized steps that can ultimately be simulated by a computer.

And soon they are. In 1981 researchers at Washington University at St. Louis develop the Diagnostic Interview Schedule (DIS), a structured interview for use by nonclinicians to diagnose mental disorders in the general population (Robins et al. 1981). The DIS produces data that are then coded as computer input and analyzed by a computer program that uses one of three different sets of diagnostic criteria (including the *DSM-III* and the Research Diagnostic Criteria) to make an automated psychiatric diagnosis. The DIS makes psychiatric diagnoses, Robert Spitzer explains, "on the basis of algorithms that translate the *DSM-III* diagnostic criteria into inflexible

rules which are then applied to the coded data after the interview has been completed" (Spitzer 1984, 281). In 1983, Spitzer concludes his presidential address to the American Psychopathological Association with the following provocation: "The DIS has put the proverbial ball in the clinician's court and the score is 40-love in favor of the DIS. The burden of proof is now on the clinician to show that advances in technology have not made the clinician superfluous in the task of diagnostic assessment" (287).

But the real challenge of the DIS and the informatics of diagnosis that it deploys and extends may lie elsewhere than the threat (or sci-fi fantasy) of eliminating human clinicians from diagnostic decisions. The human clinician can instead simply become an extension of the informatic management of mental health that the *DSM-III* and several of its most influential designers were historically pursuing. As long as clinicians' diagnoses *simulate the computer simulation* of psychiatric diagnosis, there is little need to replace clinicians with electronic machines—the substitution has already been made elsewhere, in the performance imperatives and procedural standardization of the diagnosis itself. As a technique or technology for governing the "mentality" of those who govern mental disorders, the *DSM-III* initiates a cognitive automation of diagnostic behavior, regardless of whether that behavior is performed by computers or humans. If the cyborg assembles human organisms and cybernetic machines by modeling both as information and communication processing devices, cybernetic governmentality splices together human organisms, cybernetic machines, professional discourses, institutional procedures, cultural perceptions, and social practices by assembling and intensifying the automated, informatic control features across each of these fields. Computer and information systems play a key techno-social role in constructing such assemblages, though the exercise of control—here the control of diagnostic behavior—remains distributed throughout a multitextured, multilevel architecture.

What then are the emergent "control features" of an informatics of diagnosis incorporated in the Diagnostic Interview Schedule? Developed under contract with the Division of Biometry and Epidemiology at the NIMH, the DIS and its automated diagnostics are used to carry out the first large-scale U.S. epidemiological survey of prevalence rates for specific mental disorders in the general population, the Epidemiologic Catchment Area (ECA) study (Regier et al. 1984; Robins and Regier 1991). Celebrated as "a landmark in . . . American contributions to the psychiatric knowledge

base" (Freedman 1984, 931), the ECA survey delivers up national statistical populations composed of the estimated number of cases for different mental disorders defined by the *DSM-III*. Redressing the previous lack of any credible national, state, or local statistics for incidence of mental disorders, ECA researchers claim to offer "the most comprehensive report on psychiatric disorders in America ever assembled" (Regier, Myers, Kramer, et al. 1984, 939). Based on DIS interviews and the computer-automated diagnoses of twenty thousand people in five U.S. cities, the ECA stands—until its findings are disputed by the next major epidemiological study of mental disorders conducted with a second-generation computer-automated diagnostic system, the CIDI (Kessler et al. 1994)—as the first effort to aggregate populations via differentiated mental disorders.

The kindred fields of epidemiology and social statistics both originate as key features of nineteenth-century "sciences of the state and its populations" (Krieger 2000, 155). Like other social statistics, the population estimates for specific mental disorders made possible in the 1980s by automated psychiatric diagnostics are, in part, a response to state-generated demands for information useful to the management of resources and the development of policy (see Kramer 1975; President's Commission on Mental Health 1978). The informatics of diagnosis that give rise to the DIS, which in turn enables the ECA's cost-effective (interviews are conducted by laypeople, and diagnoses are rendered by computer) and standardized (*DSM-III* diagnostic criteria are used throughout) national epidemiological estimates, can usefully be understood within a genealogy of statistical techniques of governmentality employed by the state. But situated within the brief genealogy of cybernetic governmentality I have sketched here, something even more dis-eased and more disturbing is also taking place with this new visibility, this unprecedented and literal accounting of mental disorders via a computerized and cost-effective epidemiology.

In the computer laboratories of Rockland State Hospital and the social-science-fiction fantasies of Nathan Kline and his colleagues in the 1960s, the cybernetic governing of mentalities involved the automation not only of diagnosis but of an informatic link between diagnosis of a particular mental disorder and selection of a particular drug treatment. Injecting psychopharmacology directly into the technoscientific and administrative circuits of the mental health management of cyborgs—and institutionalized mental patients—was an early animating feature of what might be

called "cyber-psychiatry" (Orr 2006). Today a direct injection of drugs into the technoscientific and administrative circuits of the mental health management of entire populations is a (social) science fiction being actively dreamed and massively inhabited. By the early twenty-first century, cybernetic governmentality is effectively deinstitutionalized, discharged and diffused beyond the institutional enclosures of the mental hospital into the informatic regulation of the mentalities of a vastly expanded general population.[10] With psychopharmacology as the control technology of choice, the statistical aggregates of specific mental disorders constructed through psychiatric epidemiological surveys like the ECA study serve as target (sub)populations for the administration of drugs; the emergent diagnostic group "is alternatively an epidemiological population, a market segment, and a community of self-identity" (Lakoff 2006, 22). And how is this link made between a population of disordered mentalities and its market-based pharmacological cure? Is it as simple as they once dreamed, inside the experimental spaces of Rockland State, each disease informatically coded to a desired drug regime along the electrified routes of computer-automated communications?

Compass Information Services Inc. seems to think so. Part of a burgeoning field of digital diagnostics and medical informatics, the company has developed a software system for mental health screening, COMPASS-PC, designed primarily for use on a hand-held computer by patients in primary care settings. Conceived as one element in an overall "behavioral health care disease management system," COMPASS-PC prints out a kind of lab report for physicians regarding patients' mental health status, based on symptom scales for seven common mental disorders defined in the *DSM-III-R* (1987) (Grissom and Howard 2000). In addition, COMPASS-PC "helps the physician to determine the choice of medication" and provides a longer-term electronic archive for monitoring ongoing psychological symptoms and the effects of drug treatment (258).

But if the deinstitutionalization of cybernetic governmentality has led to an uncanny generalization of the techno-structures of a 1960s mental hospital into a widening assemblage of medical and social spaces, there is also much that the cyber-visionaries at Rockland State did not foresee, including the networking of electronic information technologies into the everyday, individualized perceptual systems of the general population. Today the most influential communications systems that informati-

cally couple specific mental disorders with psychopharmaceutical drugs may not be professionally designed computerized diagnostic systems. The informatic management of mental health today may be working most powerfully and persuasively through popular electronic communication and information systems built into the technoscientific infrastructures of everyday life: television and the Internet. Over the last decade, as the FDA averts its regulatory gaze, pharmaceutical companies have begun direct-to-consumer drug advertising, including drugs for DSM-defined mental disorders. Whereas previously the pharmaceutical industry focused its advertising and marketing efforts on psychiatrists and prescribing physicians, by 2005 drug companies are spending an estimated $4 billion annually on consumer advertising (Saul 2005), including pharmaceutical-company-sponsored web pages with computerized self-tests to screen for the presence of specific mental disorders. Advertisements and Web-based information on psychopharmacological drugs are now a ubiquitous part of everyday electronic media, repetitiously linking specific mental disorders with specific drug treatments. Today "the pharmaceuticalization of certain disorders is sometimes more a product of popular culture . . . than of professional interests" (Petryna and Kleinman 2006, 9). With patients asking directly for brand-name pharmaceuticals from their doctors, and research suggesting that mass-media marketing significantly boosts prescription drug sales, the Pharmaceutical Research and Manufacturers of America quickly affirmed that the new drug ads communicate important "information" to consumers (quoted in Mirken 1996). Creating electronically communicated and enormously profitable information feedback between bipolar disorder and Zyprexa, depression and Zoloft, panic attacks and Paxil, pharmaceutical industry advertising takes the wildest dreams of informatic control of mentalities at Rockland State and recircuits them through the normalized, deinstitutionalized spaces of popular culture, commodity markets, and a (symptomatically) expanding population of disordered mentalities.

Governing Markets: Global Ambitions

> Schizophrenia, at least theoretically, now means the same thing in Beijing as it does in Birmingham, agoraphobia the same in Athens as it does in Atlanta.
> —ANDREWS and WITTTCHEN

S
The salting of sores
The sacking of altars
The sanctifying of evils
. . . The shattering of nerves
The shifting of blame
The snatching of lightbulbs . . .
—BERN PORTER

As the informatic management of mental health begins to structure new market-based assemblages of symptoms and information systems, pills and populations, the globalizing power of an informatics of diagnosis helps to situate such assemblages in the universalizing trajectories of an era of global pharmaceuticals (Petryna, Lakoff, and Kleinman 2006). From its inception, the *DSM-III* was seen as an instrumental tool for promoting a worldwide standardization of psychiatric diagnostic language. As early as 1982, Gerald Klerman—arguably the most powerful psychiatrist in the United States at the time—preemptively declared "the triumph of *DSM-III* on the international scene" (Klerman 1984, 540). Klerman was hired that same year by the Upjohn Company to oversee one of the first industry-sponsored multinational drug trials of a global psychopharmaceutical: the Cross-National Collaborative Panic Study, which attempted to establish the new *DSM-III* diagnosis of panic disorder as a universally homogeneous mental disease, and Upjohn's Xanax as its universally effective cure (see Healy 1996, 194–99; Klerman, Coleman, and Purpura 1986; Orr 2006, 251–62). Myrna Weissman, a nationally renowned epidemiologist who worked on the study, reports how the project, which was both designed and funded by Upjohn, "created a generation of young investigators throughout the world who had used *DSM-III* and who could talk to each other in the same language" (quoted in Healy 1998, 532).

The "diagnostic liquidity" (Lakoff 2006, 18–22) performed by the new language of the *DSM-III* generates the promise of a global tide of psychiatric communication—and corporate pharmaceutical sales and profits—across an unprecedented number of cultural, linguistic, national, and psychic borders. But delivering on that promise rests in part on the development of persuasive, cost-effective epidemiological techniques for constructing globalized populations of mental disorders and a transnational geography of "unmet needs" (for global mental health policy) or "market potentials"

(for a globalizing drug industry). As in the making of U.S. epidemiological populations after the publication of the *DSM-III*, computer-simulated diagnostics play a foundational role in the transnational psychiatric epidemiology emerging in the 1990s. Myrna Weissman's study in 1997 on the epidemiology of panic disorder in ten countries—in East Asia, Europe, the Middle East, North America, and the Caribbean—uses the computerized Diagnostic Interview Schedule to produce psychiatric diagnoses for over forty thousand research subjects (Weissman et al. 1997). Financed initially by individual governments, Weissman's epidemiological studies are later funded by the Upjohn Company as a valuable form of transnational market research (Weissman interview).

By the mid-1990s, the DIS mutates into a more globally comprehensive computer-automated system, the Composite International Diagnostic Interview (CIDI), designed specifically for use in multinational, cross-cultural epidemiological studies of mental disorders (Robins et al. 1988; Essau and Wittchen 1993). Sponsored by the World Health Organization in collaboration with the U.S. Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA), the CIDI uses computerized algorithms to score interview data into discrete diagnoses based on *DSM* and ICD (International Classification of Diseases) criteria. Available by 2007 in twenty-five languages and in a fully computerized format (CIDI-Auto)—which now automates the diagnostic interview itself and can be self-administered in front of a computer screen—the CIDI is designed "to guide the collection and interpretation of data for diagnosing large numbers of subjects who speak different languages and vary in the degree to which they are . . . accepting of the idea of responding frankly to personal questions put to them by strangers in the service of science" (Robins et al. 1988, 1070). Transcoding potentially unspeakable stories of local psychic distress into informatically mediated global epidemiological data, the CIDI also guides, with coded control, the language of the scientific strangers who come calling, now, with transnationally automated inquiries and algorithmic anticipations of mental disease. And its cure?

Again the informatics of psychiatric diagnosis appears to move in dynamic techno-social feedback relations with an informatics of drug treatment—now on an increasingly globalized scale. The International Psychopharmacology Algorithm Project (IPAP) brings together psychiatrists, pharmacologists, and informaticians to develop drug treatment algo-

rithms—logical flowcharts for the use and sequencing of different drug medications—in the treatment of major DSM-defined mental disorders. Funded by pharmaceutical companies (including Pfizer, Eli Lilly, and Johnson and Johnson) and private donors, IPAP is currently in consultation with the World Health Organization "to explore ways in which psychopharmacology algorithms and guidelines crafted by an expert international faculty might be useful in WHO's efforts to promote mental health" (Jobson 2004, 26; see also http://www.ipap.org); the WHO has already adopted IPAP's Schizophrenia Algorithm as a recommended drug treatment regime for schizophrenia.[11] The algorithms, which exist in both computerized and nonelectronic form, create the same kind of automated decision making within a bounded set of procedural rules in the field of drug treatment that the DSM-III created in the field of psychiatric diagnosis.

This informaticization of drug treatment is not only, or even most urgently, about psychopharmacology becoming networked into global circuits of computerized decision making funded by the pharmaceutical industry (although this is plenty scary). It is about a specific materialization of informatic power, the administration of psychopharmaceutical drugs, becoming a routinized, in-built feature of human-machine-institutional-market-mental relations worldwide. It is about an increasing transnational hegemony of biopsychiatric knowledge systems—embedded in computerized *and* human practices (and their human-machine assemblages) of diagnosis, treatment, epidemiological accounting, population management—guiding sociopolitical responses to symptoms of mental distress and psychic suffering. In the WHO's *World Health Report 2001* on the global geography of mental health and illness, national governments are instructed to address the burden of psychic disease borne by an estimated 450 million people who suffer from mental and behavioral disorders, most of which go untreated. The WHO calls for more comprehensive "epidemiological information" to provide "quantitative information on the extent and type of problems" in the population (World Health Organization 2001, chap. 4). As the top priority in a series of biopolitical strategies for managing such diseased populations, the WHO recommends the universal availability of psychotropic drugs (chap. 5).

Locating the emergence of a contemporary informatics of psychiatric diagnosis and epidemiology within a genealogy of the informatic management of the mentality of populations allows us to at least pose and pursue

the following questions. First, how do we take seriously the material histories and technoscientific imaginaries of a cybernetic governing of mentality while not forgetting the heterogeneous, demanding realities of psychic suffering? What difference does it make today to notice the culturally specific dream of automated control animating the socio-psycho-pharmaco-logics of Rockland State Hospital and the Cold War founders of U.S. biopsychiatry, when faced with the WHO's evocation of a massive, socioeconomically stratified, and largely unmet "global disease burden" of mental disorder and disability (World Health Organization 2001; Bebbington 2001)? I position the WHO's *World Health Report 2001* as a frank statement of the unprecedented pursuit of biopolitical governance of global mental health; it is, at the same time, an affirmation of the seriousness and ongoing stigmatization of forms of psychic distress, a world consensus on the urgency of addressing mental distress within a framework of human and civil rights, and public health discourse.[12] The production of specific disease populations and consumer markets through an informatics of transnational psychiatric epidemiology can look, from within this framework, like a promising technoscientific and social advance. Better an informatic management of mentalities than the benign cruelties of negligence or the systematic sadisms of the mental asylum.[13]

Which brings us to a second set of questions, related and equally urgent. Why such an emphasis on the imaginaries of control embedded in the informatics of mental health administration, when Clarke et al. (2003, this volume) are careful to note that there "are no one-way arrows of causation, no unchallenged asymmetries of power, no simple good versus bad," in the complex terrain of biomedicalization? Both the force and the limit of my critique here rest on an attempt to make visible a contemporary, historically specific form—or format—of power, not on a nuanced investigation of power asymmetries and resistances to them. Cybernetic governmentality names a form of power made possible through twentieth-century communication and information systems and the techno-social architectures of automated, modulated, continuous control they perform and proliferate.[14] If these new forms of informatic control are circuited through *affective* and *psychic* networks, if material mentalities as well as material bodies are more and more governed through what Gilles Deleuze (1990) calls "societies of control" in which power becomes "ever more immanent to the social field, distributed throughout the brains and bodies of the citizens" (Hardt and

Negri 2000, 23), then is even the *desire for resistance* opened to modulations by the control technologies we might desire to resist? Are biomedicalization and biopsychiatry centrally situated techno-social sites of innovation for "ultrarapid forms of free-floating control," including "the extraordinary pharmaceutical productions, the molecular engineering, the genetic manipulations," that Deleuze sees displacing a disciplinary society based on hierarchical ranking and institutional enclosures (1990, 4)? Is it possible that there are new *forms of power* operating today that need to be diagnosed and challenged, perhaps in new ways? What other forms or formats of psychic difference and resistance can emerge from "inside out" of a transformative biopolitical economy of health and illness, life and death?

Third, if the pharmaceutically enhanced cyborg dreamed of by Kline and Clynes was, as they enthused in 1960, about adapting a man-machine system to new environments (i.e., "outer space") for which evolution had not prepared it, then is the cybernetic governance of mentalities today also deeply implicated in a biopolitical reengineering of psychic "life itself" for survival in environments that would be, for at least some of us, uninhabitable *without* psychopharmaceutical supplementation? Is the "spiritual challenge to take an active part in [man's] own biological evolution," which Kline and Clynes (1960, 345) link to the cybernetic regulation of human psychophysiology, an early enunciation of what Sarah Franklin identifies as the dual imperative of a "vital" governmentality, that is, to "take evolution in one hand and to govern it with the other" (2000, 188)? Kline and Clynes foresaw the power of automatic or "autonomic" nonconscious processes of informatic feedback and exchange to transform psychophysiological functions "so as to biologically optimize them for the particular environment chosen. Such a step, previously carried out by evolution through selective survival, would now eventuate through the purposeful construction of Cyborgs" (1960, 361). This original cyber-science fiction of "participant evolution" (345) is today a social reality, evident in Franklin's analysis of a new "genomic governmentality" exercised via "technologically assisted genealogy" (quoted in Clarke et al., this volume). Is participant evolution also a social reality in-the-making in the biopsychiatric and informatic dreamwork of cybernetic governmentality, in which individuals and entire (sub)populations are psychopharmaceutically adapted to function in environments—social, economic, corporeal, cultural—that would otherwise be psychically unsustainable? If madness and its medicalized kin, "mental disorder," are always partially sociohistorical symptoms of stress

and distress, then is the informatic management of mental health and disease today an automated and increasingly population-based strategy for technoscientifically transforming the environmental limits of psychic functioning? Is psychopharmaceutical governance a kind of informatically induced vitality, creating conditions for psychic habitation where none really, socially, environmentally, exist?

Finally, running through each of these questions is the challenge of thinking through the specificities of psychic or mental life as one speculative currency in a biopolitical economy trading in techno-social transformations of "life itself." How to articulate the ethical and political specificities of issues raised by transformations in the psychic materialities of mental processes like memory, affect, perception, thought, desire? If the molecular level of matter is one key, technoscientifically expanding surface on which biomedicalization operates its alchemies from "the inside out," then *how to think through the implications of thought itself* (and its complex bio-electro-neurochemistries) *becoming pharmaceutical*? Without reinstantiating old dualisms of mind versus body rejected by both biopsychiatry and four decades of feminist politics, how to approach the governing of mentalities as an especially fraught scene of material consequence and imaginary and political possibilities? This was an acute insight of Marge Piercy's as she worked through the archives of Rockland State Mental Hospital on her way to writing her science fiction fantasy *Woman on the Edge of Time* (1976). If today entire populations living outside Rockland State also live strangely within its techno-social dream of cybernetic governance, then what would it mean to "GET OUT"? If thought itself today is becoming pharmaceutical—if this essay is written within the neurochemical embrace of a nightly triazolobenzodiazepine dose—then what form of theory, what practices of historical imagination beyond the haunting archive of a Cold War mental asylum, might be adequate to the task of thinking toward other futures?

Notes

1 See Foucault 1978/2000 for his conceptualization of governmentality, and Burchell et al. 1991 for an influential elaboration. In the English language, the work of Nikolas Rose has consistently deployed Foucault to study the social management of mentalities through what Rose calls the "psycho-sciences": see especially Rose 1992, 1996. For related discussions, see also Healy 2002, 334–89; and Lakoff 2004, 256–58.

2 I am playing seriously here with Donna Haraway's notion of the "informatics of domination" (1985). Much of Haraway's published work in the years before publication of her influential "Cyborg Manifesto" attempts to theorize cybernetics in relation to questions of power and social governance. See especially Haraway 1981, 1983.

3 Digital images were downloaded on March 13, 2002, from http://www.midnightsociety.com/web/abandoned/rockland.

4 Annual Report of the Rockland State Hospital, vols. 30–35. 1960–1965.

5 Drug research at Rockland State in the 1950s and 1960s—like drug research at many U.S. mental institutions during that era—was profoundly experimental for at least two reasons: (1) drugs were administered to patient populations regardless of their diagnostic status, and (2) the effects of the psychoactive drugs were for the most part unknown. See Nathan Kline's description of his early research with reserpine at Rockland State in Kline 1956s. For a critical science fiction account of drug and surgical experimentation on psychiatric patients institutionalized at "Rockover State Hospital," see Piercy 1976. Piercy conducted archival research at Rockland State Hospital in preparation for writing the novel.

6 For a careful sociological account of the multiple forces at work in the rise of the *DSM-III*, see Horwitz 2002, 66–79. For other recent analyses of the origins of *DSM-III*, see Healy 1997, 231–38; Kirk and Kutchins 1992; Lakoff 2006, 10–14; Lewis 2006, 97–120.

7 For a sampling of the literature that critiques the *DSM-III*, see Faust and Miner 1986; Kaplan 1983; Kutchins and Kirk 1988; and Schacht 1985.

8 To address the reliability problem in psychiatric diagnosis through computerized techniques, the Biometrics Department at the New York State Psychiatric Institute—headed by Robert Spitzer—introduces in 1972 a computerized statistical procedure, "the kappa coefficient," as a quantified measure of diagnostic reliability. See Fleiss, Spitzer, Endicott, et al. 1972. For a critique of the kappa coefficient, see Kirk and Kutchins 1992, 37–45.

9 Interview by the author with Jean Endicott, New York, March 25. 1996.

10 While the rest of the chapter focuses on noninstitutionalized mentalities and their informatic management, I want to note Alasdair Donald's ethnographic analysis of the "new asylum," in which Total Quality Management techniques of managed care introduce an "algorithm of care" for institutionalized patients, including "the production of 'treatment protocols,' which are forms which consist of a list of each possible specific diagnosis and have an *already printed out treatment plan* felt by the hospital committees to represent the optimal treatment for that particular diagnosis. Clinicians need only to tick the boxes. . . . The authentic representation of clinical reality has been lost, replaced by algorithmically efficient treatment planning. . . . [A] simulacrum of 'real clinical reality' has arrived at the floor of the psychiatric unit" (Donald 2001, 433, 435). The treatment protocols, of course, centrally involve the administration of psychopharmaceuticals.

11 See http://www.who.int/mental_health/management/schizophrenia/en.

12 The WHO's *World Mental Health Report 2001* was based on nation-specific data gathered through Project Atlas, on ongoing attempt to map globally the differential distribution of resources (including national mental health policies and budgets, government-sponsored services, mental health facilities, availability of treatments including drugs, professional expertise, information and data collection systems, organizational resources, etc.) for addressing mental and neurological disorders. For the most recent (2005) WHO Project Atlas reports, see http://www.who.int/globalatlas/default.asp.

13 The social and political issues at stake here are starkly evident in the controversial transnational spread in the last decade of post-traumatic stress disorder (PTSD) diagnoses and trauma-specific mental health interventions within the complex psychogeographies of war, population displacement and refugee experiences, state and nonstate terrorism, and other forms of political violence including mass rape. See Van Ommeren, Saxena, and Saraceno 2005 for a WHO-sponsored effort to review the controversy and promote the ongoing usefulness of trauma-intervention programs, particularly in low-income countries. For influential critiques of the transnational export of PTSD diagnoses and treatments, see Bracken, Giller, and Summerfield 1995; and Summerfield 1999. My own analysis would foreground how globalizing PTSD diagnostics produce new, proliferating populations for surveillance and regulation at the level of mentalities, and I would certainly note the recent publication (in English, Spanish, Chinese, Bahasa [Indonesia], and Chinese) of an algorithm for the drug management of PTSD by the International Psychopharmacology Algorithm Project.

14 My theoretical fiction of cybernetic governmentality is resonant with other recent theorizations of power and control, including Scott Lash's notion of "power through the algorithm" (2007, 70–71); Patricia Clough's biopolitics of "affect itself," in which the "target of control is not the production of subjects whose behaviors express internalized social norms; rather, control aims at a never-ending modulation of moods, capacities, affects, and potentialities, assembled in . . . bodies of data and information (including the human body as information and data)" (2007, 19); and Brian Massumi's concept of "command power" as the political execution of self-effecting, automatic, machinelike controls operating in the name of security (2006). All three of these authors are, in part, indebted to the theoretical provocations by Deleuze (1990) and Hardt and Negri (2000) briefly discussed earlier.