ing theoretical logic."[131] Among his permanent contributions is the establishment of a canon of classical theory, composed of turn-of-the-century European "fathers" of U.S. sociological theory, posthumously birthed after World War II and respected to this day with a kind of Oedipal intensity unrivaled in other academic disciplines.[132] Positioning his own work and the "voluntarist theory of action" at its core as the site of convergence between opposing European epistemological traditions, Parsons becomes himself the father of "Parsonian functionalism."[133] Parsons's functionalism is an elaborate attempt to systemically construct a closed, logically related set of analytic concepts of sufficient generality to provide an encompassing frame of reference for a unified science of social action, where action is conceived as normatively regulated and oriented to the attainment of goals.[134]

The frame of reference and logic of conceptualization organizing Parsons's entire, exhaustive theoretical enterprise is the notion of a "system." As he states at the outset of *The Social System: The Major Exposition of the Author's Conceptual Scheme for the Analysis of the Dynamics of the Social System* (1951): "The fundamental starting point is the concept of social systems of action. The *interaction* of individual actors, that is, takes place under such conditions that it is possible to treat such a process of interaction *as a system in the scientific sense* and subject it to the same order of theoretical analysis which has been successfully applied to other types of systems in other sciences."[135]

Parsons attributes the early inspiration for this focus on systems to a Harvard seminar in the 1930s conducted by L. J. Henderson, a laboratory physiologist who enters the social sciences convinced, according to Parsons, of the "extreme importance of the concept of system in scientific theory."[136] From Henderson's model of "system" based on physics and chemistry, to the later influence of systems borrowed from biology and cybernetics, Parsons's conceptualization of the logic of the "action system" in relation to the "social system" is structured, deeply and consistently, by analogies with the functioning of systems as modeled in the natural sciences. The notion of system provides a model not only for how "society" or "action" are to be theorized but for how the structure of theory itself is to be conceived: as a "system of concepts" providing a

logical framework for the "orderly growth" of a dynamic knowledge of society.[137]

In the early 1950s, Parsons's systems model begins to mutate. He credits a series of interdisciplinary conferences, sponsored by the Carnegie Corporation and organized by Roy Grinker and other psychiatrists deeply anchored in biological thought, as the "intellectual bonanza" that helps him better grasp the action system (which he conceives as a more technical term for human behavior) as "a single superordinate system that involved a plurality of interlocking restricted systems."[138] The conference series, "A Unified Theory of Human Behavior," which begins in 1951 and meets regularly for almost a decade, pushes Parsons toward recognizing a fourth systems component of the action system: the "behavioral organism," operating together with the personality system, the social system, and the cultural system already theorized in his previous work.[139] Parsons starts to move beyond the early functional logic of the system model borrowed from L. J. Henderson, toward a more specific analogy with recent biological models of the organism. The "behavioral organism" — which touches on, but is not equivalent to, the organic body — is the site, Parsons theorizes, at which social objects and the "culture of the personality" become internalized in the individual, the brain being the most important locus for this level of system activity.[140] Of particular interest to Parsons is the work of James Old, a social psychologist and conference participant, who enters the field of brain research to study the relation between the brain and behavior.[141]

Parsons's attention to the biology of behavior intersects with his introduction, in the same years, to cybernetics and information theory. As a guest at two of the Macy-sponsored cybernetics conferences, Parsons encounters the notion of cybernetic feedback mechanisms as self-regulatory processes analogous to homeostasis in the biological organism.[142] The emphasis on control and organization in cybernetic notions of feedback offers Parsons a new, better model of how control may operate in social systems: via hierarchically organized regulatory processes embedded in the system as feedback mechanisms. He writes: "Clarification of the problem of control . . . was immensely promoted by the emergence, at a most strategic time for me, of a new development in general science—

namely, cybernetics in its close relation to information theory. It could now be plausibly argued that *the basic form of control in action systems was of the cybernetic type* and not primarily, as had been generally argued, the analogy of the coercive-compulsive aspects of the processes in which political power is involved."[143] In Parsons's theoretical system, the cybernetic hierarchy of control will become a dominant model for conceptualizing the interactions between the behavioral organism and the personality, cultural, and social systems. By some accounts, Parsons's cybernetic hierarchy of control marks the most sophisticated conceptualization he ever achieves of the problem of social order.[144]

In the same years that Parsons is rethinking his action system in relation to biological and cybernetic models of system activity, he publishes a series of articles delineating a psychoanalytically inflected social psychology of the "personality system."[145] Since coming to a theoretical crossroads in the late 1930s, when he begins to seriously read Sigmund Freud's writings and decides to enter a formal psychoanalytic training and analysis at the Boston Psychoanalytic Institute, Parsons has regularly engaged psychoanalytic thought.[146] In "The Superego and the Theory of Social Systems," first presented in 1951 for the American Psychiatric Association, he attempts a theoretical unification of psychoanalysis and sociology, with the wider aim of "contribut[ing] to the development of a common foundation for the theoretical analysis of human behavior which can serve to unify all the sciences [of behavior]."[147] The bridge Parsons constructs crosses between Sigmund Freud (the father of psychoanalysis) and Freud's contemporary Emile Durkheim (a canonized father of sociological theory) to create a common frame of reference in Parsons's own theory of action systems. It is toward this theory of action and its concern with meaning and motivation that Parsons directs his convergence of Freud's concept of the superego in the personality and Durkheim's sociological concern with moral norms and "value patterns" in the social system. The internalization of these value patterns or norms occurs through the mediation of a common culture, understood by Parsons as a shared "system of symbols." The superego—as well as the ego, and certain aspects even of the id or the unconscious—are internalizations of this cultural symbol system, making the structuring of the per-

sonality system and its deepest motivations a thoroughly cultural and "normative" affair.[148]

I don't blame Daddy. Really. I'm not even sure I understand what he's saying. But like he says there's this system we're all interacting in or there's this interaction that's all a system and in this interactive system which according to Daddy supposedly functions by everybody internalizing all these supposedly shared symbols which're also systems so we have systems internalizing systems all in the name of the system's interaction's interpenetration's interdependence which strikes me as a peculiarly abstract way to talk about society even though I totally understand that's exactly why Daddy's doing it. He wants to make an abstract way to talk about society. That, I believe, is the motivation for his actions. Daddy might say his motivation is an effect of the internalization of cultural value patterns. I myself would speculate that Daddy's motivation is an effect of a certain culture's valuing of patterns. A valuing of very abstract patterns. Of patterns of abstraction. Of pattern's abstraction patterns even. Or, if you're really good at it, of pattern's abstraction patterns' abstraction patterns. (You see how it could provide a lifetime of work.) And I wonder sometimes—wandering through these internalizations of Daddy's abstractions, wondering at my institutionalization within abstract patterns of Daddies—where does this valuing of abstract patterns come from?

In a second paper, presented in 1952 for the American Psychological Association, Talcott Parsons offers a more specific theorization of how normative social authority, or the value patterns of the culture, come to reside internally in the personality system. The father as symbolic object, the representative of a generalized meaning-complex that extends beyond the actual figure of the familial father, is the "point of articulation" between the family subsystem and the wider social system.[149] Sociologically speaking, the father symbol "is perhaps the most important single channel through which the value patterns of the culture on the more general level come to be internalized in the process of socialization." The profound ambivalence associated with the father symbol is thus linked to its generalized meaning as "the prototype of a source of authority. He comes into the individual's most intimate security system and makes disturb-

ing demands." Although his essay offers only a "fragmentary analysis" of this most important of symbol systems, Parsons ends on a note of confidence that the now convergent streams of sociology and psychoanalysis are moving ever closer toward fruitful integration. The promise of "careful and competent empirical research" conducted at the crossroads of the two disciplines lies just ahead.[150]

MOTHER NEVER TAUGHT ME

> The child's erotic attachment to the mother is the "rope" by which she pulls him up from a lower to a higher level in the hard climb of "growing up." But because the points of attachment of this "rope" remain sensitive . . . there is a permanent channel back into the still operative infantile motivational system. Serious disturbances of the equilibrium of the personality can always re-open these channels.
> —TALCOTT PARSONS[151]

> Aggression which arises within the home may be dealt with by displacement outside of it. —ANNE PARSONS[152]

Anne Parsons is a young woman in her early twenties when her father begins to theorize publicly about the father symbol in his effort to integrate psychoanalysis and social science in a systematic theory of personality and culture. In 1955, at the age of twenty-five, she completes her doctoral thesis in Paris, where she studies with the anthropologist Claude Lévi-Strauss, the developmental psychologist Jean Piaget, and the psychoanalyst Jacques Lacan. Upon the conferral of her academic degree, her father, Anne Parsons reports, who had only recently "given me up for instability and compulsive deviance," is extremely proud of his daughter.[153]

Upon her return to the United States, Parsons begins what will become a lifelong project: the interdisciplinary, cross-cultural study of mental illness and psychiatry. From 1955 to 1960, with funding from the National Institute of Mental Health and an affiliation with Harvard Medical School, she conducts empirical research at several mental hospitals in Boston and spends two years in Naples, Italy, doing fieldwork in mental institutions on the symptomatology and treatment of schizophrenia

among working-class Italians.[154] In the introduction to a collection of Anne Parsons's writings, *Belief, Magic, and Anomie: Essays in Psychosocial Anthropology* (1969), her research is praised for persuasively situating the individual in the context of "group patterns of interaction" and for emphasizing the interdependence of personality, culture, and social structure.[155]

Parsons's analysis of mental illness draws heavily on concepts from cultural anthropology, psychoanalysis, and her father's sociological theory. In her essay "Expressive Symbolism in Witchcraft and Delusion," she discusses the case of a thirty-seven-year-old Italian woman, immigrated to the United States, married and mother of nine children, briefly hospitalized in Boston for paranoid schizophrenia, who, after her release, "took off all her clothes, rubbed her body with bathing alcohol and ignited it. She was next seen by the landlord, walking down the stairs in flames with a child under each arm. . . . [S]he died in the hospital of severe burns."[156] Parsons examines the "expressive symbolism" in the woman's case—a concept borrowed from her father, who defines it as "the cultural patterning of action of the expressive type."[157] Is it more accurate, Anne Parsons wonders, to explain the woman's symptoms as paranoid delusions, or as the cultural effect of her belief in witchcraft and magical symbols learned in the Italian peasant community in which she grew up?

In a related chapter, Parsons draws on her fieldwork in Naples to suggest cultural and class differences in the content of paranoid delusions. Among primarily working-class women hospitalized in a private mental institution in southern Italy, she finds delusional imagery almost exclusively focused on "concrete persons and events" in their family and neighborhood. In contrast, middle-class U.S. women hospitalized in a private institution displayed delusions "with a very strong tendency toward abstraction."[158] One U.S. woman from an "intellectually inclined and cosmopolitan" family tells Parsons: "I thought I would be a good weapon in the struggle between Communist and Western powers. . . . I read the *Look* article about the radio-active family—that's how I felt, spreading radioactivity. I had a lot of information on me—anything I did would mean that all the Americans would be swept off the earth and I thought the hospital was a big factory that observed guinea pigs—everything was

arranged."[159] Another patient, daughter of a Madison Avenue advertising executive, says about her life on the hospital ward, "What is it that the people on the ward know about me that I don't know? I just feel so degraded. It's getting more complicated every day—the books, the TV, they're all written for me, it's one big advertising campaign at my expense. They are redoing the hospital—switching the male and female wards—it's all planned by an advertising agency for my benefit."[160]

Emphasizing the intimacy between the content of delusional imagery and the concrete cultural locations of the patients, Parsons suggests that the tendency of U.S. patients "to juxtapose personal details and ideas about ideologies or institutions" and to incorporate technological concepts into "sophisticated paranoid 'systems,'" is connected to living in a culture where association with secondary institutions, outside the primary group of family or neighborhood, becomes crucial to individual identity. The "juxtaposed abstractions" in the paranoid thinking of U.S. patients, who seem to be "desperately trying to organize an overcomplex world," stands in stark opposition to the Neapolitan patients, who express "vividly communicated terror [and] anger . . . using language with remarkably concrete and explosive forcefulness."[161]

My mama was the parson's daughter. Youngest of three children, her father was a Presbyterian minister, and her mother was the daughter of a Presbyterian minister. That makes me the daughter of a parson's daughter. And the daughter of a parson's daughter's daughter. At some level the pattern comes through loud and clear but you still have to wonder—is all this just noise? Does it count as a transmissible message? Have we exceeded channel capacity of the information-processing system? Do I just hate Daddy with an aggressive expressive symbolism verging on the paranoid delusion that the whole panicky world is on fire and Daddy says he's on the front lines of my defense gearing up for a little goal-oriented action a little cybernetic antiaircraft artillery system a little civilian participation in the psychological state of the nation but it all seems just a bit too offensive to me a bit too much oriented toward some form of attack as she walks downstairs in flames with a child under each arm as she burns across that marital bed after the firemen's ball as she empirically investigates the abstract dis-orders of cultural patterns of social psychological communication to find there some openings back toward a future

that hasn't happened but lies buried in a fictional phantasmatic memory of a matter, a materiality, a mother's bodymind once upon a time before this story begins ticktocking to the tune of an experimentally calibrated clock and yes, it is true, you could call it a serious disturbance in my equilibrium. At least it gives me something to think about. As I wander about this institution, looking for a way out. Imagining, though not based on any exact empirical proof, that Mama was looking too. That the parson's daughter, that abstract mother symbol system pattern, was trying to find an escape route, too.

In the concluding chapter of *Belief, Magic, and Anomie*, an excerpt from her doctoral thesis, Anne Parsons presents a historical and social psychological analysis of the distortion and transmission of psychoanalytic concepts across different cultural settings.[162] She observes that in contrast to French renderings of the unconscious as a "psychic space," dominant notions of the unconscious in the United States offer up a far more mechanized image. "At the present time," she writes, "one sees a growing use of analogies to machine processes in order to describe the inner world, such as adjustment, ego repair. . . . Just as in the terms which refer to biology and behaviorism (growth, purposive behavior), there is the implication of a collective movement within which the discrete units must be coordinated."[163] These images of mechanically coordinated and interconnected unconscious movements, she suggests, are symptomatic of American culture more broadly.

Parsons explains her own method of analysis as an attempt to apply Freud's method of symbolic interpretation to "the social level." Drawing on Freud's analysis of the symbolic operations in dreams, she gives examples of how "displacement," and the "reversal between the relations of symbolic dichotomy," are at work in the diffusion of meanings across different cultures, including the cultural diffusion of Freud's own psychoanalytic concepts. The French surrealists, she argues, dreamily reverse Freud's symbolic dichotomy between conscious/unconscious and reality/dream to insist on the value of the devalued second terms (unconscious and dream) over the first (consciousness and reality). In a reversal of Freud's own commitment to "bring the dreamer to reality," Anne Parsons sees the surrealists using Freudian theory as a method for bringing reality back to its dreams.[164]

New Guided Missile Takes Off. . . . This newest antiaircraft missile, soaring upward on its supersonic flight, is launched, steered and exploded by electronic control. . . . The control devices were developed by the Bell System's research and manufacturing units. . . . This guided missile assignment for the Army Ordnance Corps is just one of many important military projects now entrusted to the Bell Telephone System. — advertisement, *Collier's* magazine (1951)

With the development of such weapon delivery systems as intermediate-range and intercontinental ballistic missiles, the United States finds itself today for the first time quite vulnerable to a massive air attack.

. . . Undoubtedly, the task of anticipating and evaluating the manifold problems of survival in such a disaster situation presents to sociology and the other social sciences one of their greatest and most awesome challenges, along both theoretical and practical grounds.
— EDWARD TIRYAKIAN[165]

By the late 1950s, a burgeoning literature and a proliferation of empirical research establish collective panic as a popular, if contentious, object of social psychological study. In a 1957 overview of the field of collective behavior, the sociologist Herbert Blumer remarks on the impressive degree of controversy surrounding the study of panic and calls for more empirical research into actual panic situations, which might better reveal verifiable "mechanisms of panic formation." In particular, he notes the debate — foregrounded in Alexander Mintz's 1951 laboratory experiments on group panic — over whether panic constitutes irrational behavior or is instead based on reasonable perceptions of a social situation.[166]

The question of the rationality or irrationality of group panic is linked to the shifting fortunes of "emotional contagion" and "suggestibility" as adequate social psychological concepts for describing mechanisms of collective behavior. As specific types of collectivities — the public, the crowd, the mass — become conceptually differentiated, the notion of suggestibility as the defining feature of the crowd is replaced by an emphasis on the normative, reasonable, even adaptive features of crowd behavior.[167]

In a 1956 edition of *Social Psychology*, the authors Alfred Lindesmith and Anselm Strauss remark that "much of what is called suggestibility actually involves judgment and reasoning and may represent a quite realistic adaptation."[168] For Ralph Turner and Lewis Killian, editors of the well-known textbook *Collective Behavior* (1957), collective behavior is defined not by an absence of social norms but by the spontaneous, emergent nature of those norms.[169]

Together with its object of study, panic research throughout the 1950s is characterized by the increasingly normative features of its own increasingly reasonable behavior. Denouncing the empty acrobatics of "arbitrary speculative interpretation"[170] and "ad hoc statements representing impressionistic reflections on a few sparsely detailed accounts,"[171] panic researchers agree on the need to collect empirical data that permit hypothetical propositions about panic which can be tested, verified, and used to advance panic theory and implement effective social controls.[172]

Lamenting the "lack of a systematic set of empirically based generalizations and conceptualizations," the sociologist Enrico Quarantelli offers a series of hypotheses that might serve as the basis for further panic research.[173] In "The Behavior of Panic Participants" (1957), Quarantelli draws on field data gathered through survey research conducted by the National Opinion Research Center (NORC) Disaster Team, under contract with the Department of the Army. Members of the mobile disaster team arrive at the scene from within three hours to three days of a catastrophe, collecting approximately one thousand tape-recorded interviews with people in communities devastated by tornadoes, earthquakes, airplane crashes, industrial explosions, or train wrecks.[174]

As a counter to the vague and ambiguous usage in most discussions, Quarantelli begins with a precise definition of panic behavior as "actual (or attempted) physical flight." Such flight behavior generally takes "the form of actual physical running," although conceivably it can be "manifested in varying activities such as driving vehicles, swimming, crawling, riding horses, rowing, climbing, jumping, digging, etc."[175] He emphasizes that contrary to previous sociological images of the panicked individual as antisocial, wild, chaotic, irrational, maladaptive, and nonfunctional, panic participants in fact exhibit complex, socially learned

reactions: "Whatever else panic behavior may involve, it does represent the behavior of a socialized individual, perceiving and thinking in socially defined and supported ways." Indeed, Quarantelli argues, in certain circumstances a panicky person's terrified attempt to escape imminent danger may constitute the most adaptive action possible. Far from being "antisocial" or even "nonfunctional" behavior, panic has the potential to adjust an individual to the unexpected danger of personal annihilation.[176]

An additional important finding from the NORC Disaster Team's data is that one of the contributing conditions to panic is, Quarantelli reports, the "pre-definition of a crisis as one that is likely to eventuate in panic flight. . . . [A]ny such predefining of a situation as potentially panic-producing can have a direct effect on a participant's interpretation of the behavior of others, as well as his own behavior."[177]

Quarantelli's finding is echoed in the work of social psychologist Irving Janis. In a statement prepared in 1955 at the request of the FCDA by a subcommittee of the National Research Council's Committee on Disaster Studies, Janis and his coauthors underline the suggestive power of the social predefinition of a situation to influence panic behavior: "Those who predict that a large number of Americans will react to the threat of an enemy attack by becoming panic-stricken are not basing their opinion on the existing evidence. Moreover, *to emphasize the likelihood of panic is to promote the suggestion to the American people that this sort of behavior is expected of them.*" The authors suggest, in contrast, that "there is every reason to believe that, rather than panic, the dominant reaction of the American people will continue to be an energetic, adaptive response to whatever threats and dangers they face."[178]

The empirical basis for Janis's claims is laid out in his 1951 report, *Air War and Emotional Stress: Psychological Studies of Bombing and Civilian Defense*, contracted by the Rand Corporation as part of its research program for the U.S. Air Force. The twofold purpose of the report is to contribute to a general theory of behavior by examining "basic processes of human adjustment" in situations of extreme stress, and to provide information for the effective development of postdisaster civil defense controls.[179] Janis reviews the civilian surveys conducted at the close of World War II by the Morale Division of the United States Strategic Bombing Survey (USSBS), as well as the scattered documentation of eyewitness ac-

counts of the atomic bombing of Hiroshima and Nagasaki. Drawing on this empirical case material to outline the "total pattern of disaster behavior" among survivors of the U.S. atomic attacks, Janis tentatively concludes that overt panic behavior is seldom evidenced.[180]

In the 1955 statement for the FCDA, Janis and his coauthors do still adhere to a definition of panic as irrational, maladaptive behavior, or a kind of "mass hysteria." But if panic is not itself reasonable, it is subject to reasoned control through the provision of "realistic information."[181] Specifically, the panic-producing effects of a limited number of escape routes, some or all of which become blocked, can be avoided by civil defense plans ensuring a variety of alternative escape routes and securing reliable channels of communication. The greatest threat to social organization and adaptive behavior in a postatomic disaster, the authors conclude, is ambiguity, insufficient information, conflicting messages, and jammed communication circuits.[182]

Perhaps the most ambitious attempt in the growing literature on panic to systematically mine the existing empirical research for testable hypotheses and theoretical propositions is Paul Foreman's "Panic Theory" (1953), published in *Sociology and Social Research*. His comparative analysis of fifty-four documented cases of panic concludes with nineteen propositions aimed at inferring the dynamics of panic causation and control.[183] Rejecting definitions of panic as irrational, nonadaptive, or antisocial behavior, Foreman identifies "rout" or mass-flight reactions as panic's distinctive feature. With Quarantelli and Janis, Foreman concurs that the social predefinition of a situation or a symbol as panic inducing can be sufficient cause to create terror if the situation occurs: "If a stimulus, prior to its occurrence, is linguistically defined as unmanageable, its name alone can induce immediate terror and panic. . . . There are accounts indicating that the cry of 'Napalm!' may have operated in this way in Korea."[184]

Foreman's nineteen propositions are not only directed at the control of collective panic. They are also intended to aid the production of panic behavior. "Quite possibly, panic may be a legitimate device of modern warfare, harsh as this idea may at first seem. Quite possibly, also, attention to control efforts . . . may result in the improvement of defensive as well as offensive tactics, whether these tactics apply to military or civilian situa-

tions."[185] Concerned that an "obsession with prevention may have retarded panic theory," Foreman eagerly fills the gap by suggesting a series of panic-inducing propositions. For example: "Any stimulus which confronts individuals in a target population with an acute sense of danger or its threat is a likely prelude to terror and panic." Moreover, repetition and extended duration can contribute to a "compounding of terror responses." And: "The probability of prolonged and extended terror and panic following an air raid would presumably be increased by secondary attacks on throngs of people rushing out along traffic arteries in quest of security." And: "Since acute fatigue, depression, anxiety, aggressive behavior, apprehensive rumors, social disruption, sickness, and injury" are common emotional successors to terror and panic, "these behavior forms might be most successfully provoked by directing acute danger threats to target populations recently terrorized or panicked."[186]

In conclusion, the Professor encourages the development of more propositions like his own. "If knowledge about terror and panic must in a world of atomic bombs and guided missiles succeed sermonizing," then the accumulation of theory and synthesis of empirical data and discernment of logical gaps may profitably suggest future steps for the "development and testing of ideas."[187]

And so the story starts spinning. With the systematic spiraling of panic prevention into panic production as panic theory emerges as a guide not only to the systematic control of its theoretical object but to its systematic creation. With the enthusiastic conflation of the control of panic and the pursuit of panic as a form of control. With the curious theoretical vertigo in which social suggestibility becomes reasonable just as reason starts to experiment with its oh-so-suggestive symbolic powers. As social science suggests that empirical observation suggests that the social predefinition of a situation as panic inducing is enough to suggest to the American people that they will panic at the symbolic sound of—"Napalm!" "Napalm!" panic cries—but now YOU TELL ME WHAT IS THEORY? Now you theorize WHAT IS REASON? Now you reason that SYMBOLS ARE SUGGESTIVE? Now you suggest that SUGGESTION IS REASONABLE? "Napalm! Napalm!" the Professor suggests, and somewhere panic starts to cry, Is this a dream? Is this reality? In which direction lies escape? Are all exits blocked by short-circuited communications, crazily crossed sig-

nals? Is one definition of insanity the attempt to activate a fictional escape route in the face of a perpetually jammed exit? And somewhere panic starts to whimper, Get me out, just get me out of this institution that they call social science but which feels like a white two-story frame house flattened, enflamed by some storm rushing out from inside, simultaneously buckling in from some invisible force without. With a crowd of panic researchers at the door, blocking all escape, systematically attempting to logically survey the damage. To methodically measure the patterned effects of such a violent and sanctioned reason.

By the end of the decade, when the sociologist Edward Tiryakian of Princeton University publishes "Aftermath of a Thermonuclear Attack on the United States: Some Sociological Considerations" in the journal *Social Problems* (1959), the strategic situation facing the social scientist trying to contribute to a national survival plan in a postatomic attack scenario looks rather grim. The development of H-bombs and thermonuclear weapons introduces the "fantastic explosive force" of fifteen to fifty megatons of TNT, Tiryakian calmly reports, and one fifty-megaton bomb now exceeds the combined explosive force of all the bombs dropped on Germany during World War II. And with expected technological developments in missile delivery systems, the U.S. civil defense system may have no more than a five- to ten-minute warning before such bombs reach their targets. In addition, the problem of radioactive fallout from the nuclear blast is severe. Researchers suggest that a thirty-megaton bomb exploding over Boston could, along with destroying the entire Greater Boston metropolitan area, disperse lethal radioactive fallout over all of Massachusetts, Rhode Island, and Connecticut.[188]

Nonetheless Tiryakian approaches the problem of a postdisaster survival plan with the assumption that the "sociological problems attending the aftermath of a thermonuclear or atomic bombing would not be completely different from those attending any other disaster-stricken society or social system." As a result, "generalizations about behavior patterns emerging from previous disaster studies may theoretically bear some relevance to an atomic bombing disaster."[189] Drawing, then, on the empirically observed "behavior patterns" of humans in the aftermath of a tornado, an earthquake, a plane crash, or a house explosion, the Professor proceeds to conceive of a systematic survival plan applicable in the after-

math of a massive nuclear attack. Generalizing from the available post-disaster data, the Professor can also now define a massive nuclear attack as not conducive to a potentially fatal outbreak of mass panic. The value of such a reassuring definition includes, by the Professor's own logic, the definition's symbolic power to actually render such a situation less panic prone by the suggestive force of its empirically grounded, scientifically soothing conclusions.

So it is difficult to say whether Tiryakian really believes his plan for national survival could be implemented, or whether he simply believes the suggestion of survival is sociologically useful. It is hard to know whether he really thinks, as he claims, that "differential behavior" will in fact occur in spatial zone one (ground zero), spatial zone two, and spatial zone three of a thermonuclear blast. Or that professional rescue workers in zone one will indeed exhibit the most "functional, purposive, and coordinated activity," while fearful survivors in zone two will demonstrate the greatest propensity toward panicky flight and the most urgent need for social control. Or that the circulation of "accurate and pertinent information" between zones will be achieved, as required for the reorganization of social activity. Or that officials will take care of the easily overlooked problem of the "disposal of the dead," and the related "problem of developing a means of systematic identification of corpses."[190]

No, there's really no telling what might happen, because "of course," as the Professor notes, "we have no assurance that all or any of these common findings of previous disaster studies would recur in a thermonuclear disaster." But "on the other hand," the Professor observes, "there is no a priori basis for thinking these behavior patterns would not recur in such a situation." And in the small space of survival between "no assurance" and "the other hand," the Professor suggests, now somewhat predictably, the need for more systematic research, and "a more elaborate codification of data pertinent" to a wide range of disaster situations.[191]

NAMES

Language is no longer something that is primarily normative. It has become factual. The question is not what code should we use, but what code do we use. — NORBERT WIENER[192]

No objects, spaces, or bodies are sacred in themselves; any component can be interfaced with any other if the proper standard, the proper code, can be constructed for processing signals in a common language. — DONNA HARAWAY[193]

The language of cybernetics, this new interdisciplinary science of control through communication, continues throughout the 1950s to spread across the networked fields of science, the social sciences, industry, and the military.[194] The historian of science Donna Haraway traces the diffuse influence of cybernetic modeling in the post–World War II life sciences, with its promise of a new unity in biological thought and its transformation and intensification of interconnections between the physical, life, and human sciences.[195] With an emphasis on information exchange and the circulation of signal/messages, and on a logic of control through inbuilt, self-regulating feedback mechanisms, cybernetics offers a vocabulary of technique and a universalizing grammar of relations for a "common" research into the behavior of cells, organisms, machines, groups, societies, animals, and humans as command-control-communication systems.[196]

The language of cybernetic control, originating in part in the militarized crucible of World War II, also has a more complex genealogy. Haraway traces cybernetic language and imagery back to the pre–World War II development of semiotics — the science of signs or the "general theory of communication."[197] In the United States, semiotics is most closely associated with the work in the 1930s of an interdisciplinary set of intellectuals at the University of Chicago, including John Dewey, William James, and the social psychologist George Herbert Mead. A semiotic theory of language is woven into the language of cybernetics: cybernetics is a language partially birthed by a scientific theory of language.

Semiotics, Haraway explains, simultaneously offers a theory of communication and a "theory of behavior control." With behavior understood as essentially "the process of signaling," semiotics addresses the basic problem of "how systems of signs affected behavior patterns." Semiotic approaches to the "behavior" of sign systems help to lay the conceptual groundwork for cybernetic language to displace the living organism as a privileged sender or receiver of signals: a participant in

Communicating systems. *Spectres of the Spectrum*, directed by Craig Baldwin, 1999.

a communications system can be any system component capable of transmitting message signals. Operations research and cybernetic solutions to World War II problems of weapons defense and targeted attack—in which metal, electricity, flesh, consciousness, motion, and inanimate matter together compose a single system—are enabled by a general theory of communication that conceives of system design as communication design.[198] Control of the system's behavior is inseparable from the control of communication and information flows between and within system components. Neither "consciousness" nor "humanness" nor "aliveness" offers a privileged communicative status to elements of the system—all system parts are "coded" together by their functional status as information processors.

"From the magic of names," writes Norbert Wiener in his reflections on the history of language, "it is but a step to a deeper and more scientific interest in language."[199] And from the deep, scientific, and semiotic interest in language, it is perhaps but a step to Wiener's cybernetic desire "to show . . . that language is not an exclusive attribute of man, but is one which he may share to a certain degree with the machines he has constructed. . . . We ordinarily think of communication and of language as being directed from person to person. However, it is quite possible for a person to talk to a machine, a machine to a person, and a machine to a machine."[200] Wiener's somewhat magical notion of communication between machine and machine is made possible by his naming of lan-

guage as a function of the brain's inbuilt "preoccupation with codes," and his naming of the human interest in language as "an innate interest in coding and decoding." Like the semiotic focus on signaling as a linguistic structure shared by animate and inanimate behavior systems, the cybernetic translation of "language" into "code" operates to close the gap between the language practices of humans and machines; in cybernetics, both machines and humans "communicate" through the coding and decoding of information. Wiener explains that the "modern point of view on language . . . assimilates the operation of linguistic translation and the related operations of the interpretation of language . . . to the performance and the coupling of non-human communication networks."[201] Or, in Haraway's words, "communication sciences . . . are constructed by a common move—*the translation of the world into a problem of coding*."[202] But for Haraway, unlike Wiener, this move to translate world into code is also and everywhere a power play. Cybernetics and communication sciences are for Haraway "a search for a common language *in which all resistance to instrumental control disappears* and all heterogeneity can be submitted to disassembly, reassembly, investment, and exchange."[203]

Daddy was a linguist. He worked at Harvard University as a professor of Slavic languages, and Norbert, the eldest son, is raised by Daddy to be a genius which means Norbert's three years old when Daddy teaches him how to spell after which he learns in a few weeks to read fluently so that by the age of six he's reading Charles Darwin and at age eleven he enters college well schooled in mathematics, Latin, German, and biology all of which Daddy calls an experiment in education although Norbert has rather mixed feelings about the whole experience saying how Daddy would teach him algebra by turning from *a gentle and loving father* into an *avenger of blood* and the moment that Norbert made an error *if I did not follow this by coming to heel at once* Daddy would shout at a *high pitch of emotion* until *I was weeping and terrified* and Mama would then come in to say the neighbors were complaining ABOUT THE LEVEL OF NOISE.[204]

But sure enough Norbert becomes a child prodigy and then too the founding father of cybernetics who writes that *learning is in its essence a form of feedback* in which *the pattern of behavior is modified by past experience* and this *feedback principle* of learning means that *behavior is scanned for its result, and that the success or failure of this result modi-*

fies future behavior[205] and that such learning or feedback behavior takes place in both living systems (people) and nonliving systems (machines) which're not really so different as some of us would like to think so IS IT CRAZY TO SUGGEST that learning algebra with Daddy might be an early lesson in cybernetic communication patterns which isn't the same as saying Daddy's a total monster (if that's what you're thinking) in fact I learned that Daddy was born in Russia and was the son of a Jewish schoolteacher who believed the Yiddish language spoken in his own community was a dying language and should be replaced with German and Daddy moved to the United States in 1881 to found a utopian vegetarian-socialist community but got sidetracked by the need to make money so drawing on his knowledge of Yiddish, German, Russian, French, Greek, Latin, Serbian, Danish, Dutch, Polish, Italian, and English he becomes a laborer a farmhand a janitor and a peddler before becoming a high school teacher in Kansas of classical languages and mathematics while studying Gaelic several American Indian languages and Bantu before becoming a professor at Harvard where Daddy publishes a book on the history of Yiddish literature in which he translates for the first time into English a poem called "In the Sweatshop" that goes like this:

> The machines in the shop roar so wildly
> that often I forget in the roar that I am;
> I am lost in the terrible tumult,
> my ego disappears, I am a machine.
> I work, and work, and work without end;
> I am busy, and busy, and busy at all time.
> For what? and for whom? I know not, I ask not!
> How should a machine ever come to think?[206]

So Daddy's not a monster but as Mama liked to say he's just got a lot on his mind.

When Norbert writes his book on cybernetics and society he dedicates it to the memory of his father, "My closest mentor and dearest antagonist."[207]

However its magic gets named, cybernetics appears to unleash the particular power of language to operate as a kind of programmed and programming "code." The instrumental control built into cybernetic

codes—codes that contain and communicate directions for modulating the behavior patterns of natural, technological, and social processes interpreted as cybernetic systems—functions through the purportedly self-regulating structure of circular feedback loops. Cybernetic systems, whether natural, technological, or social (or any combination), are designed to "communicate" control via negative feedback, that is, through the circulation of information about the system's performance in relation to a future-directed system goal, or desired outcome, which feeds back into and alters the present performance of the system. This kind of behavior control via informational feedback circuits can be either "naturally" occurring in human and biological organisms, or technologically designed into machine operations, or "techno-naturally" structured into human-machine operations. As Wiener explains:

> It is my thesis that the operation of the living individual and the operation of some of the newer communication machines are precisely parallel. . . . [I]n both of them there exists a special apparatus for collecting information from the outer world at low energy levels, and for making it available in the operation of the individual or of the machine. In both cases these external messages are [taken] . . . through the internal transforming powers of the apparatus, whether it be alive or dead. The information is then turned into a new form available for the further stages of performance. In both the animal and the machine this performance is made to be effective on the outer world. In both of them, their *performed* action on the outer world, and not merely their *intended* action, is reported back to the central regulatory apparatus.[208]

While machines with "receptors" that can perceive information about the machines' performance from an outside source and use that information to transform and control the performance have existed for centuries—a common example is the steering device of a ship—the rise of machines that can receive and process information *in an electronic form* is a technological transformation ushering in the twentieth-century kind of machine "talk," or communicative feedback, designed and analyzed by cybernetics.[209] The central regulatory apparatus in cybernetic systems is usually organized around the reception, relay, and transmission of electronic information. Cybernetics' language of control is primarily an elec-

tronically coded language, functioning via electric signs, electric circuits, and electronically modulated systems behavior.

Even more fundamentally, the kind of machine-machine or machine-human "talk" regulating the performance of a cybernetic system has a specific temporal orientation: it is communication or talk about the projected, probabilistic future state of the system if its behavior continues on its present course. The future state of the system is "encoded" in the form of a set of probabilities that are fed back into the system as information guiding the necessary transformations, in the present, of its behavior.[210] With purposive, goal-oriented behavior as a central preoccupation in cybernetic thinking, the nature of feedback in a cybernetic system always encodes information about adjustments of behavior in relation to a desired future outcome. The future, preferably mathematically and statistically modeled in a set of probabilistic alternatives, becomes an informational input into the programmed control of a system's present action.

The fundamental meaning of information in the cybernetic sense incorporates this temporal orientation: information, as Wiener explains, is a measure not only of the "regularity of a pattern" but of a particular kind of pattern known as a "time series" pattern, or "a pattern in which the parts are spread in time."[211] Communicative feedback involves information about the regularities of a behavior pattern as it continues over time. The automatic self-regulation built into the control apparatus of a cybernetic system is "automated" in relation to the modeling of possible futures. The language of cybernetics speaks about present patterns as they spread out toward future probabilities. What it wants to say has everything to do with how and where it wants to be in a future already present in the form of information automatically feeding back into a system existing strangely across both the here and now and a yet-to-come signaling to make itself into something not yet here but intensely wanted and on its way.

FIND THE REAL

Appearances have always played a much more important part than reality in history, where the unreal is always of greater moment than the real. — GUSTAVE LE BON[212]

Things are even more complicated than this, however. If simulation is a technology for the reproduction of the real, for that very reason it signals the emergence of an order where the real is everywhere in crisis and threatening to disappear. — WILLIAM BOGARD[213]

Ground zero incinerates sixty U.S. cities when sixty-one atomic bombs explode on their civilian targets in the early afternoon of Friday, June 15, 1955. The bombs range in explosive force from the equivalent of twenty kilotons to five megatons of TNT and are delivered by air or by guided missiles launched from submarines at sea. At 11:04 A.M. (EST), the nationwide civil defense communication system is activated, sending the coded "red alert" signal of an imminent air attack out to the key points of the civil air defense warning system, which then transmit it to over 3,500 subkey points located in local police and fire stations across the country.[214]

By the end of the day, the massive nuclear attack on the United States is estimated to have killed over 8 million people, injured 12 million more, destroyed 6.7 million homes, and created potentially deadly radioactive fallout conditions over approximately 63,000 square miles.[215]

The event is called Operation Alert, a national civil defense simulation exercise conducted by the FCDA in cooperation with other federal and state agencies, the White House, the military, organized labor, the media, municipal governments, businesses large and small, and the U.S. public. The stated goal of Operation Alert is to enhance civil defense training while testing and evaluating local operational plans for atomic attack preparedness, survival, and recovery.[216] First organized in 1954, Operation Alert exercises take place each summer for the next four years. These "series of annual rehearsals for World War III," writes the Cold War historian Guy Oakes, "enacted simulations of a nuclear attack in an elaborate national sociodrama that combined elements of mobilization for war, disaster relief, the church social, summer camp, and the county fair."[217]

The carefully planned protocol for each Operation Alert exercise calls on participating communities to play out their assigned civil defense scenarios as realistically as possible. Protocol for the three-day exercise in June 1955 incorporates the technique of "telescoping" events that might in reality play out over weeks or months into a simulated performance in mere hours or days.[218] For the FCDA, the on-the-ground civil defense

simulations yield valuable information about weaknesses and gaps in the immensely complex planning effort for survival under atomic attack.[219]

Over eighty U.S. cities participate in Operation Alert 1955 by carrying out some form of public evacuation: sixty-two cities "simulated the action on paper," while another eighteen conduct actual evacuations, transporting at least 117,000 people.[220] In Memphis, Tennessee, an estimated 25,000 people are evacuated from downtown office buildings. In Atlanta, Georgia, 3,500 government officials are evacuated from seventeen different sites, including 2,000 federal employees who are transported seven miles, registered, and fed lunch. In Maine, Vermont, New Hampshire, Connecticut, Massachusetts, Rhode Island, New York, and New Jersey, public participation in the exercise—stopping traffic and taking shelter—is mandatory. In Youngstown, Ohio, the entire city, led by the mayor, evacuates. The 554th Explosive Ordnance Detachment, "adding realism to the exercise," detonates a mock bomb near the city's center. In outlying support areas, 1,200 civil defense volunteers with sixty vehicles are moved into a "simulated disaster area in which actual operations were carried out under realistic disaster conditions," including "huge fires [and] explosions."[221]

But the climax of the 1955 Operation Alert exercise is the three-day evacuation of over 15,000 federal employees from fifteen government agencies—including President Eisenhower and his cabinet—to thirty-one secret sites outside Washington, D.C.[222] Situated somewhere in the mountains of Virginia, the "emergency operations quarters" of the president—who is accompanied by Nelson Rockefeller, national security advisor; Allen Dulles, director of the CIA; and Val Peterson, director of the FCDA—become the preserve of operational continuity for the state after the nuclear obliteration of the nation's capital.[223]

Seated inside a makeshift tent before a microphone, President Eisenhower addresses the nation in a live television broadcast announcing the simulated civil defense emergency and the continuing survival of the nation. The televised presidential address is the culmination of a sophisticated, well-planned public relations and press campaign around Operation Alert, launched some six weeks before the event. Desiring extensive media attention for the event, but also strict control of its contents, White House and FCDA officials meet with executives from the broadcasting industry well in advance of the simulated attack. A media center, christened "Newpoint" and created solely to coordinate public information about Operation Alert, is established in Richmond, Virginia. Open twenty-four hours a day for the duration of the exercise, Newpoint is the centralized media control tower from which journalists file their stories, and where radio interviews with evacuated government officials are conducted via special telephone lines linked to the undisclosed relocation sites. Press conferences with government officials helicoptered in from the secret sites are arranged just outside Richmond.[224]

I can hear it sometimes still if I listen hard over thirty years later that slow sonorous sixty-second wail of the civil defense siren sounding the first Wednesday of every month of my white suburban childhood. It was the 1960s and in Reading, Pennsylvania, we were beyond the optimistic antics of duck and cover not yet initiates into the maddening pessimism of mutually assured destruction and so everybody called it the "civil defense" siren but nobody taught the children of Reading to cover our eyes from the flash or crawl into the nearest ditch or NOT LOSE YOUR HEAD AND PANIC instead I was taught to think of tornadoes and run straight home if ever I heard that wail and it wasn't a Wednesday and even if it were Monday or Tuesday the only real enemy was bad weather. The worst thing generally that ever really happened was in the summer when you were at the neighborhood swimming pool lying in the sun breathing in the smell which you loved of chlorine weed-killer melting tar under the hot rays which you didn't think of as ultraviolet beneath a blue blue sky not yet torn by the ozone hole in the shadow of the thirty-foot civil defense siren and all of the sudden that siren would blast and you'd startle scanning heart pounding blood pumping the sky for twisters then remember it was 1 P.M. on Wednesday so run like mad to the bright bright blue pool and jump in with all the other kids laughing because we all learned although I'm not sure exactly who taught us that UNDERWATER YOU COULD PARTIALLY DROWN OUT THE NOISE.

For those who might have missed the nationwide front-page coverage, the FCDA produces *Operation Alert*, the movie, filmed during the 1956 simulation exercises. Comparing the movie *Invasion of the Body Snatchers* (released in the same year) to the "curiously surreal and dreamlike effect" of watching images of an apparently homogeneous American population

in the act of saving their country from atomic devastation, Oakes describes how "the profile of the American people presented in *Operation Alert* reflects a larger sociological picture of American society as totally planned and engineered for a single contingency. All the preparations for a nuclear attack have been laid well in advance . . . [and] have been thoroughly tested to determine that they are in perfect working order and will function according to plan." The film documents the orderly flow of traffic as Manhattan, hit by five hydrogen bombs, is flawlessly evacuated to presumably safer regions on the other side of the Lincoln Tunnel. In St. Albans, West Virginia, city residents carry out what the film calls a "postattack plan for business," as evacuated postal workers reestablish a station in the middle of a country field and the Bank of St. Albans reopens nearby on a card table.[225]

The human actors in *Operation Alert* display the same calm and coordinated efficiency as their compatriots in the FCDA-sponsored film *The Day Called X*, a thirty-minute, made-for-TV CBS documentary of the actual evacuation of Portland, Oregon, during a civil defense rehearsal for World War III. Oakes describes the "internal self-management" so thoroughly embodied by the volunteer civil defense actors:

> The Portland plan for survival is self-correcting and works according to built-in negative-feedback mechanisms. All the problems that might arise in a nuclear emergency as well as the means for their solution have been anticipated. . . . [N]o one panics or even fails to perform the assigned tasks. . . . The Portlanders work together like the parts of an immense, complex, and beautifully designed machine that is constructed for a single purpose. . . . The plan has been designed so precisely and operates so faultlessly that there is no logical space between the rule and the behavior that constitutes its correct application. The place for interpretations has disappeared.[226]
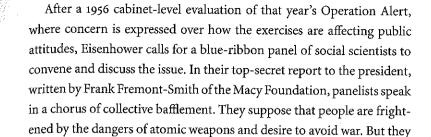
Despite the images of cheerful, volunteer civil defense robots communicated across the public wires and television screens, the findings from Operation Alert's social experiment are far less sanguine. Conducted at least partially with the purpose of revealing deficiencies in civil defense planning and preparedness, the exercises clearly demonstrate to the FCDA serious weaknesses in civil defense infrastructure.[227] As a result, each suc-

ceeding year of Operation Alert exercises tries to incorporate a more systematic, fully rationalized plan of action with more effective systems of communication feedback, and to achieve a closer fit between simulated event and actual atomic invasion.[228]

In 1956 the exercises are held over a seven-day period in July during which the nation tries to cope with a hypothetical war that starts with ninety-seven thermonuclear bombs exploding over fifty-two U.S. cities, followed by scattered enemy commando raids, acts of internal sabotage, and the additional bombing of military air bases.[229]

If the reality of the annual FCDA simulations is carefully constructed by government control of information and a close partnership with national communications media, the surreality of the military and civil defense situation revealed by the simulation exercises starts to make itself felt at the highest levels of U.S. government. After each Operation Alert, postexercise evaluations are conducted in top-secret meetings with Eisenhower, his cabinet members, and the National Security Council. In Oakes's words, the "performance of Operation Alert appeared to refute the Cold War conception of nuclear reality on which it was based," that is, the reality that a nuclear crisis could be managed and mastered by the mobilization of national resources and systematic civil defense planning.[230] As government officials grapple with the paradox of civil defense —that effective civil defense depends on the existence of the social, economic, and political institutions it is charged with reestablishing in the wake of a nuclear disaster—a dreamlike illogic begins to thread through their annual evaluations. Operation Alert seems to prove that the "self-protection" on which civilian defense is premised cannot be achieved, yet officials continue to design and conduct the annual exercises under the banner of promoting to the U.S. public the concept of survival and civilian protection.[231] Reviewing the declassified notes from these meetings, Oakes describes how "discussion of civil defense in the cabinet and the NSC [National Security Council] assumed a disconcertingly surreal character. Policy makers seem to have lost their footing. In some cases, they appear to have engaged in the impossible task of thinking in multiple realities, as if they were attempting to consummate an intellectually insupportable but morally defensible commitment to mutually inconsistent principles. . . . Despite these dizzying shifts in framework, policy-

makers did not seem to experience intellectual vertigo."[232] In the strained effort to avoid vertigo, officials argue that civil defense may be an illusion, but an illusion indispensable for the psychological morale of a public that would undoubtedly panic were the reality of nuclear defense known—in other words, that there is none. Eisenhower makes the more tortured argument that Operation Alert might in fact serve a deterrent role not despite *but because of* its manifest demonstration of the impossibility of protection and defense. By assuming that the Soviet Union would come to the same conclusions about Operation Alert that U.S. officials had, Eisenhower suggests that the exercise might function as a kind of conceptual experiment whereby the Soviets, in a hypothetical exercise of an Operation Alert on their own society, would discover that they, too, were defenseless. "In the final analysis," Oakes concludes, "civil defense did constitute a deterrent, but only by proving its own futility."[233]

From its inception in the suggestion of FCDA director Val Peterson at a National Security Council meeting in January 1954, Operation Alert is considered a risky but useful test of the public's psychological readiness for World War III. Peterson's initial argument for conducting a national civil defense drill is its value in demonstrating that Americans are indeed "subject to hysteria," thereby raising the stakes in the battle for comprehensive civil defense planning and citizen participation.[234] Others on the Security Council fear that the "psychological impact" of such an exercise might lead to public panic.[235] In a cabinet discussion held during the course of the extended Operation Alert exercises in 1957, secretary of defense Charles Wilson reports that, due to the realistic simulation of emergency government activities over a period of several weeks, "people were panic stricken in large cities and were paying no attention to Government orders."[236] Any solution to the problem of panic seemed to exacerbate Operation Alert's volatile mix of the real and the unreal. Presuming the panic is due to people's confusion over the actuality of the simulated emergency operations, a statement by President Eisenhower clarifying the simulated nature of the operations might calm the panic but be mistakenly interpreted by the Soviets as an indication of real preparations for war, thereby touching off a defensive Soviet nuclear offensive. The simulated civil defense drill, creating an actual panic, could then explode into a real war caused by the dramatized preparations to defend against it.[237]

After a 1956 cabinet-level evaluation of that year's Operation Alert, where concern is expressed over how the exercises are affecting public attitudes, Eisenhower calls for a blue-ribbon panel of social scientists to convene and discuss the issue. In their top-secret report to the president, written by Frank Fremont-Smith of the Macy Foundation, panelists speak in a chorus of collective bafflement. They suppose that people are frightened by the dangers of atomic weapons and desire to avoid war. But they are unable to report with any certainty what the new weapons really mean to the U.S. public.[238]

WHY CAN'T YOU COME

> In relation to the term "resistance," Dr. Lacan has remarked in a lecture that the term implies an active struggle. I personally had never conceived of the term in this manner. I had thought rather of the passive resistance of physical matter. — ANNE PARSONS[239]

> We must cease to kiss the whip that lashes us. — NORBERT WIENER[240]

In 1961, at the age of thirty, Anne Parsons experiences what she describes as a "severe panic episode" related to her growing fears of nuclear war.[241] The panic is heightened by the political drama playing out between Cold War adversaries on opposite sides of the Iron Curtain — the "Berlin crisis," which brings renewed threats of nuclear war during the first years of the Kennedy administration. Parsons begins to read extensively about the U.S. military-industrial complex, writing that "a political image of the world crystallized in my mind — it [the military-industrial complex] against the rest of humanity."[242] In a letter to a friend, she connects her panic to a childhood experience of being severely burned just as war broke out in 1939 and lying in the hospital worrying about children in Europe being bombed. She also explains that the panic was tied to her belief that

> imminent destruction was actually possible, so that I would look at familiar things as if never expecting to see them again. I had nightmares of trying to escape from biological and chemical weapons. . . . During the most acute phase it seemed that every day I discovered the

existence of some new evil: for example, a friend told me of developments in biological and chemical warfare making it possible to kill a man by flicking a drop of fluid and for a day or two I felt that such fluids were all around. Also I was extremely sensitive to sirens: in fact, the whole affair began one day when I heard fire sirens on the way to my analytic session after a lunch table conversation in which I learned that a colleague had built a shelter.[243]

Parsons's panic experience takes place during her first year in psychoanalysis. After returning from Italy and her fieldwork in mental hospitals in 1960, Anne Parsons enters a training analysis and course of study at the Boston Psychoanalytic Institute, the same institute where her father Talcott underwent analysis in 1946.[244] Talcott Parsons remains connected with the institute and is a well-known figure in the tightknit psychoanalytic community in Boston. His psychoanalyst, Dr. Grete Bibring, has in the intervening years become an intellectual and institutional sponsor of his daughter's psychiatric research.[245]

In deciding to undergo analysis, Parsons has a double motive: first, she believes that psychoanalytic training will enrich her interdisciplinary work in psychiatry and social science; and second, she hopes the analysis can help her through the depression and professional isolation she feels upon returning to the United States, an unmarried woman intellectual with no secure institutional affiliation or academic position.[246]

Anne Parsons describes how the reaction of her "extremely orthodox" analyst to her panic was "to say nothing at all."[247] His diagnosis of her problems as a failure to accept her basic femininity is for Parsons a source of personal anguish, since she deeply desires to be married and finds life as a single woman in her thirties miserably isolating. But she also resists his interpretation, arguing that her "personality" is situated within cultural and social structures that make it enormously difficult to be a woman with intellectual and career ambitions while successfully fulfilling more traditional feminine roles.[248]

Testing. Eins. Zwei. Drei. Testing. Can you hear me? Are we transmitting yet?

In the second year of her analysis, her psychic condition continues to deteriorate. She wants to terminate the analysis, but her analyst "insisted that this would be a form of acting out of impulses that should be ana-

lyzed on the couch." At the beginning of her third year of analysis, she does leave, feeling that she is losing the struggle to "maintain an identity against this disorganizing sense."[249] As a consequence of her termination of the analysis, Parsons is expelled from the institute in March 1963 with the explanation that she suffers from "serious neurotic difficulties not treatable by means of psychoanalysis."[250]

In September 1963, Parsons is hospitalized at the Yale Psychiatric Institute, where she spends the following nine months. While institutionalized, she keeps a journal that she titles "Diary of a Mental Patient," and writes several essays for publication. One of the essays, published in 1964 in the journal *Psychiatry*, presents a barely veiled denouncement of Parsons's experience with the Boston Psychoanalytic Institute. She critiques the potential institutional abuses and asymmetrical professional authority structured into the psychoanalytic training situation when a candidate for becoming a psychoanalyst is professionally evaluated through the intensely private scene of a training analysis.[251]

In her unpublished diary, Parsons writes of the failed psychoanalysis in a different language, differently expressive of her sense of outrage and entrapment in a social situation she undoubtedly feels is partially responsible for the psychic breakdown leading to her institutionalization:

> So I tried the couch and he kept saying why can't you come to terms with your basic feminine instincts so I kept on trying on his couch and it wasn't much fun and I thought about it and I was really aw-

fully scared about the missiles . . . and weren't we going to have any resistance and I was resisting insight into my feminine instincts and who the hell could marry one of those pompous medical students anyway it wasn't so much fun on the couch and think about cafes in Paris and Vienna and students in Africa fighting for freedom and who the hell can find the real repression in suburban houses no it is just that you CANNOT COME TO TERMS WITH YOUR BASIC FEMININE INSTINCTS.[252]

Caught and on his couch somewhere between dreaming and daylight between anger and analysis between systematic insights into social structures and the expressive symbolics of a schizophrenic sensibility. Startled by sirens on the way to psychoanalysis. Seduced by resistance on your journey from the Mayflower to mental dis-ease. Caught between languages daddies missiles and mamas and silences memories repressions and syncopated professions with which she can never precisely COME TO TERMS. And could you? Caught in public with your privates displayed? Picture it just for a moment. The maddening patterns of abstraction, the *mise en abyme* of mirrors as the theorist of culturally specific symptomatologies turns symptomatic, panicked and still professing inside the institution she took as her object of study, as her subject of empirical research. What blood gathered in your brain, Mama, what bindings collared you and burning your head hanging at the edges after you danced with Daddy at that oh-so-systematic ball symptomatically choreographed with personalities and cultures and behaviors and logics and I'm not saying it's so simple as Daddy's just crazy. I'm not suggesting that she doesn't partly suffer from random chance disturbance. All I know for sure is I'm burning in the story with a sense that doesn't quite function, a rhythm that can't quite dance.

Sometimes I see parallel tracks crossing and crisscrossing. Into wildly integrated circuits. I'm simply trying to understand the patterns.

HE KEPT POUNDING ON

A control logic can be part of a system of domination based on
practices of coordination and management, i.e., the scientific way,
and not on practices of direct force and traditional authority. . . .

Functionalism is a logic for the mediation of domination through
self-sustaining processes, not a logic of direct visible command.
—DONNA HARAWAY[253]

The mechanical control of man cannot succeed unless we know
man's built-in purposes, and why we want to control him.
—NORBERT WIENER[254]

Beginning in the mid-1950s, Talcott Parsons pursues an explicit elaboration of cybernetic language into a theory of society and social control.[255] His work is perhaps the most developed instance in the field of sociology of what Donna Haraway calls "cybernetic functionalism," a cross-disciplinary, post–World War II discourse emerging out of the biological and social sciences.[256] To a functionalist teleology of control—focused on the "maintenance of stable order" and the rule-governed, self-regulating transformation of "bounded wholes" over space and time—cybernetic functionalism brings a new set of tools drawn from systems engineering and information science.[257] The management of integration, adjustment, and adaptation in a wide range of coordinated actions, the terrain of a functionalist logic of control, is coupled with an analysis of information exchange and the coding and decoding of command structures, the domain of the cybernetic communications engineer.

In its universalizing reach as a kind of total science, cybernetic functionalism enters the realm of social theory with an ambition to transform all the social into a laboratory for cybernetic research and cybernetic conceptualizations of social control.[258] As a committed "communications engineer" in the laboratory called the "social system," Parsons envisions the logic of cybernetic control as an inherent, inbuilt feature of an interrelated set of processes. "The basic conception," he states in 1960, "is that 'behavior' is subject to a graded hierarchical system of control mechanisms in the cybernetic-information theory sense, and that this system constitutes a continuous series extending from the highest level of the cultural and the social system, through the personality and the higher-order organic systems, to organs, tissues, and cells, and indeed even to subsystems of cells."[259] The ease with which Parsons's "system of control mechanisms" crosses the boundary between the social and the organismic points to an essential continuity between these levels implied in the

founding assumptions of cybernetic thought.[260] Despite other differences in social, cultural, personality, organismic, and cell systems, "the basic processes of control" in each system, according to Parsons, "are what we ordinarily call processes of communication."[261] As a result, the control aspects of any cybernetic system — whether it be a social, natural, or technological system — appear as a design feature of the communication processes embedded in the system itself.

This naturalizing of an internal logic of control embedded in social systems has several consequences for cybernetic social theory. First, explanations for social order and stability do not need to attend to whether or why "control" is a central feature of social organization; instead, with society conceptualized *as a control system*, social theory's focus becomes *how* social stability and order are maintained. For Parsons, it is the cultural system that performs an essential, stabilizing "pattern-maintenance function" in the social system. In his most striking cybernetic formulation of the cultural system's control function, Parsons writes:

> In what sense, then, can patterned . . . cultural systems be said to "control" social interaction and the action of individuals? . . . The central phenomenon . . . is the provision of "standards" or "models" for the regulation of action. They give selective clues to what information about conditions of action is relevant to the attainment of what goals. They provide ways of organizing and codifying such information in relevant terms. Finally, and particularly important, as the course of action proceeds, they provide ways of testing whether and in what respects it is proceeding "according to plan," or, because . . . of the intervention of unforeseeable or uncontrollable circumstances, how a change is indicated — this, of course, is the process of "feedback."[262]

On several occasions, Parsons likens the work of cultural patterns in communicating normative orientations or shared "symbols" to the function of genetic codes in providing stable physiological features for each species.[263] This cybernetic functioning of communication-as-control permits, in a theory of social order, a focus on "normative control as distinguished above all from coercive enforcement."[264] Language plays a key role in this normative process. According to Parsons, "language . . . is a *system* of symbols which have meaning relative to a *code*. A linguistic code

is a *normative* structure parallel to that composed of societal values and norms — indeed, it is properly considered a special case of the norm."[265] The cultural and linguistic encoding of normative patterns in Parsons's social theory operates to normalize or naturalize language itself as an inherent control feature of the social system.

And since control of the system functions at the level of the relational patternings, or structure, of the system itself, the human actor in the social system is theorized as neither precisely controlled nor controlling. At the level of conscious, centrally coordinated action, no human agents are — or can be — running the social show. Parsons cautions:

> In talking about the kinds of systems we are dealing with, that is, systems that involve multiple levels of organization and hierarchical sets of control mechanisms, we must be careful not to think of "control" in terms too close to human common sense. We do not need to postulate a fellow who sits up somewhere giving orders. For instance, the code components of a language, which controls communication in terms of that language, illustrates one major type of control. For many of the most important processes there need not be any particular human agent who is making decisions about how a system shall operate. . . . [T]here is a basic conception of systems operating at least partially without central planning.[266]

And since nobody in this system is exactly involved in coercive controlling, nobody is exactly coercively controlled. "Voluntary" action remains the conceptual centerpiece of Parsons's theoretical system, although, curiously, the more action is integrated into the "superindividual matrix" of overlapping, interacting systems, the more voluntary it, theoretically, becomes.[267] Other less-nimble cybernetic social theorists have stated this paradoxical situation with less finesse, if more forthrightly. According to Charles Dechert, political scientist and organizer of the 1964 symposium "The Social Impact of Cybernetics":

> Social control is the capacity . . . to manipulate the internal and/or external environments of other persons or groups so as to achieve a preconceived end. This normally involves selected changes in their information inputs designed *to change in some way their perceptions or*

values so that they *respond in the desired manner*. It is largely concerned with "evoking" an "autonomous" response. . . . Basically, when dealing with objects as complex and autonomous as persons, control is reduced to presenting a challenge so structured that it evokes the desired response. Since social action normally involves a feedback loop, the socially controlled in some sense also control the controller.[268]

The cybernetic space of voluntary, autonomous action opens strangely into the infinite regress of the controlled who control the controllers who control the controlled who, also, are controllers. These entangled loops of control are not constituted through direct coercion but communicated through the informational redesign of perceptions and values.

I would like to give Daddy some feedback on these issues. Undoubtedly I already have, although I'm not completely sure I was in control of the process. Of communicating my feedback. Or of desiring to communicate my feedback. Or of feeding back my desire to communicate. It's all feeling a little complex at the moment perhaps it's the concern that I may never get out of here unless I learn how to communicate (my desires) in Daddy's codes.

Then I'm walking down a city street and I see him. I know right away he's the one. Who's been watching me. I'm angry at his secret-agent-style spying so I decide to walk up to him and tell him I'm not afraid. Of him. Of his watching me. As I approach he turns his face toward me and I see now what his eyes are made of. I see now that he sees with eyes silver and blue digital scanners and as I approach him his eyes record my every move. I see now the whole thing's a setup getting me angry so I'll come closer so he can record information about me at close range and I start to tremble as I stand before him saying, "You don't make me afraid," knowing but trying not to let it reflect in the screen of his eyes that now I know that HE NOW KNOWS EVEN MORE AND FOR WHAT PURPOSE? I turn my back and walk away from the man with the digital eyes waking up in the dark of this place undone by such deep controlled terror when they chuckling tell me the next day I'm a classic paranoid case (they make a note in my file) I look them straight in the eye and ask them who's making who every day describe her darkest dreams? They make another note in my file.

This intricate architecturing of social controls, Parsons explains, while built into the very functioning of the social system, does not operate flawlessly or without the threat of disruption by deviance and resistance. "It may be stated that the conception of a system of control implies that there are important resistances to control," he writes, "and that the successful operation of the [control] mechanisms is therefore problematical."[269] This problematical nature of control and resistance is, however, in a cybernetic system reassuringly circumscribed by the self-regulating operations of communicative feedback. Resistance to control, in cybernetic language, simultaneously calls out for its own readjustment. Resistance can be read as a form of feedback communicating the necessary direction and inbuilt desire for improved regulation.

One of the most developed examples in Parsons's work of this kind of resistance toward readjustment is the case of sickness, which he conceives of as a form of "social deviance."[270] In a 1958 essay, Parsons theorizes how mental illness, in particular, shares with other kinds of deviance its origins in a breakdown of the "adjustive processes," which integrate the personality with the demands of the social system.[271] At the same time, mental illness constitutes a kind of protective defense against other more threatening forms of social disruption. If mental illness is a manifestation of social deviance, then it is one that invites its own social control. "Mental illness, then, including its therapies," Parsons writes, "is a kind of 'second line of defense' of the social system vis-à-vis the problems of the 'control' of the behavior of its members. It involves a set of mechanisms which take over when the primary ones prove inadequate."[272]

As a secondary type of control mechanism, mental illness and its therapeutic treatment together make possible the readjustment and reintegration of the personality with the imperatives of the social system's functioning. Central to this process of control is the successful conduct of communication within the therapeutic setting. For communication that operates through "the media of signs and symbols" to work, both patient and therapist must be encoded in a shared system of meanings. For symbols to communicate, Parsons argues, "there must be standardized 'codes,' in terms of which their meanings are 'known,' these are general systems of 'patterns' and 'norms.' There must be communicators capable of sending messages in these codes, and receivers capable of

understanding or 'decoding' them. At each end of the relationship the 'meaning' of the symbols and their combinations must articulate in definite ways."[273]

Thus, even in the case of serious disturbances in the primary mechanisms of social control, the systematic encoding of meaning through patterns and norms secures a powerful therapeutics of communication, capable of restoring deviance within the desired social order.[274] Within these (crazy) social orderings of desire.

TO HAVE ANY RESISTANCE

I am certainly revolting against something and it has taken a long time to figure out just what. — ANNE PARSONS[275]

In war, one person's noise is another's information.
—WILLIAM BOGARD[276]

Anne Parsons is voluntarily committed to the Yale Psychiatric Institute in September 1963. By the winter of 1964, believing that the hospitalization is no longer benefiting her, she begins to fight for her release. She wants to write a book entitled *Essays on the Culture, Ethics, and Politics of a Therapeutic Society*, partly based on the field notes she has continued to take while, now, a patient inside her chosen field site, the mental institution.

Parsons's critique of psychotherapy and psychoanalytic techniques only intensifies during her hospitalization. She eventually goes on strike from the compulsory psychotherapy sessions, argues against her mandatory participation in group process, fights for the privacy and library privileges necessary to continue her studies and writing, and sardonically notes, based on her observations of hospital life, that "the most consistent law I can discover governing the behavior of psychotherapists is that [the patient] should always sacrifice whatever other alternatives one has in order to stay where they can go on seeing you."[277] Her attempts to gain release from the hospital fail, and she begins to question what it means to be "voluntarily" committed to an institution from which there appears to be no exit.[278]

Even during her first months as a mental patient, when Parsons participates willingly in the required psychotherapy and continues to write

After the blast. Federal Civil Defense Administration, *Operation Doorstep*, 1953.

prolifically for publication, she engages in political struggles over daily life on the psychiatric ward.[279] She organizes a Thanksgiving fast among the patients, writing in a Thanksgiving manifesto that refusing to eat might "reaffirm in sorrow at their violation those democratic traditions on which all of our national holidays and our national life are based."[280] In letters written from the hospital, Parsons expresses her concern over U.S. militarism and the Cuban situation, the November 1963 assassination of John F. Kennedy, and her anxieties about a right-wing ascendancy in U.S. politics. She resists the depoliticization that psychoanalysis and psychotherapy encourage, insisting on her right to respond politically to current events. In a letter to her father in November 1963, Parsons explains: "This is what an . . . important part of my conflict with Dr. A [her analyst at the Boston Psychoanalytic Institute] . . . was about, since when I was in such a panic about nuclear war and the possibility of American fascism, he simply could not or did not see that people ever have strong emotions about anything but their immediate personal relationships or whatever it is that happens before one is six years old."[281] Many of the letters Parsons writes to her father during her hospitalization are, according to the feminist historian Winifred Breines, "political disagreements accusing him of being too conservative."[282]

Anne Parsons's most extensive critique of psychotherapy is a lengthy essay she writes while hospitalized. The object of critique is her own practice in a state mental hospital in Massachusetts where, operating as

both clinician and social researcher, she conducted intensive psychotherapy with institutionalized patients. The essay, "Cultural Barriers to Insight and the Structural Reality of Transference," focuses on her two-year therapeutic relationship with "Mr. Calibrese," an Italian man who emigrates to the United States several years before being hospitalized. Parsons argues that the therapeutic relationship, which ended in failure (with Mr. Calibrese residing in a chronic ward with no hope of being discharged anytime soon), promoted the patient's inappropriate and unnecessary dependency on the therapist, Parsons herself, as he struggled to cope inside the mental institution with the complex realities of a difficult situation outside the institution.

In a reflexive critique of the therapeutic techniques that she herself employed, Parsons questions the "overly idealistic representations of the culture of psychotherapy—that is, the sum total of shared social meanings and communication patterns which characterize those who believe that the path to salvation lies in a self-conscious understanding of personal feelings." Staging with persuasion and compassion the class- and culture-based realities of Mr. Calibrese's troubles, and of his transferential response to the therapeutic relation, Parsons outlines the features of an alternative to the dominant culture of psychotherapy—what she terms "active psychotherapy," requiring a therapist to "always talk to the patient in his own social vocabulary," and to help patients make decisions and address conflicts within the social context of their own lives. She concludes with an indictment of the tendency toward collective, professional hallucinations that arises when "people speak the same professional language" and so come to "agree on the validity of certain perceptions or interpretations mainly through a process of consensual validation which has no real referent outside itself." At their worst extreme, these professionally validated but referentless perceptions link up powerfully with the professional research enterprise, creating conditions in which the "uncovering" of patients' psychic lives is compelled more by "research, teaching, and other career-maximizing motives" than by concern "for whether the patients feel better or worse after they have been 'uncovered.'"[283]

In the spring of 1964, Parsons's situation at the psychiatric institute worsens. She finds herself unable to keep writing. Her efforts to secure a professional affiliation for the following year have failed. Her struggle to escape her "voluntary" commitment is stalled. In April she takes a trip to New York without permission, and this attempt to "run away" brings on more severe hospital restrictions: she is no longer allowed out of the institution to go to the library. In a letter written in early May to her father, who is on a professional trip to Moscow, she congratulates him for reaching the peak of his career and pleads with him to help her get out of the hospital and find a place to live near their family farm in New Hampshire. She decries the "gadgeteering optimism" of the psychotherapeutic culture she feels locked within and the expenditures, monetary and otherwise, being wasted on her unsuccessful treatment.[284]

(At the watery edge, Mama, ghosts calling you under and down, ghosts calling your name, bitch, going under. And how do we write, where is delight, in such a dark, Mama, such a dark dream.)

On June 9, 1964, at the age of thirty-three, Parsons commits suicide while a patient in the Yale Psychiatric Institute. A collection of fifteen of her essays, edited by a small group of friends and professional colleagues, is published posthumously in 1969.[285] In a collection of his essays titled *Social Structure and Personality*, published in the year of his daughter's death, Talcott Parsons dedicates the book: "For Anne, a Sensitive and Resourceful Student of the Problems of This Book."

THE JARGON AROUND HERE

But there was no System. Just a Nervous System, far more dangerous, illusions of order congealed by fear.—MICHAEL TAUSSIG[286]

In Daddy's 436-page *Theory of Collective Behavior* (1962), the problem of group panic and other forms of collective behavior is theorized according to a model of behavior based on "the logic of value-added."[287] That is, Daddy tries to explain panic using a model borrowed from economics, where it's used to explain, among other things, the process of converting iron ore into automobiles. According to Daddy, this "value-added" economic model can be expanded into an explanatory scheme for understanding the logic of social determinants at work in collective behavior. The key element in the value-added scheme is that it operates via a logic—applicable to collective action or to automobile manufac-

turing—and this logic can be seen to function "according to a definite pattern."[288]

Daddy says the field of collective behavior is "underdeveloped scientifically," lacking standardized meanings even for its principal object, collective behavior. Bemoaning the "language of the field" that "shrouds its very subject in indeterminacy" by naming collective behavior as irrational and thereby suggesting it lies beyond the grasp of "empirical explanation," Daddy asserts instead that collective "outbursts" are structured actions that occur with regularity, clustering in time and in patterned frequencies among specific social groups. Daddy is trying to make a new language for the field.[289]

Daddy's model of value-added is coupled with the model, developed by Daddy and Daddy, for classifying the general components of social action.[290] In this way, Daddy can unite both collective and other forms of social behavior into "the same theoretical framework."[291] Daddy, like Daddy, values the idea of common theoretical frames. Just a few years earlier, Daddy and Daddy wrote a book together trying to theoretically unite the fields of economics and sociology.[292]

Daddy defines the nature of collective behavior as an "attempt to reconstruct a disturbed social order." Collective behavior arises in response to structural strain and is always a "search for solutions" to problems created by social dysfunctions.[293] Collective behavior, for Daddy, doesn't desire dysfunction or disorder. It wants, just like Daddy, to solve problems of disorder. But at the heart of its attempts at problem solving, collective behavior is guided by beliefs in the "existence of extraordinary forces—threats, conspiracies, etc.—at work in the universe." These beliefs in extraordinary forces are, Daddy says, "akin to magical beliefs."[294] Collective behavior believes in magic. (Daddy believes in science.)

Using the logic of value-added, Daddy's analysis of panic systematically organizes the empirical evidence from bombing attacks, mine explosions, flying saucer sightings, shipwrecks, food shortages, battlefield combat, floods, Martian invasions, tornadoes, theater fires, stock market crashes, and earthquakes into a coherent explanatory scheme for panic. Daddy's theory of collective behavior is hailed as a radical attempt to reorient the field and is praised as an exceedingly useful guide to empirical research.[295]

Three years after the publication of Daddy's major theoretical treatise on collective behavior, Daddy, Daddy, Daddy, and Daddy publish their findings as "Collective Behavior in a Simulated Panic Situation" (1965) in the first issue of the new *Journal of Experimental Social Psychology*.[296] While Daddy concludes his *Theory of Collective Behavior* with the observation that experimentation "is virtually impossible in the study of collective behavior,"[297] Daddy et al. eagerly investigate the "laboratory paradigm of an escape mob" in an effort to improve on the laboratory simulation of panic conducted by Daddy in 1951.[298]

The laboratory simulation performed by Daddy et al. is intended to contribute to "a more modern theory of social influence." Perceiving that a panicked group is faced with the problem of an "interdependent escape situation" where the behavior of each participant is mutually bound up with every other, Daddy et al. hypothesize that the "distribution of attitudes toward the escape situation" is the critical factor in the total performance of the group in solving its escape problem.[299]

Criticizing Daddy's 1951 experiment for failing to adequately simulate the effects of acute danger in an interdependent escape situation, Daddy et al. are committed to simulating "levels of threat as high as seemed experimentally feasible."[300]

So in 1965 Daddy et al. conduct a laboratory experiment in which one-third of the 264 students who volunteer for the experiment arrive at the laboratory and **each one had electrodes for delivering shock attached to the first and third fingers** of his hand while Daddy explains that this is an experiment about **behavior under threat the situation being one where a number of people have to use a single limited exit to escape from an impending danger within a limited time**.[301]

After the experiment is briefly explained to them Daddy then delivers two **fairly strong shocks** after which Daddy says to the experimental subjects **"I have called this a danger situation because those of you who do not escape before the time is up will receive a painful electric shock as a result of not escaping just a few moments ago we determined a 'shock threshold' for each of you we went through all the trouble of getting these measurements because we want to be able to give you the most painful and uncomfortable shock we can without seriously hurting you in any way I want to be completely honest with you and tell**

you exactly what you are in for those of you who do not escape will receive a series of extremely painful shocks . . . they're going to hurt but we must do this to impress upon you the uncomfortable consequences of not escaping."

Then Daddy says "About this time in past sessions of this experiment some people expressed a desire to leave after finding out what it was all about but I'm afraid I can't allow this" at which moment Daddy hands out a questionnaire for all the volunteers to answer questions about whether or not they want to leave the experiment that they can't leave.

In addition, one-half of the one-third of the 264 volunteers who participate in the laboratory experiment are administered an injection of epinephrine by a physician at the beginning of the experiment while Daddy reassures them "The shot you are getting is a neutral solution. . . . This will have no physiological effects" and then about seven to ten minutes later just as Daddy is explaining to them about the very harmful shocks they'll be receiving if they don't escape from the situation in the experiment from which they can't escape the effects of the epinephrine which tends to bring on the physiological symptoms often associated with fear and danger (speeded heart rate and involuntary tremor) are starting to kick in and that gives Daddy some more information about the effects of threat on the experimental subjects' capacity to solve the interdependent escape problem.

Needless to say, Daddy says, the subjects were never given the threatened shocks. Instead, they were given a postexperiment questionnaire followed by a " 'catharsis' session" in which "they were permitted to ask questions and air their feelings."[302]

FLIPPED AND HERE I AM

Testing. Eins zwei drei . . . testing. Eins zwei drei vier fünf . . . Can you hear me? Is the connection holding? Are we transmitting yet? Boppy doppy doopy wah yahyah mm. Is that what you think craziness is? Do people who go crazy freak you? Look sweetheart.[303]

Let me tell you how I'm feeling.

I woke up in my attic that the winds swept through and all the world was gray and black. I saw jet airplanes coming out of the ocean waves,

gray sky and black sea. Silver planes, waves, silver planes, waves. In the distance, you could hear the siren.

I walked along a highway. I was looking for a place to sit down, for some grass I could walk in, for a wood I could explore.

Inside the laboratory, I encountered the outside. The outside was inside. The inside was outside. Cause, effect, cause, effect. Effect. Effect. Cause. In the distance, you couldn't see any horizon.

In communication sciences, the translation of the world into a problem in coding can be illustrated by looking at cybernetic (feedback-controlled) systems theories . . . [in which] solution to the key questions rests on a theory of language and control. . . . Information is just that kind of quantifiable element (unit, basis of unity) which allows universal translation and so unhindered instrumental power (called effective communication). The biggest threat to such power is interruption of communication.[304]

I walked for hours. All the land on both sides of the highway, cultivated and wild, was privately owned by the oil, aerospace, communications, biotechnology, pharmaceutical, and coffee industries. I had to keep walking on the highway. Electronic billboards posted every few miles said, "Information Highway." I thought that people today when they move, move only by car, train, boat, plane, space shuttle, or the Internet. And so people move only on roads. I think it's becoming harder to get off the roads. I think it's becoming harder to speak outside the codes.

I live on a desert island. It's a nice desert island. I like it here. I eat. I sleep. I go to the library. But I've been getting bored . . . What can I do? I can repeat what I see. Exit doors jammed by a vast accumulation of data. Electricity conducted at unmeasured social speeds. Pirates gypsies goblins sorcerers skeletons dancing in the shadow of the thirty-foot civil defense siren. (And the witches. And the witches, still burning.)

So I walk along home, to Satellite Beach. Maybe it's the year 2006. We're four miles from Patrick Air Force Base. Thirty miles from NASA's Cape Canaveral. An hour by car south of Disney World. There are waves and waves and the ocean swells somewhat over the edges where I lie, I listen, I lie. And as I listen at the edges I hear another high swelling and over our heads where we lie sunning on Satellite Beach they fly eins zwei

silver bird-planes and larger than the pelicans. They circle over Satellite
Beach in a high swelling tide. How they roared, Mama, how loud they
roared one two over my head, over yours, are you listening Mama? Did
you count them coming, flying low, shrill, insistent silver and swelling
the edges of these Satellite Beaches?

AND OUT OF THE CORNER OF MY EYE I SAW THEM, MAMA, TO THE
LEFT AND MOVING ACROSS THE FRAME FILLED BY YOUR SWELL
FACE SHADED BY A WICKER HAT WITH RED, WHITE, AND BLUE
RIBBONS ROUND THE BRIM AND TWO BIG SILVER ROAR BIRD-
PLANES FLY ACROSS THE FRAME, ACROSS THAT BLUE BLUE SKY,
BEHIND THE WIDE WICKER BRIM OF YOUR SUN HAT MAMA
    DID YOU THINK IT WOULD KEEP YOU FROM BURNING?

Ring around the rosy
a pocketful of posy
astronauts, astronauts
we all fall—
Roger. Over and out.