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Organically Induced Behavioral Change in Correctional Institutions: Release Decisions and the New Man Phenomenon

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A few years ago an article appeared in a West Coast newspaper that went almost unnoticed in the legal literature.[1] It contained a brief, unelaborated account of an inmate of a British institution who sought release following successful brain surgery performed while he was still in prison. The operation had corrected a condition in which a bone fragment exerted pressure on certain portions of the inmate's brain, resulting in episodes of uncontrollable rage. Following the operation, the prisoner claimed that he was not only freed of his violent propensities, but that the operation had given him a new personality and outlook on life. Arguing that he was in effect a new man imprisoned in an old body, he demanded release from prison on the ground that he had committed no crime.

Although the disposition of the British prisoner's appeal is not told, two recent developments affecting the status of prison inmates suggest that his

1. L.A. Times, Apr. 6, 1970, § 1, at 2, col. 4, *noted in* Shapiro, *Legislating the Control of Behavior Control: Autonomy and the Coercive Use of Organic Therapies*, 47 S. CAL. L. REV. 237, 337 n.338 (1974) [hereinafter cited as *Legislating Control*].

argument is one the legal system must begin to take seriously. The first, discernible in the growing body of law relating to prisoners' rights, is the increasing insistence of courts that limitations on the freedoms of the incarcerated bear a legally sufficient relationship to recognized objectives of confinement.[2] The second, identifiable in the technology of organic behavior control,[3] involves the growing ability of biomedical researchers to identify and change the organic substrates of certain forms of behavior that are proscribed by the criminal law.[4] Newly developed surgical, chemical, and

2. *See* notes 146-201 and accompanying text *infra*. Despite the growth of nonincarcerative alternatives, prison sentences remain the most frequent sanction for adult felons. H. KERPER & J. KERPER, THE LEGAL RIGHTS OF THE CONVICTED 139 (1974).

3. "Organic" therapy, as used herein, refers to a set of procedures designed to modify human behavior by altering the chemical or neurological bases of behavior, feeling, or mentation. Organic approaches are contrasted with conventional types of therapy, such as counseling and psychotherapy, which rely essentially on persuasion, insight, and exhortation. *See Legislating Control, supra* note 1, at 244 n.8.

Those who are working to develop organic solutions to human problems do not discount the powerful effect that societal, economic, and learned factors may have on individual behavior; indeed, the organic model developed in Section I specifically provides for such inputs. Rather, they feel that psychological and socioeconomic explanations of deviance only tell part of the story. *See* note 106 and accompanying text *infra*. As organic treatments have been perfected, they have found application in a number of conventional, *i.e.*, nonorganic, treatment approaches. *See* notes 51, 53 and accompanying text *infra* (use of brain stimulation in marijuana deconditioning programs and biofeedback training). Classic conditioning has profited from the discovery of reward and punishment centers in the brain. *E.g.*, M. PINES, THE BRAIN CHANGERS 34-35 (1973); *see* notes 48-53 and accompanying text *infra*. Even traditional psychoanalysis has been analyzed in behavioral terms. *E.g.* Milan & McKee, *Behavior Modification: Principles and Applications in Corrections* (Oct. 1973), *reprinted in* STAFF OF SUBCOMM. ON CONSTITUTIONAL RIGHTS, SENATE COMM. ON THE JUDICIARY 93D CONG., 2D SESS., 495, INDIVIDUAL RIGHTS AND THE FEDERAL ROLE IN BEHAVIOR MODIFICATION, 475-76 (Comm. Print 1974). *See generally* Schwitzgebel, *Survey of Psychophysiological Measurement Techniques*, in PSYCHOTECHNOLOGY 43 (R.L. Schwitzgebel & R.K. Schwitzgebel eds. 1973). For a description of the way in which use of automation techniques and behavioral approaches have been used to increase the effectiveness of traditional psychotherapeutic treatment, see Peck & Gathercole, *Automation Techniques in Clinical Psychology*, in *id.* at 83. *But see* Schwitzgebel & Traugott, *Initial Note on the Placebo Effect of Machines*, in *id.* at 141 (suggesting that any boosting effect may be attributable to suggestion). Meditation, which has been introduced in prisons to reduce tensions and decrease incidence of violent behavior, *see* Comment, *Transcendental Meditation and the Criminal Justice System*, 60 KY. L.J. 411 (1971), has also been analyzed in physiological terms. *E.g.*, Wallace & Benson, *The Physiology of Meditation*, SCI. AM., vol. 226, Feb. 1972, at 84; *see* National Comm'n for the Protection of Human Subjects of Biomedical and Behavioral Research, Research Involving Prisoners: Report and Recommendations (Draft, June 23, 1976), at 5 (summary of state prison survey that included treatment of aggressive behavior with drugs), 5-6 (psychosurgery in prisons, citing work of Mitford), 6 (prisoners' demands to be included in programs designed to modify sexually aggressive behavior).

4. *E.g.*, discussion of treatment modalities at notes 36-44 (electronic stimulation of the brain), 67-90 (blood chemistry), 91-98 (premenstrual syndrome), 108-15 (fractional psychosurgery) *infra*. *See also* J. DELGADO, PHYSICAL CONTROL OF THE MIND: TOWARD A PSYCHOCIVILIZED SOCIETY 220 (1969) (describing a recidivist thief who underwent frontal lobe surgery in hopes of ridding himself of a compulsion to steal); M. PINES, *supra* note 3, at 205 (account of California prisoners who received amygdala operations designed to alleviate their

electronic techniques permit modification of certain types of criminal behavior by direct physical intervention into neural or physiological mechanisms. Some of the techniques operate narrowly, excising particular propensities or behavioral patterns;[5] others produce more broadbased personality changes.[6]

For some time these movements have been converging. Their union—which now appears imminent—raises novel questions for the theoretical foundations of criminal punishment, as well as more immediate problems for attorneys, judges, and correctional authorities concerned with sentencing and release decisions. The solicitude that courts, legislatures, and legal commentators have shown toward the institutionalized person's right of access to treatment,[7] together with expansion of substantive prisoners' rights in other

violent propensities); J. MARK & F. ERVIN, VIOLENCE AND THE BRAIN 130 (1970) [hereinafter cited as MARK & ERVIN] (results of a prison survey of epileptoid syndrome in violent inmates); Breggin, *Psychosurgery for the Control of Violence: A Critical Review*, in NEURAL BASES OF VIOLENCE AND AGGRESSION 350, 351-52 (W. Fields & W. Sweet eds. 1975) [collection hereinafter cited as BASES OF VIOLENCE] (discussing the use of psychosurgery to alleviate violence proneness in adolescents with criminal records, small children who demonstrate intractable hostility, and prison inmates); Philadelphia Daily News, Mar. 13, 1972, at 3, col. 3 (cingulotomy used in Philadelphia hospital for control of drug addiction).

Because of the recent increase in crimes of violence and aggression, *see, e.g.*, U.S. FEDERAL BUREAU OF INVESTIGATION, UNIFORM CRIME REPORTS FOR THE UNITED STATES 4-7 (1972), and the resulting concern about such crimes, *see, e.g.*, STAFF REPORT, NATIONAL COMM'N ON THE CAUSES AND PREVENTION OF VIOLENCE, VIOLENCE IN AMERICA, vols. 1-13 (1968-69) (thirteen volume treatment of violence in the United States); *see also* Crabtree & Moyer, Human Agression: A Bibliography (pt. 1) (on file in Psychology Dep't library, Carnegie-Mellon University) (containing titles of over 100 books and more than 1,000 articles in scholarly journals), it is not surprising that organic treatment for aberrant behavior or criminality has, until now, centered largely on crimes of violence and aggression, with drug addiction a distant second. Indeed, it is probably no exaggeration to say that fear of intraspecific harm has today replaced fear of disease, starvation, and other natural calamities in man's hierarchy of terrors.

5. *E.g.*, notes 72-90 and accompanying text *infra* (drug treatment for sex-related violence).

6. *E.g.*, notes 103-32 and accompanying text *infra* (psychosurgery).

7. *E.g.*, Knecht v. Gilman, 488 F.2d 1136 (8th Cir. 1973) (instituting procedures under which inmates may consent to drug treatment); CAL. PENAL CODE §§ 2670-2680 (West Supp. 1976); CAL. WELF. & INST. CODE §§ 5325-5326 (West Supp. 1976) (setting forth conditions under which prisoners and other institutionalized individuals may consent to organic therapy); *Legislating Control, supra* note 1, at 311-15, 324-36. The substantive right of access to treatment has been derived from a number of legal theories, including autonomy and freedom of mentation, *e.g.*, *id.* at 255-73, the eighth amendment, Martinez v. Mancusi, 443 F.2d 921 (2d Cir. 1970); *but see* Sawyer v. Sigler, 445 F.2d 818 (8th Cir. 1971), due process or equal protection, *see* Comment, *A Jam in the Revolving Door: A Prisoner's Right to Rehabilitation*, 60 GEO. L.J. 225, 233-43 (1971) [hereinafter cited as *Right to Rehabilitation*]; *cf.* Rouse v. Cameron, 373 F.2d 451 (D.C. Cir. 1966) (by implication); *see generally* Pell v. Procunier, 417 U.S. 817, 823 (1974), and on statutes, especially those setting our objectives of particular penal programs, *see Right to Rehabilitation, supra* at 236-37; National Comm'n for the Protection of Human Subjects of Biomedical and Behavioral Research, Research Involving Prisoners: Report and Recommendations 9 (Draft, June 23, 1976) (viewing it as settled that prison inmates may consent to or refuse medical

contexts,[8] suggests that these problems have legal, perhaps constitutional, significance.

This Article begins with a brief overview of the current biological model of aggressive behavior,[9] together with some of the principal treatment modalities that have been developed pursuant to it.[10] This review suggests that several currently available techniques are capable of correcting the violent propensities of certain offenders so that they no longer pose a significant risk of harm to society. The second section reviews developments in prison law that suggest that courts will hold organically treated individuals to be entitled to release.[11] Because decisions concerning incarceration respond to a variety of societal interests, the right to release will necessarily be a limited, rather than an absolute one. A third section explores the inner logic and outer limits of such a right and outlines an approach for accommodating the various interests into a coherent framework.[12] In the process of exploring the modifications in sentencing and release theory necessitated by the development of organic treatments, it will become apparent that certain traditional conceptual approaches and assumptions become less useful when criminal propensities become mutable at will. A final section discusses some characteristics of ideal procedural machinery by which claims for release based on organic rehabilitation could be heard.[13]

I. THE PSYCHOBIOLOGY OF HUMAN AGGRESSION

A. THE BIOMEDICAL MODEL: AN OVERVIEW [14]

The biomedical model posits the existence of several neural and endocrine systems, each of which is innately organized and responsible for a particular

treatment). While the right of access to treatment received increasing recognition, there has been a simultaneous increase in concern over freedom of choice and the problem of environmental and institutional coercion. *See* note 132 *infra.*

8. *See* notes 138-227 and accompanying text *infra.*
9. Notes 14-35 and accompanying text *infra.*
10. Text accompanying notes 36-132 *infra.*
11. Text accompanying notes 144-227 *infra.*
12. Text accompanying notes 228-303 *infra.*
13. Text accompanying notes 304-40 *infra.*
14. The following account outlines a view of human aggression that is held, in one variant or another, by most researchers who approach human violence from a medical or biological perspective. The leading spokesmen for this view are K.E. Moyer, a theoretical physicist at Carnegie-Mellon University, and J.M.R. Delgado, a neurophysiologist at Yale Medical School. A number of their works are cited at notes 15, 17, 32 *infra* (Moyer), and notes 3 *supra*, 63 *infra* (Delgado). The biological model does not purport to be the only theoretical basis for describing and treating violent human behavior. There are also economic, sociological, theological, ethological-evolutionist approaches, as well as classic learning theory. *See* Shapiro, *Therapeutic Justifications for Intervention into Mentation and Behavior*, 13 DUQ. L. REV. 673, 677-712 (1976) [hereinafter cited as *Justifications*] (extended discussion of the function of competing "models" of human behavior); note 3 *supra.*

Its critics sometimes overlook the inclusiveness of the biological model; it expressly takes

form of aggression.[15] These include the response of a mother to threats against her young (maternal aggression), competition among males (intermale aggression), the verbal irritability of a woman suffering premenstrual tension (irritable aggression), and, in animals, driving an intruder away from its territory (territorial aggression).[16] Together, these mechanisms enhance the organism's ability to respond to life- or species-threatening situations, thereby conferring evolutionary advantages on their possessors.[17]

The probability that an individual's aggression system will become active is a function of internal, environmental,[18] learned,[19] and innate factors.

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account of environmental and learned factors in explaining delinquent behavior. *See* text accompanying notes 17-23 *infra*. It does not assume that every instance of deviant behavior stems from an identifiable organic abnormality, nor that, when it does, organic treatment will always prove effective. *See, e.g.*, MARK & ERVIN, *supra* note 4, at 138-44 (describing the "either or" fallacy); K.E. MOYER, *A Preliminary Physiological Model of Aggressive Behavior*, in THE PHYSIOLOGY OF HOSTILITY 52 (1971) [hereinafter cited as *Aggressive Behavior*] [collection hereinafter cited as HOSTILITY]; text accompanying note 117 *infra* (American psychosurgeons' self-imposed limitations on psychosurgery). *See generally* E. VALENSTEIN, BRAIN CONTROL (1973) (wide-ranging critique of psychosurgery by prominent physiologist). Its adherents do assume that some pathological behavior is attributable to a pathological organism, and that, ultimately, all human behavior is mediated by the brain. *See* notes 105-06, 111 and sources cited *infra*. A corollary is that failure to take account of physical causes can result in impaired autonomy, as well as personal tragedies, such as homicides, suicides, and wasted lives. *See* note 120 *infra*. For discussion of some of the limitations of organic treatment (especially risk-benefit ratio, predictability, and certifiability of success), *see* note 133 and sources cited *infra*.

15. *Aggressive Behavior, supra* note 14, at 52; Moyer, *Kinds of Aggression and Their Physiological Basis*, 2 COM. BEHAVIORAL BIOLOGY 65 (1968). The existence of a variety of aggressive behaviors is similar to that found in connection with a number of other complex behaviors, such as consumption. Animals engage in a variety of consummatory behaviors—eating, drinking, searching for salt, *etc.*—and the physiological mechanisms responsible for these activities have many features in common. But the chemical and neurological substrates involved in initiating and carrying out these activities are not identical, and to assume a single common mechanism would be fallacious. The same is true of the multiple forms of behavior that fall under the general head "aggression" or "violence." *See generally* Moyer, *A Physiological Model of Aggression: Does It Have Different Implications?*, in BASES OF VIOLENCE, *supra* note 4, at 161, 164-65 [hereinafter cited as *Implications*].

When applied to human beings, the term "aggression" is used herein as synonymous with violence, *i.e.*, a tendency to behave destructively toward others or their property. It is not intended to denote the "aggressiveness" of an ambitious executive, nor assertiveness, hard work, or motivation to succeed.

16. *Implications, supra* note 15, at 163-64. The tendency of individual aggression systems to respond only to particular classes of stimuli means that they are "stimulus bound." A mother's protective reaction will be elicited by the sight of a strange animal approaching her young, but not by the appearance of a female rival of her species. Similarly, the aggressive response of a male animal to the approach of another male of his species will not be the same as that aroused by the sight of prey—although this may give rise to another type of aggressive behavior, namely predation. *See generally Aggressive Behavior, supra* note 14, at 56.

17. MARK & ERVIN, *supra* note 4, at 1; K.E. MOYER, *The Physiology of Affiliation and Hostility*, in HOSTILITY, *supra* note 14, at 109, 111 [hereinafter cited as *Affiliation and Hostility*]; *see* K.E. MOYER, *Internal Impulses to Aggression*, in *id.* at 13-14.

18. *E.g.*, *Implications, supra* note 15, at 179-80.

19. *E.g.*, Bandura, *Social Learning Theory of Aggression*, in THE CONTROL OF AGGRES-

These include blood chemistry[20]—particularly the action of certain hormones[21]—heredity,[22] and neurological makeup.[23] Thus, one individual may react to a situation with rage because his blood sugar level has fallen below a critical point.[24] Another individual may react irascibly toward a wide range of stimuli because his nervous system has been sensitized by an excessive level of stress hormones.[25] Other individuals may behave aggressively because of functional brain disorders,[26] or because they have learned that certain forms of violent behavior bring rewards.[27] Each of these factors interacts with the others; the organism's propensity for violence at a given moment is the product of all such factors. Thus, a mother may beat her child because she is suffering from premenstrual hyper-irritability, has borderline hypoglycemia, and has had inadequate training in the responsibilities of parenthood. Another individual may respond with violent rage to a minor slight from another male. On examination, it may appear that he has an abnormally high testosterone

SION: IMPLICATIONS FROM BASIC RESEARCH 201 (J. Knutson ed. 1973); Bandura, Ross & Ross, *Transmission of Aggression Through Imitation of Aggressive Models*, 63 J. ABNORMAL & SOC. PSYCH. 575 (1961); *see* L. ERON, L. WALDER & M. LEFKOWITZ, LEARNING OF AGGRESSION IN CHILDREN (1971). *See generally* Sarason, *Verbal Learning, Modeling and Juvenile Delinquency*, 23 AM. PSYCHOLOGIST 254 (1968).

20. *See* Krsiak & Steinberg, *Psychopharmacological Aspects of Aggression: A Review of the Literature and Some New Experiments*, 13 J. PSYCHOSOMATIC RESEARCH 243 (1969); Sheard, *Effect of Lithium on Human Aggression*, 230 NATURE 113 (1971); Tinklenberg & Stillman, *Drug Use and Violence*, in VIOLENCE AND THE STRUGGLE FOR EXISTENCE 327 (D. Daniels, M. Gilula & F. Ochberg eds. 1970).

21. *See* K. DALTON, THE PREMENSTRUAL SYNDROME (1964); Field & Williams, *The Hormonal Treatment of Sexual Offenders*, 10 MED., SCI. & L. 27 (1970); Hamburg, *Recent Research on Hormonal Factors Relevant to Human Aggressiveness*, 23 INT'L SOC. SCI. J. 36 (1971); Money, *Use of an Androgen-Depleting Hormone in the Treatment of Male Sex Offenders*, 6 J. SEX RESEARCH 165 (1970).

22. *E.g.*, D. ROSENHAN, GENETIC THEORY AND ABNORMAL BEHAVIOR 236-37 (1970); Davenport, *The Feebly Inhibited* (pt. 1), *Violent Temper and Its Inheritance*, 42 J. NERVOUS & MENTAL DISEASE 593 (1915); Hook, *Behavioral Implications of the Human XYY Genotype*, 179 SCIENCE 139 (1973); Note, *The XYY Chromosome Defense*, 57 GEO. L.J. 892, 894-901 (1969); Akel, Medico-Legal Implications of the XYY and Klinefelter's XYY Syndromes with Particular Reference to the 47 XYY Chromosomal Abnormality (1970) (unpublished LL.B. dissertation in University of California Law Library, Berkeley).

23. *E.g.*, MARK & ERVIN, *supra* note 4, at 4-5, 146; Hitchcock, Ashcroft, Cairns & Murray, *Preoperative and Postoperative Assessment and Management of Psychosurgical Patients*, in PSYCHOSURGERY 164, 164-65 (E. Hitchcock, L. Laitinen & K. Vaernet eds. 1972) [collection hereinafter cited as PSYCHOSURGERY].

24. Clapham, *An Interesting Case of Hypoglycemia*, 33 MEDICO-LEGAL J. 72 (1965); Podolsky, *The Chemistry of Murder*, PAKISTAN MED. J., vol. 15, June 1964, at 9.

25. *See Implications*, *supra* note 15, at 169, 172 (citing Ulrich on pain stress, Davis & Scott on hunger stress, Laties on sleep deprivation stress, and Azrin, Hutchinson & Hake on deprivation of reinforcement).

26. *See* sources cited note 23 *supra*.

27. *E.g.*, *Affiliation and Hostility*, *supra* note 17, at 109, 123; *Implications*, *supra* note 15, at 188. Psychological explanations of human action are not necessarily incompatible with scientific hypotheses concerning the neurophysiological bases of human thought and behavior. *Justifications*, *supra* note 14, at 689 n.27.

level as well as a high level of nervous irritability because of continual stress at home and at work.

The propensity for violence may be described in terms of a range of neural-endocrine conditions called thresholds. These can vary over time from complete insensitivity to the complete arousal that occurs when neural systems are firing even in the absence of the usual triggering stimuli.[28] In the inactive state, the organism will not respond to the presence of an intruder, with aggressive or fighting behavior, even though this would be the normal behavior of an adult of his species.[29] If administered neural or chemical stimuli, however, the animal will attack the intruder and attempt to drive him away.[30] This latter behavior corresponds to an intermediate state of readiness in which the neural systems have been sensitized but remain inactive unless triggered by appropriate stimuli.[31] In a more extreme case, the cells are continually firing and the organism appears restless. In this condition it will respond with attack behavior even to minimal sensory cues.[32]

In human beings, this last condition appears to coincide with a subjective state of intense irritability in which the victim feels hostile without being able to explain why.[33] Often, internal homeostatic mechanisms will normalize the underlying neurological or chemical imbalance without incident; but if during the state of heightened irrationality, the individual is subjected to external provocation or his condition is aggravated by deprivation of basic needs, the probability of a violent outburst increases greatly. At some point, a combination of internal predisposition and environmental provocation will exceed the level at which the victim can exert meaningful control over his behavior.[34] These cases are significant, not because the individuals are legally

28. *E.g.*, *Implications*, *supra* note 15, at 171.

29. *Id.*

30. *Id.*

31. *Id.*

32. *Id.*; *see* MARK & ERVIN, *supra* note 4, at 6-7. The neural systems of the brain consist of networks of cells, or neurons. Those responsible for aggression are complex structures involving many brain levels. In any system, a given neuron has a multiplicity of connections, but the neurons in any system tend to fire as a unit. *Implications*, *supra* note 15, at 164-65. See E. VALENSTEIN, *supra* note 14, for an excellent description of the brain's role in regulating violent behavior.

33. *Implications*, *supra* note 15, at 171-72, 179, 183.

34. Although many physiologists and neurophysiologists are determinists, it is not necessary to adopt this view of human action in order to accept the proposition that an individual with a low tolerance level may be unable to control himself when bombarded with stimuli of the type that tend to evoke a particular behavior. Nor, as noted below, is it necessary to declare such persons legally insane, and hence blameless for their acts. The brain is organized hierarchically, and a great many forms of behavior, even those resting on organic bases, including hostility, may be brought under conscious control in varying degrees. *See* note 27 and accompanying text *supra*. But defects in the lower centers, such as the limbic system, *see* note 111 and accompanying text *infra*, can give rise to so much spontaneous activity that the higher centers are for all practical

insane—under most tests of criminal insanity they are not[35]—but because techniques now exist that permit the identification and modification of many of the conditions that give rise to such behavior, thereby reducing the probability that it will recur.

B. Detection and Treatment of Organically Based Violence

1. *Electronic Stimulation of the Brain.*

Electronic brain stimulation has been used to ameliorate behavioral disorders by direct intervention designed to induce emotional tranquility, by interdicting violent behavior, by reinforcing positive actions, and as an adjunct to other treatment modalities. In each case, the method of administration is the same—thin, insulated wires are implanted in the brain, allowing messages to be sent and recordings to be made from areas deep inside the patient's brain.[36]

As a means to normalize behavior, electronic stimulation has been used successfully in medical centers around the world in the treatment of epilepsy and other spastic disorders, intractable pain, and anxiety neuroses.[37] When used to treat abnormal violence, the technique requires that the patient periodically visit the laboratory for stimulation. The current induces a feeling of relaxation and euphoria. The application of electrical current at periodic

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purposes helpless. *See, e.g.*, sources cited at notes 104-06 *infra*. The objective of organic treatment is consistent with a concern for man's status as a free creature, since it aims at increasing the scope for mediation by the conscious mechanisms of choice, at the same time removing the tendency of the subject to behave in ways that he does not choose and which entail strong social sanctions.

35. The *M'Naghten* (majority) test requires that at the time of commission of the act, the individual be laboring under such defect of reason, from disease of the mind, that he did not know the nature and quality of his act, or if he did, he did not realize it was wrong. M'Naghten's Case, 8 Eng. Rep. 718 (H.L. 1843). Most individuals suffering organically-induced criminality would not qualify under *M'Naghten* because the test emphasizes cognitive incapacity. Most of these individuals know, in an abstract sense, that their actions are wrong; they merely cannot help what they do. Moreover, organic disability per se, even if it can be shown to have caused the offending behavior, does not entitle the perpetrator to an excuse under the insanity defense. Rather, the organic defect must be shown to have induced a "disease of the mind," which in turn destroyed cognitive capacity as required by *M'Naghten*. For an excellent discussion of the difficulties of applying traditional tests of insanity so as to find a legal excuse for organically-induced criminal behavior, see Wallach & Rubin, *The Premenstrual Syndrome and Criminal Responsibility*, 19 U.C.L.A. L. Rev. 210, 237-90 (1971). *See also* People v. Tanner, 13 Cal. App. 3d 596, 91 Cal. Rptr. 656 (1970); Dennis v. State, 13 Md. App. 564, 284 A.2d 256 (1971).

36. *E.g.*, Olds, *Pleasure Centers in the Brain*, Sci. Am., vol. 193, Oct. 1956, at 105. *See generally* J. Delgado, *supra* note 4, at 82-86. Implantation is carried out under local anesthesia through small holes drilled in the skull. Ordinarily several electrodes are implanted at one session. The presence of the electrode causes no sensation, since the brain is devoid of pain and pressure sensors. *See id.* at 88-89. The wires are relatively harmless, and have remained in place in some cases for several years. *Id.* at 88. To conceal the outlet, patients may wear wigs when living or traveling outside the laboratory. *Id.*

37. J. Delgado, *supra* note 4, at 88.

intervals serves as an emotional pacemaker, similar in effect to certain psychoactive drugs used in the treatment of depressive disorders.[38] In some cases a series of stimulations will normalize the electrical anomaly so that further violence does not occur.[39] Violent psychotics have been calmed sufficiently to enable them to participate in more conventional forms of treatment.[40] Other less seriously disturbed patients have reduced their violent behavior to the point where they were able to lead normal lives outside the institution.[41]

In addition to its use in assisting patients to maintain emotional equilibrium, stimulation has been used to avert impending attacks of rage or violence.[42] This application is possible only when the target behavior is presaged by a warning sign, such as an abnormal EEG pattern or a subjective feeling the patient recognizes as a sign of an impending attack. In the latter case, patients can be given their own control units.[43] Seizures involving sudden rage have been prevented by a patient's pressing a button attached to a sending device carried on his belt or in his pocket.[44] The recent development of miniaturized electronic devices, called stimoceivers,[45] has increased the

38. *See generally id.* at 142-43, 181, 200-01 (early experiments); MARK & ERVIN, *supra* note 4, at 31, 96, 108; M. PINES, *supra* note 3, at 201-02. For an excellent discussion of the telemetry involved, see Delgado, Mark, Sweet, Ervin, Weiss, Bach-Y-Rita & Hagiwara, *Intracerebral Radio Stimulation and Recording in Completely Free Patients*, 147 J. NERVOUS & MENTAL DISEASE 329 (1968) [hereinafter cited as *Radio Stimulation in Free Patients*].

39. *See, e.g.*, MARK & ERVIN, *supra* note 4, at 129-30.

40. *Id.*; E. VALENSTEIN, *supra* note 14, at 170 (citing work of Peterson), 175-76 (citing work of Heath) (Valenstein himself remains skeptical of this technique).

41. MARK & ERVIN, *supra* note 4, at 129-30; E. VALENSTEIN, *supra* note 14, at 175-76.

42. *E.g., Brain Triggers for Violence*, in MARK & ERVIN, *supra* note 4, at 92. *See also* sources cited notes 48-49 *infra*. The physical model provides that the behavior of an organism is a complex summation of the action of many neural systems which continually interact. K.E. MOYER, *Brain Research Must Contribute to World Peace*, in HOSTILITY, *supra* note 14, at 5-6; *Implications*, *supra* note 15, at 168-69. Activation of certain systems tends to facilitate violent behavior, while activation of others tends to inhibit it. States which increase the likelihood of violence include hunger, sleep deprivation, and removal of reinforcement. Relaxation and pleasure, occurring naturally or as the result of stimulating certain regions of the brain, tend to reduce the probability of violent behavior. *E.g., id.* at 169-85. Activation of the systems responsible for various types of affiliative behaviors, such as nurturance, love, possibly sex, and, in animals, mutual grooming, also seem to reduce the probability that an organism will react irascibly. *See generally Affiliation and Hostility*, *supra* note 17, at 109, 112-13.

43. J. DELGADO, *supra* note 4, at 176; E. VALENSTEIN, *supra* note 14, at 182; Hendin, *Pacemakers for the Brain*, SAT. REV. (World), Jan. 26, 1974, at 66.

44. Interview with Kenneth Moyer, in Tucson, Arizona (March 1975); *cf.* J. DELGADO, *supra* note 4, at 176 (electrical self-stimulation to help suppress developing aggressive moods).

45. Pioneered by the space program, these devices permit wireless communication between astronauts or other human subjects and a central monitoring station. In brain research, stimoceivers are used to record or stimulate brain activity from a distance and to observe interactions between stimulation and responses to certain environmental cues. *E.g.*, MARK & ERVIN, *supra* note 4, at 97-108. Initial application of electronic behavior control technology to animals resulted in some bizarre experiments. In one demonstration, Delgado, having previously

practicability of these treatment methods. These devices permit instantaneous radio transmission to and from the brains of subjects, whose movements are no longer limited by trailing wires. While subjects remain within the range of the transmitter, simultaneous stimulation and recording of electrical activity of their brains may be carried out.[46] Computers have also been used to permit remote monitoring of brain activities, making unnecessary the intervention of a human monitor.[47]

In addition to its use in directly treating the physical substrates of certain forms of human behavior, electronic stimulation has been used to facilitate more conventional forms of treatment, including behavior conditioning. Animal studies have shown that stimulation of the pleasure centers is a highly potent reinforcer.[48] To obtain pleasurable brain stimulation, laboratory animals will learn complex mazes and remember them perfectly for long periods of time.[49] They will cross electrified grids to reach a lever that will send a pleasurable surge of electricity to certain sites in their limbic systems.[50]

Since other forms of reward are equally effective and less costly to administer, the use of electronic stimulation in conditioning programs with human beings has been limited. Stimulation has been employed on a small scale in marijuana deconditioning programs[51] and in the treatment of sleep

implanted an electrode in the brain of a fighting bull, entered the ring with the bull. Equipped only with a small sending unit, he was able to "tame" the beast in mid-charge. J. DELGADO, *supra* note 4, at 166-68, 170-71; M. PINES, *supra* note 3, at 39-40; E. VALENSTEIN, *supra* note 14, at 98. In another experiment, the investigators succeeded in manipulating the dominance hierarchy in a colony of monkeys by stimulating the brains of dominant males. Under stimulation these monkeys altered their facial expression and ceased threatening gestures toward smaller monkeys. The subordinate animals gradually lost their fear of them. Later, a trigger was installed in the cage. The monkeys low in the hierarchy learned to press the trigger, thereby controlling the actions of their former masters. J. DELGADO, *supra* note 4, at 165-66; *see Radio Signals Trigger-off Mixed Emotions*, MED. WORLD NEWS, June 11, 1965, at 32. This change occurred without the dominant males becoming stuporous or suffering motor disability. They continued to engage in everyday activities, such as grooming, eating, and climbing; they simply did so without asserting dominance. *See* J. DELGADO, *supra* note 4, at 159-68.

46. J. DELGADO, *supra* note 4, at 92-95; Chorover, *The Pacification of the Brain*, PSYCH. TODAY, vol. 7, May 1974, at 63. Professor José Delgado is presently developing a miniature, transistorized stimoceiver that can be imbedded under the scalp. After a patient's hair grows back, the device will be invisible to the naked eye. J. DELGADO, *supra* note 4, at 93-95; M. PINES, *supra* note 3, at 43; *Radio Stimulation in Free Patients*, *supra* note 38, at 338.

47. *See* J. DELGADO, *supra* note 4, at 92-93 (animal studies); M. PINES, *supra* note 3, at 43, 53-54 (current research).

48. *See, e.g.*, J. DELGADO, *supra* note 4, at 140-42; M. PINES, *supra* note 3, at 46-47; E. VALENSTEIN, *supra* note 14, at 66-67.

49. M. PINES, *supra* note 3, at 46-47.

50. *Id.* Stimulation has been used in animal learning studies for over a decade, and today thousands of laboratory animals wear electrodes that permit the administration of a highly reinforcing stimulus upon performance of target behaviors. *Id.* at 48-49.

51. Comment, Kaimowitz v. Department of Mental Health: *A Right To Be Free From Experimental Psychosurgery?*, 54 B.U.L. REV. 301, 307 (1974).

disorders.[52] There are also reports of its experimental use in biofeedback studies in which the subjects receive reinforcement for producing a desired physiological response.[53]

Schwitzgebel and others have suggested that telemetric devices might be utilized with parolees to permit their early return to society.[54] The activities, movements, and brain waves of these persons could be monitored automatically by computers housed in central locations.[55] The computers could be programmed to supply a reinforcing signal whenever the subject carries out approved behavior, such as reporting to his probation officer or arriving on time at work.[56] They could also be programmed to send an aversive signal that would inhibit undesirable behavior, such as drinking or violence.[57] The proponents of such programs argue that rehabilitation of convicts proceeds more rapidly outside the institution,[58] that freed individuals can make restitution, support their families, and engage in other socially useful activities impossible in prison,[59] and that inmates prefer life outside the

52. J. DELGADO, *supra* note 4, at 143.

53. M. PINES, *supra* note 3, at 52. Brown, *Awareness of EEG-Subjective Activity Relationships Detected Within a Closed Feedback System*, in PSYCHOTECHNOLOGY 159 (R.L. Schwitzgebel & R.K. Schwitzgebel eds. 1973) suggests that such an approach can help deviant or troubled individuals gain control over their emotional states, enabling them to begin to act in socially approved ways. Portable biofeedback devices are being developed which will enable an individual to self-monitor a variety of his bodily functions. Prototypes of these instruments have been successfully used in treating sex offenders. Letter from Richard Laws, Staff Psychologist, Atascadero State Hospital, to U.C.L.A. Center for the Study and Reduction of Violence (March 29, 1973), *reprinted in* STAFF OF SUBCOMM. ON CONSTITUTIONAL RIGHTS OF THE SENATE COMM. ON THE JUDICIARY, 93D CONG., 2D SESS., INDIVIDUAL RIGHTS AND THE FEDERAL ROLE IN BEHAVIOR MODIFICATION 355 (Comm. Print 1974). *See generally* M. PINES, *supra* note 3, at 55-85. Because the beneficial effects of biofeedback are normally not long-lasting, the most useful application may well be as an adjunct to traditional psychotherapy. *Id.* at 80. When so used, the technique can help consolidate gains made during the interaction with the therapist. *Id.*

54. *E.g.*, Ingraham & Smith, *The Use of Electronics in the Observation and Control of Human Behavior and its Possible Use in Rehabilitation and Parole*, ISSUES IN CRIMINOLOGY, vol. 7, Fall 1972, at 35, 42-44; Schwitzgebel, *Issues in the Use of an Electronic Rehabilitation System with Chronic Recidivists*, 3 LAW & SOC'Y REV. 597 (1969).

55. Ingraham & Smith, *The Use of Electronics in the Observation and Control of Human Behavior and Its Possible Use in Rehabilitation and Parole*, ISSUES IN CRIMINOLOGY, vol. 7, Fall 1972, at 35, 36-40; Schwitzgebel, *Issues in the Use of an Electronic Rehabilitation System with Chronic Recidivists*, 3 LAW & SOC'Y REV. 597 (1969). Telemetric devices are already being used for medical purposes, monitoring many physical functions, including heartbeat, temperature, blood pressure, EEG recordings, and the physical location of a subject. Ingraham & Smith, *supra* at 36-40.

56. Schwitzgebel, *Issues in the Use of an Electronic Rehabilitation System with Chronic Recidivists*, 3 LAW & SOC'Y REV. 597, 603 (1969).

57. Ingraham & Smith, *The Use of Electronics in the Observation and Control of Human Behavior and Its Possible Use in Rehabilitation and Parole*, ISSUES IN CRIMINOLOGY, vol. 7, Fall 1972, at 35, 40-42.

58. *Id.* at 42.

59. *Id.* at 43.

institution over continued confinement, even with the constraints of the stimoceiver.[60] Although strongly urged by some, it appears that no such program has actually been carried out.

Electronic brain stimulation has also been used as a diagnostic tool in other treatment modalities. Even though surface EEG's and psychological inventories can expose many organic abnormalities, other types of deep-seated brain pathology frequently cannot be detected by these methods.[61] In such cases, electronic recording and stimulation may be the only means by which hidden abnormalities can be identified.[62] Electrodes may be implanted in regions of suspected damage. If recordings reveal abnormal patterns of electrical activity, the regions can then be stimulated electrically.[63] If stimulation of the area produces a recurrence of the abnormal behavior, drug treatment or surgery can be carried out.[64]

Professor José Delgado has described the classic case of a 20-year-old woman with a history of encephalitis.[65] Suffering attacks of temporal lobe epilepsy for 10 years, the young woman had on several occasions attacked persons nearby. During one seizure she plunged a pair of scissors into her nurse's chest, narrowly missing the heart. Between seizures the woman behaved normally; total confinement seemed inappropriate. Electrodes were implanted and a stimoceiver installed. It was found that the monitored regions of the woman's brain displayed unusual electrical activity during her spells of confusion and aimlessness and that electrical stimulation of the region produced sudden rage. After surgery in this region, her outbursts were milder and less frequent.[66]

2. *Chemical and Pharmacological Treatment of Organically Induced Violence.*

As with appetite and eating, which are triggered by changes in the levels of glucose and other substances in the bloodstream, several types of aggression have been found to be associated with variations in blood chemistry.[67]

60. *Id. But cf.* Shapiro, *The Uses of Behavior Control Technologies: A Response*, ISSUES IN CRIMINOLOGY, vol. 7, Fall 1972, at 55 (raising questions about the proposed use of telemetric devices in connection with parolees).

61. STAFF OF THE SUBCOMM. ON CONSTITUTIONAL RIGHTS OF THE COMM. ON THE JUDICIARY, 93D CONG., 2D SESS., INDIVIDUAL RIGHTS AND THE FEDERAL ROLE IN BEHAVIOR MODIFICATION 210-11, 213 (Comm. Print 1974) (statement of Dr. William H. Sweet, Chief of Mass. Gen. Hosp., and Professor of Surgery, Harv. Med. School).

62. *Id.*; *see* J. DELGADO, *supra* note 4, at 132-33, 197-99; *Radio Stimulation in Free Patients*, *supra* note 38, at 336, 337-38.

63. *Radio Stimulation in Free Patients, supra* note 38, at 336-37.

64. *See id.*

65. J. DELGADO, *supra* note 4, at 136-39.

66. MARK & ERVIN, *supra* note 4, at 97-108.

67. *See* sources cited note 21 *supra.*

Intermale aggression is associated with changes in testosterone levels;[68] irritable aggression in some females with hormonal fluctuations of the menstrual cycle.[69] Frustration and stress are known to sensitize the neural mechanisms for aggression, probably as a result of the action of hormones secreted during stress.[70] Hypoglycemia, another blood chemistry disorder, is known to increase neural sensitivity.[71] Certain neurotransmitters appear to be implicated in overresponsiveness of the aggression circuits. These neurotransmitters may be susceptible to "fine tuning" by chemical means.[72]

Such physical changes can sometimes be counteracted by chemical and pharmacological treatment. Working by direct brain action, antiaggressive drugs, such as chlordiazepam, dilantin, and chlordiazepoxide, are helpful agents in treating pathological violence because of their narrow action and because, unlike surgery, they permit functional blocking of brain areas, *i.e.*, without destroying neural tissue.[73] Such drugs could be implanted underneath the skin for time release.[74] Professor Delgado is currently perfecting a dialytrode, a device that will combine the functions of an electrode and chemical cannula, permitting the physician to send either electricity or chemicals to any part of the brain.[75]

Tranquilizers, stimulants, and other psychoactive drugs have also been used in treating violence, although none is yet available that eliminates aggression directly rather than as a side effect.[76] Administration is complex, since effects and dosage levels vary from individual to individual, and prolonged use can have highly deleterious side effects.[77] Potent psychedelic

68. *See* note 21 and accompanying text *supra*.

69. Loyd & Weiss, *Hormones and Aggression*, in BASES OF VIOLENCE, *supra* note 4, at 92, 118. *See generally* Wallach & Rubin, *The Premenstrual Syndrome and Criminal Responsibility*, 19 U.C.L.A. L. REV. 210 (1971).

70. *E.g.*, *Implications*, *supra* note 15, at 172. *See also* K.E. MOYER, *Internal Impulses to Aggression*, in HOSTILITY, *supra* note 14, at 20. Population density has been shown to affect the pituitary-adrenal axis, producing irritability. K.E. MOYER, *Kinds of Aggression and Their Physiological Bases*, in *id.* at 46.

71. *See* note 24 *supra*.

72. *E.g.*, Eichelman & Thoa, *The Aggressive Monoamines*, 6 BIOLOGICAL PSYCH. 143, 158-59 (1973); Eidelberg, *Neurophysiological Changes Induced by Psychoactive Drugs*, in BASES OF VIOLENCE, *supra* note 4, at 88-89; Reis, *Central Neurotransmitters in Aggressive Behavior*, in *id.* at 57, 59-78. Many psychoactive drugs now in existence appear to achieve their effect by modifying the action of neurotransmitters. O. RAY, DRUGS, SOCIETY & HUMAN BEHAVIOR 39 (1972).

73. *E.g.*, Monroe, *Drugs in the Management of Episodic Behavioral Disorders*, in BASES OF VIOLENCE, *supra* note 4, at 328, 338-39; E. VALENSTEIN, *supra* note 14, at 114-15.

74. M. PINES, *supra* note 3, at 203.

75. *Id.* at 44; E. VALENSTEIN, *supra* note 14, at 171.

76. *E.g.*, K.E. MOYER, *The Physiology of Aggression and the Implications for Aggression Control*, in HOSTILITY, *supra* note 14, 81, 101-05 [hereinafter cited as *Aggression Control*]; Chorover, *Big Brother and Psychotechnology*, PSYCH. TODAY, vol. 6, Oct. 1973, at 43, 52.

77. PINES, *supra* note 3, at 99-113; sources cited note 76 *supra*.

drugs, such as LSD, have been used experimentally to enhance the effectiveness of conventional therapy.[78]

Some of the more dramatic developments in understanding and treating organically based violence have come in the area of hormonal action. It is now established that the neural systems responsible for several types of aggression are activated by the hormones involved in stress, lactation, and sexuality. Both human and animal studies show that intermale aggression is highly dependent on testosterone level.[79] In experimental animals, castration immediately reduces intermale aggression. When the castrated animals are given testosterone, they resume fighting.[80] In humans, elevated levels of this hormone have been implicated in crimes of sex-related violence.[81] American combat troops in Vietnam showed abnormal levels of this hormone in their bloodstream. When they left the front lines, their hormone levels returned to normal.[82]

Several methods of regulating hormone levels have been used to control pathological male aggression. Some countries, such as Denmark, have used castration to control violent sex criminals.[83] More recent work has centered around the use of chemical agents—cyproterone acetate, norprogesterone, and chlormadinone acetate—to lower testosterone levels.[84] Other studies have attempted to control male aggressiveness by administering female hormones,[85] an approach used successfully in treating abnormal sexual

78. *E.g.*, M. PINES, *supra* note 3, at 86-97. LSD appears to work on the more primitive centers of the brain, such as the pineal gland and certain limbic structures, including the hippocampus. *Id.* at 96.

79. *See* Conner, Levine, Wertheim & Cummer, *Hormonal Determinants of Aggressive Behavior*, 159 ANNALS N.Y. ACAD. SCI. 760 (1969); note 21 and accompanying text *supra*. Recent studies suggest that delinquency in females can sometimes be traced to treatment of the mother with a virilizing hormone while the female fetus is developing. Seattle Times, June 28, 1976, § D, at 1, col. 1 (studies by Drs. John Money and Jerome Goodman). *See also* Clayton, Kogura & Kraemer, *Sexual Differentiation of the Brain: Effects of Testosterone on Brain RNA Metabolism in Newborn Female Rats*, 226 NATURE 810 (1970).

80. *Implications*, *supra* note 15, at 171.

81. *See* sources cited note 21 *supra*. Studies suggest that the irascibility induced by an excessive level of androgens can become chronic unless treated. Lunde & Hamburg, *Techniques for Assessing the Effects of Sex Hormones on Affect, Arousal, and Aggression in Humans*, 28 RECENT PROGRESS HORMONE RESEARCH 627, 659 (1972).

82. *See* Rose, *Androgen Excretion in Stress*, in THE PSYCHOLOGY AND PHYSIOLOGY OF STRESS 117, 136-39 (P. Bourne ed. 1969).

83. *See, e.g.*, Le Maire, *Danish Experience Regarding the Castration of Sexual Offenders*, 47 J. CRIM. L.C. & P.S. 294 (1956); Hawke, *Castration and Sex Crimes*, 55 AM. J. MENTAL DEFICIENCIES 220 (1950) (describing American cases and recommending the operation only for "vicious homosexuals"). *See also* sources cited note 21 *supra*.

84. *E.g.*, *Aggression Control*, *supra* note 76, at 97; Power, *Subnormality and Crime* (pt. 2), 9 MED., SCI. & L. 162, 164 (1969).

85. For a summary of some of this work, see *Aggression Control*, *supra* note 76, at 97. For additional clinical descriptions, see Chatz, *Management of Male Adolescent Sex Offenders*, 2

preoccupation.[86] In a prison program for sex offenders, Dr. John Money, a Johns Hopkins researcher, employs the drug, Depro-Provera, which inhibits the sex drive. While under the influence of the drug, the inmates receive intensive psychological counseling.[87] The program has been so successful that recently a prisoner serving a dozen life prison terms for rape and having no hope of achieving early parole fought a prolonged battle with the Maryland penal system to participate in the program.[88]

In assessing the success of drug treatment, some experimenters, in addition to noting changes in directly observable phenomena, such as hormonal level, have attempted to gauge changes in a patient's subjective responses. Borrowing from the technology of behavior conditioning,[89] the physician shows the patient a series of slides depicting sexual stimuli. As the patient watches, an apparatus monitors his blood flow for changes indicative of sexual response. According to a leading physiologist, when these sex-related fluctuations settle within a normal range, and if the absolute blood reading is also normal, the patient is "cured": he is no more likely than the average individual to commit crimes of sex-related violence.[90]

INT'L J. OFFENDER THERAPY 1 (1972); Field & Williams, *The Hormonal Treatment of Sexual Offenders*, 10 MED., SCI. & L. 27 (1970); Hamburg, *Effects of Progesterone on Behavior*, in ENDOCRINES AND THE CENTRAL NERVOUS SYSTEM 251 (R. Levine ed. 1966).

86. *See Aggression Control*, *supra* note 76, at 97-98 (describing work of G.W. Dunn). *See also* Dunn, *Stilhestrol Induced Testicular Degeneration in Hypersexual Males*, 1 J. CLINICAL ENDOCRINOLOGY 613 (1941).

87. Money, Wieddeking, Walker, Migeon, Meyer & Borgaonka, *47 XYY and 46 XY Males with Antisocial and/or Sex-Offending Behavior: Antiandrogen Therapy Plus Counseling*, 1 PSYCHONEUROENDOCRINOLOGY 1 (1975).

88. Washington Post, Nov. 31, 1975, § B, at 3, col. 1. At the time this article was being written, the inmate was under treatment, felt greatly improved, and looked forward to an improved prison status, possibly work-release. Telephone interview with John H. West III, counsel for plaintiff, in Baltimore, Md. (July 7, 1976) ("a new lease on life"); Interview with Judge Frank A. Kaufman, U.S. District Court, Fourth Cir., (July 7, 1976). *See also* Dennis v. State, 13 Md. App. 564, 284 A.2d 256 (1971) (psychiatrist offered chemical treatment to a sex offender subsequently found not to meet test of criminal insanity, apparently in the hope that treatment could be accepted in lieu of punishment).

89. *E.g.*, E. VALENSTEIN, *supra* note 14, at 175-76; STAFF OF SUBCOMM. ON CONSTITUTIONAL RIGHTS OF THE COMM. ON THE JUDICIARY, 93D CONG., 2D SESS., INDIVIDUAL RIGHTS AND THE FEDERAL ROLE IN BEHAVIOR MODIFICATION 571, 575-77 (1974); *see* SCI. NEWS, vol. 11, Sept. 14, 1974, at 168.

90. Interview with Prof. K.E. Moyer, Dep't of Psychology, Carnegie-Mellon Univ., in Tucson, Ariz. (Mar. 1975). In a subsequent letter to the author, Dr. Moyer clarified that his willingness to describe such individuals as "cured" does not mean that he regards them as *incapable* of violence; it is, rather, that such a possibility is rendered unlikely. *See also* Panel Discussion, Neurological Symposium on Neural Bases of Violence and Aggression, in Houston, Texas (Mar. 9-11, 1972), *reprinted in* NEURAL BASES OF VIOLENCE AND AGGRESSION 128, 132-33 (W. Field & W. Sweet eds. 1975) [hereinafter cited as Panel Discussion] (comments of Dr. Dietrich Blumer, Assoc. Prof. of Psychiatry, Johns Hopkins Univ. School of Med.) (view that antiandrogen treatment is highly reliable).

A second area in which hormone research has been successful in alleviating organically based aggression is that of the "premenstrual syndrome"—the name Dr. Katharina Dalton has given a number of related physical and psychological disorders associated with the hormonal fluctuations of the menstrual cycle.[91] Once virtually ignored by physicians, or minimized as simply a transient manifestation of female "weakness," the syndrome is now known to include serious endocrinological disturbances capable of producing marked psychological and neurological symptoms—tension, irritability, lethargy or mania, alcoholic intolerance, vertigo, epilepsy, and schizophrenia.[92] Reserved for serious disorders, the term does not encompass the relatively minor, periodic discomforts experienced to some degree by up to ninety percent of all women.[93]

Criminal and psychiatric implications of the syndrome include increased hospital admissions, suicide, depression, psychosis, neurosis, and crimes against persons and property.[94] A recent study of aggressive behavior in a North Carolina institution showed that an abnormally high proportion of violent acts by female prisoners took place immediately before the onset of menstruation.[95] Studies in boarding schools showed that during such times female students were more frequent violators of school rules, and female aids, more severe disciplinarians.[96] Often, mothers charged with child neglect or abuse are found to have committed the offense during their own such premenstrual period.[97]

Once diagnosed, the disorder can generally be treated successfully.[98] In mild cases, symptomatic treatment with tranquilizers, diuretics, and analgesics may suffice.[99] In more severe cases, hormone therapy can regulate the fluctuations of hormone production responsible for the behavioral and

91. K. DALTON, *supra* note 21. *See also* Dalton, *Menstruation and Crime*, 1961 BRIT. MED. J. 1752; Dalton, *Menstruation and Acute Psychiatric Illness*, 1959 BRIT. MED. J. 148; Dalton, *The Influence of Menstruation on Health and Disease*, 57 PROC. ROYAL SOC'Y MED. 262 (1964).

92. K. DALTON, *supra* note 21, at 10-14; Dalton, *Menstruation and Acute Psychiatric Illness*, 1959 BRIT. MED. J. 148, 148-49.

93. *See Aggression Control, supra* note 76, at 81, 99.

94. K. DALTON, *supra* note 21 at 80; Dalton, *Menstruation and Crime*, 1961 BRIT. MED. J. 1752; Ellis & Austin, *Menstruation and Aggressive Behavior in a Correctional Center for Women*, 62 J. CRIM. L.C. & P.S. 388 (1971); *see Aggression Control, supra* note 76, at 99.

95. Ellis & Austin, *Menstruation and Aggressive Behavior in a Correctional Center for Women*, 62 J. CRIM. L.C. & P.S. 388 (1971).

96. Dalton, *Schoolgirls' Behavior and Menstruation*, 1960 BRIT. MED. J. 1647.

97. K. DALTON, *supra* note 21, at 95.

98. *Id.* at 46-57; Rees, *The Premenstrual Tension Syndrome and its Treatment*, 1953 BRIT. MED. J. 1014.

99. K. DALTON, *supra* note 21, at 47-48; Greenhill, *The Treatment of Premenstrual Tension by Electrolytes*, 166 INT'L REC. MED. & GENERAL PRAC. CLINICS 502 (1953).

mood disturbances.[100] Where hypoglycemia is implicated, regulation of the diet may bring relief.[101]

3. *Psychosurgery*

According to the biomedical model, violent behavior may be rooted in a variety of factors, including chemical or hormonal imbalance, dietary deficiency, brain pathology, and environmental stress.[102] For purposes of treatment, a corollary is that a tendency to react violently may generally be dispelled by eliminating one or more of a subset of predisposing conditions.[103]

One type of predisposing factor, however, is considered by some researchers to constitute an exception to this rule of cumulative causation. Certain disorders of the neural tissues themselves may result in such intense spontaneous activity in the circuits responsible for aggression that attempts to treat the problem by reducing other possible contributing factors[104] are

100. *E.g.*, K. DALTON, *supra* note 21, at 50 (1964); *Aggression Control, supra* note 76, at 99; Janowsky, Gorney & Kelley, "*The Curse*"—*Vicissitudes and Variations of the Female Fertility Cycle*, 7 PSYCHOSOMATICS 242, 245-46 (1966).

101. *See* note 24 and accompanying text *supra*. In cases that do not respond to physical treatment, psychotherapy can help the patient understand her condition and develop inner controls. *E.g.* Rees, *The Premenstrual Tension Syndrome and Its Treatment*, 1953 BRIT. MED. J. 1014, 1015. In severe cases, in which confinement is necessary to avoid harm to others, confinement can be limited to the period of time when the symptoms tend to appear. *See* Wallach & Rubin, *The Premenstrual Syndrome & Criminal Responsibility*, 19 U.C.L.A. L. REV. 209, 297-303 (1971).

102. *See* notes 15-35 and accompanying text *supra*.

103. *See generally Implications, supra* note 15, at 168-70, 182-89.

104. *E.g.*, MARK & ERVIN, *supra* note 4, 69, 125-31, 146-48; *see* Gobert, *Psychosurgery, Conditioning, and the Prisoner's Right to Refuse "Rehabilitation,"* 61 VA. L. REV. 155, 161 (1975). Brain scientists do not assert that nonphysiological forces are irrelevant. On the contrary, they believe violence is generally instigated by environmental stimuli, *i.e.*, it is "stimulus bound." *E.g. Aggressive Behavior, supra* note 14, at 52, 56; *Implications, supra* note 15, at 183. Violence is often mediated by learning as well. *E.g., id.*, at 174-80. Still, all behavior is mediated by the brain, including violent behavior, and it cannot be assumed that everyone has a perfectly healthy brain. *E.g.*, MARK & ERVIN, *supra* note 4, at 5-6, 140-44. Several types of brain abnormality tend to make individuals abnormally sensitive to environmental stimuli. *E.g.*, K.E. MOYER, *Brain Research Must Contribute to World Peace*, in HOSTILITY, *supra* note 14, at 1, 3-6; *see* J. DELGADO, *supra* note 4, at 121-23. These persons do not attack blindly, without provocation; rather they take a harmless gesture or remark as threatening or offensive. MARK & ERVIN, *supra* note 4, at 6-7; *see Implications, supra* note 15, at 171-72, 183-84. In cases of extreme impairment, the spontaneous activity of the circuits can be so intense as to override even well-established patterns of learned behavior. *Aggressive Behavior, supra* note 14, at 52, 72-75. Individuals so affected cannot control their hostile outbursts by self-discipline any more than an individual suffering from grand mal epilepsy can control his seizures. K.E.MOYER, *Internal Impulses to Aggression*, in HOSTILITY, *supra* note 14, at 11, 21-22. Although such individuals may behave normally between attacks, their behavior during periods of dyscontrol causes friends and relatives to fear for their lives. Behavioral symptoms may include extreme outbursts of violent rage, larceny, arson, violence without motivation, aggressive sex acts, mutilation of animals, threats to stab or mutilate other persons, and inability to take criticism. *Id.* at 21-22.

futile.[105] Some researchers, including many prominent students of human violence, believe that there are substantial numbers of such persons whose disordered neural pathways make them a hazard to themselves and others.[106] These individuals can sometimes be helped by placing small, accurately located lesions, designed to interrupt the malfunctioning circuits, in selected portions of the brain.[107]

105. *E.g.*, MARK & ERVIN, *supra* note 4, at 69, 125-32, 146-48; Mark, Sweet & Ervin, *Deep Temporal Lobe Stimulation and Destructive Lesions in Episodically Violent Temporal Lobe Epileptics*, in BASES OF VIOLENCE, *supra* note 4, at 379. *See also* Mark, Sweet & Ervin, *The Effect of Amygdalotomy on Violent Behavior in Patients with Temporal Lobe Epilepsy*, in PSYCHOSURGERY, *supra* note 23, at 139 (cases of hidden or known temporal lobe epilepsy described as one of the "most resistant" to nonsurgical treatment).

106. *See* note 125 and sources cited therein *infra*. These individuals do not include bank robbers, muggers, or revolutionaries—persons who commit crime for other motives, such as stealing for drugs or to bring down the present social order. In general, the focus is on the "hot" criminals, not those committing crimes because of learned or environmental factors, or because they believe their crimes to be means to accomplishing some valued end. The problem individuals with whom these investigators are concerned are those demonstrating repeated episodes of inability to control anger, hostility, and violence, and showing poor impulse control resulting in senseless harm to others. *E. g.*, MARK & ERVIN, *supra* note 4, at 4-5, 146-47; M. PINES, *supra* note 3, at 192; Hitchcock, Ashcroft, Cairns & Murray, *Preoperative and Postoperative Assessment and Management of Psychosurgical Patients*, in PSYCHOSURGERY, *supra* note 23, at 164, 164-65 (commenting on the poor impulse control of certain epileptic patients). Others take a more moderate view, but still believe the need to pursue organic solutions is great, particularly since aggression is a function of stress and population pressure, factors that modern life is rapidly making endemic. *E.g.*, *Affiliation and Hostility*, *supra* note 17, at 109, 126. Several have observed that neglecting organic factors in favor of sociological or psychoanalytical solutions can easily lead to personal tragedies. For example, one researcher describes a physician who caused a patient's death by failing to consider the possibility of brain pathology as a possible cause of a patient's unpleasant behavior. STAFF OF SUBCOMM. ON CONSTITUTIONAL RIGHTS OF THE COMM. ON THE JUDICIARY, 93D CONG., 2D SESS., INDIVIDUAL RIGHTS AND THE FEDERAL ROLE IN BEHAVIOR MODIFICATION 212 (Comm. Print 1974) (statement by Dr. William H. Sweet, Chief of Mass. Gen. Hosp., and Prof. of Surgery, Harv. Med. School). Dr. Mark cites another study in which 18 mental patients were shown to have been suffering from undiagnosed limbic disease at the time of their deaths. Mark, *A Psychosurgeon's Case for Psychosurgery*, PSYCH. TODAY, vol. 4, Apr. 1974, at 29, 84. Mark and Ervin cite another group of 150 persons who had presented themselves at their clinic in hopes of receiving treatment. Many of these people had committed repeated acts of violence against friends and family members. About half had either attempted suicide, or had later succeeded, as a result of their despair over their own condition. Most had gone to doctors for aid many times, but had been rejected as "incurable psychopaths." MARK & ERVIN, *supra* note 4, at 5. Thus, as José Delgado points out, excessive concentration on psychological or sociological explanations can have antihumanitarian results if it causes us to ignore one level of human functioning. J. DELGADO, *supra* note 4, at 254-58. A thorough pursuit of organic factors, among others, can enhance human freedom and self-determination. *Id. See also* Detre, Kupfer & Taub, *The Nosology of Violence*, in BASES OF VIOLENCE, *supra* note 4, at 294; Ervin, *Psychiatric Studies of Aggressive Behavior in Penitentiary Inmates*, in *id.*, 318, 326-27.

107. For a sober critique of the science of psychosurgery, see E. VALENSTEIN, *supra* note 14. After several hundred pages devoted to a thorough canvassing of the clinical literature, Professor Valenstein cautiously concludes:

> In general there seems to be strong suggestive evidence (if not absolutely convincing) that some patients may have been significantly helped by psychosurgery. . . . Overall, the evidence does not support the position taken by those extremists who, while

Lobotomy and lobectomy—surgical removal or severing of tissues in the prefrontal lobes—are rarely performed today. Instead, neurosurgeons employ a more limited procedure known as "fractional surgery." Through small holes drilled into the patient's skull, the surgeon inserts a dye permitting location of the target structures with X-ray photography. The photographs are then used to calibrate the stereotaxic instrument.[108] Transferred to the patient's head, the instrument and micromanipulators[109] are positioned and electrodes inserted through openings in the skull. If the patient's response to electric current passed through the electrodes indicates that the electrodes are positioned correctly, a stronger current is sent through the wire to produce small lesions or coagulations.[110]

Using this technique, surgeons have studied the control of various forms of disordered behavior by placing lesions in certain areas of the brain.[111] One

refusing to examine the record, charge that psychosurgery was generally used by sadistic, self-seeking, or indifferent doctors. This is not to deny that there existed much that could be criticized . . . .

Id. at 315. *See also id.* at 318-31 (critique of fractional surgery).

108. MARK & ERVIN, *supra* note 4, at 77.

109. J. DELGADO, *supra* note 4, at 82.

110. MARK & ERVIN, *supra* note 4, at 77.

111. Although the brain tends to respond as a whole to environmental stimuli, over the course of evolution particular portions of the brain have taken on specialized functions. Gorney, *The New Biology and the Future of Man*, 15 U.C.L.A. L. REV. 273, 331 (1968); Mark, *Psychosurgery Versus Anti-Psychiatry*, 54 B.U.L. REV. 217, 218 (1974). It is this partial specialization that results in the deficits that are observed following stroke or brain injury. It is this same specialization that permits identification of neural structures making neurosurgery possible. Brain scientists have been able to identify areas of the brain that are responsible for speech, hearing, movements of the limbs, and many other forms of behavior and affect. *E.g.*, *Aggression Control*, *supra* note 76, at 107-08; *see* M. PINES, *supra* note 3, at 36-54. Among these areas is one, located deep within the lower, more primitive portion of the brain, called the limbic brain. *E.g.*, MARK & ERVIN, *supra* note 4, at 14-16. Since violence is an aspect of self-preservation, the structures that regulate it are found in the deeper, evolutionarily more primitive areas. In man, the limbic system regulates functions of the brain stem, including fight-or-flight behavior. It is believed that in earlier times, aggression served the purpose of seeing to dispersal of the species, improving distribution of food, while various affiliative mechanisms saw to mating and rallying of the group for mutual protection. *E.g.*, *Affiliation and Hostility*, *supra* note 17, at 109, 111. Encompassing a variety of structures, including the amygdala, the hippocampus, cingulate gyrus, septal nuclei, and hypothalamus, the limbic system functions as an intermediary between the higher portions of the brain, which govern reason, thought, language, and sensation, and the lower portions, which are responsible for "gut" behavior.

Currently, much attention centers on the amygdala, an almond-shaped structure located behind the temple. *See, e.g.*, Ervin, Mark & Stevens, *Behavioral and Affective Responses to Brain Stimulation in Man*, in NEUROBIOLOGICAL ASPECTS OF PSYCHOPATHOLOGY 54 (J. Zubin & C. Shagass eds. 1969); Ervin, Sweet & Mark, *Amygdala Function in Man: The Problem of Violent Behavior*, 12 ACTIVITIS NERVOSA SUPERIOR 185 (1970); Heimberger, Whitlock & Kalsbeck, *Stereotaxic Amygdalotomy for Epilepsy with Aggressive Behavior*, 198 J.A.M.A. 165 (1966); Narabayashi, Nagao, Saito, Yoshida & Nagahata, *Stereotaxic Amygdalotomy for Behavior Disorders*, 9 ARCHIVES NEUROLOGY 1 (1963). *See generally*, THE NEURO-BIOLOGY OF THE AMYGDALA (B. Eleftherious ed. 1972). Surface EEG recordings show that electrical activity in this region increases when an experimental subject perceives a danger or threat. Stimulating this

surgeon has performed amygdala operations on ninety-eight mentally retarded persons who suffered from uncontrollable violence.[112] Following the operation, he reported that his patients were calmer, less aggressive, and had longer attention spans.[113] Relatively few deficits or side effects were noted; the patients' IQ scores had generally improved,[114] presumably because of an increased ability to concentrate. A group in India has reported success with amygdala operations on offenders, including arsonists.[115] Surgical teams in

region causes cats to bristle, spit, and display other signs of rage. MARK & ERVIN, *supra* note 4, at 30. Stimulation of a neighboring region produces predatory behavior, such as slinking, pouncing on moving objects, and stalking. *Id.* at 31. Removal of the amygdala and other portions of the temporal lobes converts wild monkeys, which ordinarily cannot be handled safely without gloves, into tame creatures that played and cuddled with the experimenters. *Id.* at 28. Similar findings indicate the amygdala is involved in organizing at least three different types of aggression in humans. *Aggression Control, supra* note 76, at 86.

Other areas are also implicated in aggression of various types. Irritable aggression appears on stimulation of the ventromedial hypothalamus. *E.g.*, K.E. MOYER, *Kinds of Aggression and their Physiological Bases*, in HOSTILITY, *supra* note 14, at 40. Stimulation of this area sometimes causes test animals to attack the experimenter or another animal. *Id.* at 40. Irritable aggression is often observed in humans with tumors in the hypothalamic region. *Id.* Another nearby structure, the cingulum, is also implicated in irritable aggression. *Id.* at 41.

The limbic system, in part because of its location, is highly susceptible to damage through trauma, oxygen deprivation, and viral infection. MARK & ERVIN, *supra* note 4, at 56-59. The epidemic of viral encephalitis that followed World War I left in its wake hundreds of limbic-injured children who displayed uncontrollable violent behavior. Rabies is another virus that attacks the limbic system, causing episodic violence. *Id.* at 58.

Brain scientists agree that the limbic system is the principal mediator of violent behavior and that limbic-impaired individuals have reduced ability to cope with stress. Their impulse control is poor, and a wide range of stimuli will elicit a disproportionately explosive response. Often, such persons will not be deterred from behaving violently by the threat of future punishment. Mark and Ervin have coined the term "dyscontrol syndrome" to describe such persons. *See generally id.* at 125-32. Mark and Ervin estimate that more than 10 million Americans have obvious brain damage; another 5 million have more subtle forms of impairment. *Id.* at 5. These groups, Mark and Ervin believe, account for a large proportion of all acts of unexplained, senseless violence. *See* K.E. MOYER, *Brain Research Must Contribute to World Peace*, in HOSTILITY, *supra* note 14, at 1 ("There are wild men as there are wild cats, men who have so much spontaneous firing of the aggressive circuits that they are a constant danger to all around them and to themselves. . . ."). *See also* note 104 and accompanying text *supra*. For an attempt at classifying subtypes of the "hyperresponsive syndrome," see Andy & Jurko, *Hyperresponsive Syndrome*, in PSYCHOSURGERY, *supra* note 23, at 117.

112. M. PINES, *supra* note 3, at 197.

113. Narabayashi, *Stereotaxic Amygdalotomy*, in THE NEUROBIOLOGY OF THE AMYGDALA 459, 472-73 (B. Eleftherious ed. 1972).

114. E. VALENSTEIN, *supra* note 14, at 221-22. *But see* Anderson, *Differences in the Course of Learning as Measured by Various Memory Tasks After Amygdalotomy in Many*, in PSYCHOSURGERY, *supra* note 23, at 177. Although the overall IQ of patients may not drop following amygdala operations, there may be qualitative differences in the way in which they approach intellectual problems. These differences may be ominous: "[the patient] will make the most of this gain in well-structured situations of a somewhat monotonous and simple character." *Id.* at 182.

115. Balasubramanian, Kanaka & Ramamurthi, *Surgical Treatment of Hyperkinetic and Behavior Disorders*, 54 INT'L SURGERY 18 (1970); Balasubramanian & Ramamurthi, *Stereotaxic Amygdalotomy in Behavior Disorders*, 32 CONFINA NEUROLOGICA 367 (1970).

Japan, Mexico, France, and Denmark have also employed amygdala operations to reduce violent behavior associated with neural disorders.[116]

Although in the United States the requirement that there be a demonstrable brain anomaly is generally more stringent, several surgical teams perform amygdala operations for violent behavior.[117] One team at Indiana University has performed twenty-five such operations on patients whose abnormal violence is associated with epileptic-like seizures. They report elimination of violent symptoms in seven patients and marked improvement in most of the others. Some of the patients, who had been committed to a state institution, were released after their operations.[118] Mark and Ervin, a team at Harvard Medical School, also perform amygdalectomies on patients with violent epileptoid behavior.[119] After earlier criticism, these surgeons now operate only on patients with demonstrable epilepsy and only when other methods, including treatment with anticonvulsant drugs, have failed. Before surgery, each case is screened by an independent review committee.[120]

Despite controls such as those instituted by Mark and Ervin, amygdalectomy remains a controversial procedure.[121] Although the operation is usually free from the drawbacks of older forms of psychosurgery, its side effects can be significant.[122] Amygdalectomies frequently reduce creativity and spontaneity.[123] Some patients deteriorate markedly; one patient committed a

116. MARK & ERVIN, *supra* note 4, at 86; M. PINES, *supra* note 3, at 197.

117. Although this type of procedure is most often used to treat intractable violence associated with epilepsy, the operation is occasionally used to control impulsive or aggressive behavior associated with other forms of mental illness. *See, e.g.*, Panel Discussion, *supra* note 90, at 39, 40 (bilateral localized lesions in lateral amygdala reported useful in cases of schizophrenic aggressivity and homicidal sociopathy). Nevertheless, it seems the trend is to limit the operation to cases involving epilepsy. *E.g.*, Mark, Sweet & Ervin, *Deep Temporal Lobe Stimulation and Destructive Lesions in Episodically Violent Temporal Lobe Epileptics*, in BASES OF VIOLENCE, *supra* note 4, at 379. For a study of the relationship of epilepsy, especially temporal lobe epilepsy, to violence, see Geschwind, *The Clinical Setting of Aggression in Temporal Lobe Epilepsy*, in *id.* at 273.

118. MARK & ERVIN, *supra* note 4, at 85-86.

119. Mark, Ervin & Sweet, *Deep Temporal Lobe Stimulation in Man*, in THE NEUROBIOLOGY OF THE AMYGDALA 485 (B. Eleftherious ed. 1972).

120. *Id.*; *see* Panel Discussion, *supra* note 90, at 196, 196-98 (comments of Dr. Frank Ervin).

121. A single, proposed amygdala operation on a Michigan mental inmate, for example, resulted in heated public discussion and an injunction against amygdala operations on such individuals within the state. Kaimowitz v. Department of Mental Health, Civil No. 73-19434-AW Wayne County, Mich., Cir. Ct., July 10, 1973). The case generated a small avalanche of writing in legal literature, including a symposium in a law review. *Symposium: Psychosurgery*, 54 B.U.L. REV. 215 (1974). Unless extended by later holdings, *Kaimowitz* would not appear to apply to other, safer psychosurgical procedures, *e.g.*, cingulectomy, described in notes 128-31 and accompanying text *infra*.

122. The absence of controlled studies of such effects is particularly notable. *See* E. VALENSTEIN, *supra* note 14, at 294-336.

123. *E.g.*, *id.* at 231; Gloor, *Electrophysiological Studies of the Amygdala (Stimulation and Recording): Their Possible Contribution to the Understanding of Neural Mechanisms of Aggression*, in BASES OF VIOLENCE, *supra* note 4, at 1, 33-34.

criminally violent act for the first time in his life.[124] Friends and family report subtle but pervasive personality changes. Some spouses liken the experience to having a stranger return in place of their husband or wife.[125]

In search of a less radical procedure, some researchers have sought ways to limit the extent of tissue destruction during surgery. Heimberger performs partial amygdalectomy, destroying only a minute portion of the amygdala using cryosurgery.[126] Another American, Schwab, employs incremental destruction over time in an attempt to reduce the amount of unnecessary destruction; over a period of weeks, target areas are stimulated—to determine the precise area of abnormality—and selectively destroyed, permitting fewer and smaller lesions and reduced side effects.[127]

Other surgeons bypass the amygdala, operating instead on other structures, such as the hypothalamus[128] or the cingula.[129] Early reports suggest that while operations on the cingula are as effective as those on the amygdala, they do not produce some of the side effects associated with amygdalectomies.[130] Lesions in other areas, including the hippocampus, the anterior thalamic nuclei, the dorsomedial thalamus, and the lateral hypothalamus, have also been shown to produce some reduction in hostility.[131]

Because these procedures are irreversible, intrusive, and dangerous, they have been severely criticized, and many respected neurosurgeons refuse

124. See description of post-operation behavior of "Thomas R" in Chorover, *The Pacification of the Brain*, PSYCH. TODAY, vol. 6, May 1974, at 55, 60-65. *But see* Panel Discussion, *supra* note 90, at 39, 40 (comments of Dr. M. Hunter Brown) (arguing that amygdala operations on severely disturbed patients are justified in light of the magnitude of the problem).

125. E. VALENSTEIN, *supra* note 14, at 310-11.

126. *Aggression Control, supra* note 76, at 92.

127. *Id.*

128. Sano, Sekino & Mayanagi, *Results of Stimulation and Destruction of the Posterior Hypothalamus in Cases with Violent, Aggressive, or Restless Behaviors*, in PSYCHOSURGERY, *supra* note 23, at 57, *discussed in* E. VALENSTEIN, *supra* note 14, at 233-38. Sano has used hypothalamus surgery on a number of intractably violent patients, many of them epileptics, and reports good results. The patients showed some initial loss of spontaneity, but they substantially recovered the loss within weeks. Sano, *supra* at 66; *Aggression Control, supra* note 76, at 81, 90-91.

129. *E.g.*, Broager & Olesen, *Psychosurgery in Sixty-Three Cases of Open Cingulectomy and Fourteen Cases of Bifrontal Prehypothalamic Cryolesion*, in PSYCHOSURGERY, *supra* note 23, at 253; Mingrino & Schergna, *Stereotaxic Anterior Cingulotomy in the Treatment of Severe Behavior Disorders*, in *id.* at 258; *see* E. VALENSTEIN, *supra* note 14, at 318-21; Ballantine, Cassidy, Flanagan & Morino, *Sterotaxic Anterior Cingulotomy for Neuropsychiatric Illness and Intractable Pain*, 26 J. NEUROSURGERY 488 (1967); Sano, *Cingulectomy in the Treatment of Agitated Mental Defectives*, 6 BRAIN & NERVE 146 (1954); Comment, Kaimowitz v. Department of Mental Health: *A Right To Be Free From Experimental Psychosurgery?*, 54 B.U.L. REV. 301, 324, 336-39 (1974).

130. *E.g.*, Broager & Olesen, *Psychosurgery in Sixty-Three Cases of Open Cingulectomy and Fourteen Cases of Bifrontal Prehypothalamic Cryolesion*, in PSYCHOSURGERY, *supra* note 23, at 253; *see* E. VALENSTEIN, *supra* note 14, at 318-20.

131. *Aggression Control, supra* note 76, at 81, 86-87.

to perform them unless there is demonstrable brain pathology. Recent legislation sharply curtails the use of psychosurgery on captive populations and imposes strict standards of judicial scrutiny.[132] Nevertheless, it seems likely that such operations will continue as measures of last resort, when more conventional forms of treatment have failed and the alternative is a lifetime of confinement.

II. RELEASE DECISIONS AND THE ORGANICALLY REHABILITATED OFFENDER

The foregoing review demonstrates that criminally violent behavior is being treated successfully both within and without prison walls.[133] Since courts and

132. *See* note 7 *supra*. Because of the possibility of coercion in the prison environment, the prisoner's consent to organic treatment should be subjected to careful scrutiny to ensure that he understands the attendant risks and has not been unduly influenced by prison authorities or by offers of preferential treatment. *E.g.*, Gobert, *Psychosurgery, Conditioning, and the Prisoner's Right To Refuse "Rehabilitation,"* 61 VA. L. REV. 155, 195 (1975); *Legislating Control, supra* note 1, at 316-20; Wexler, *Reflections on the Legal Regulation of Behavior Modification in Institutional Settings*, 17 ARIZ. L. REV. 132 (1975). Shapiro suggests that proposed organic treatment in prisons be permitted only after judicial approval ensuring that competent consent has been given. In addition, courts should weigh each requested procedure in terms of several variables, including effectiveness, relative intrusiveness, probability of side effects, and existence of less onerous alternative treatments. *See Justifications, supra* note 14, at 738-43. In the case of the Maryland inmate, discussed in note 88 *supra*, Judge Kaufman held such a hearing, concluding that the prisoner's consent had been freely given, that the procedure was medically sound, and that treatment should proceed. Naturally, recognizing a right of access to medical treatment does not guarantee that the state must supply treatment in every case, particularly if the treatment requires the allocation of scarce or expensive medical resorces. *See* Note, *Due Process in the Allocation of Scarce Lifesaving Medical Resources*, 84 YALE L.J. 1734 (1975). Most of the treatments described in this Article do not fall into this category.

In holding hearings on prisoners' requests for organic treatment, courts should proceed aware of the implications of the two types of error that are possible. *Justifications, supra* note 14, at 725-33 (1975) (discussing these two types of error (Type I and Type II) and the need to over-protect against the error of unconsented-to-treatment, even at the expense of occasionally denying an inmate in a borderline case treatment he needs and desires). Ethicists have also joined the debate about behavior control in prisons. *E.g., Symposium: Behavior Control in Prisons*, HASTINGS CENTER REPORT, vol. 5, Feb. 1975, at 16 (offering varying views on the goals and objectives of prison treatment, the problems of consent, and the proper role of psychiatric expertise in the correctional process).

133. The "success" of a treatment, like its pretreatment correlate, "reliability," is, of course, a relative term. Where offending behavior is traceable to a physical anomaly that can be treated by one of the modalities described above, at a minimum it can be said that the probability of a reduction of symptoms is higher than when conventional methods, such as psychotherapy, are used alone. *See* note 3 *supra*. Some of the treatments can effect dramatic cures ("success"), while others can bring about cures, but not with any degree of predictability ("reliability"). *Compare, e.g.*, text accompanying notes 91-101 *supra* (premenstrual syndrome—high success/high reliability), *with* text accompanying notes 92-132 *supra* (psychosurgery—occasional success/low reliability). Still others occupy an intermediate position—close monitoring permits fairly accurate posttreatment assessment of success. *See, e.g.*, text accompanying notes 85-90 *supra* (antiandrogen treatment for sex-related violent offenses). Finally, each treatment varies in its degree of risk and in the type and severity of its possible side effects. *Compare, e.g.*, text

legislatures have protected the right of institutionalized individuals to receive rehabilitative treatment, the issue of the legal system's appropriate response to the prisoner who has undergone therapy, believes it to have been successful in alleviating his violent propensity, and seeks discharge on this basis, must soon arise.

Since there is currently no direct authority regarding a right to release for organically rehabilitated prisoners, it may be expected that courts will look to related areas for analogies and general principles. Two such sources have particular pertinence. First, there is the growing body of decisional law dealing with the substantive rights of prisoners.[134] Second, there are the writings of jurists and legal philosophers on the goals and purposes of punishment.[135] These sources are interrelated; courts faced with claims for relief by prisoners alleging violations of particular liberties have frequently examined such claims in light of the classic aims of the criminal justice system.[136] Although most of the decisions have concerned violations of particular liberties, such as religious freedom, a few opinions have examined the condition of incarceration itself.[137]

A. RELEASE DECISIONS: ANALOGIES TO OTHER SUBSTANTIVE RIGHTS OF PRISONERS

Since abandoning the attitude of extreme judicial deference that characterized prison law holdings prior to 1950, courts have reviewed with varying standards of strictness actions by penal authorities that had the effect of curtailing certain basic freedoms of inmates.[138] Earlier, such review had been

accompanying notes 121-25 *supra* (psychosurgery), *with* text accompanying notes 76-77 *supra* (drug treatment). The probability of success and the certifiability of the cure become legally relevant at two stages of the analysis—during judicial review of consent and the decision to proceed with treatment, *see* note 7 *supra*, and during the release proceeding, *see* notes 297, 318 and accompanying text *infra*.

It seems probable that the future will see a rapid expansion in our knowledge of the organic correlates of human behavior and the ability to modify them. M. PINES, *supra* note 3, at 210-11; K.E. MOYER, *Brain Research Must Contribute to World Peace*, in HOSTILITY, *supra* note 14, at 5-11 (likening our present knowledge to that of atomic scientists during the early 1940's).

134. *See* R. SINGER & W. STATSKY, RIGHTS OF THE IMPRISONED 581-773 (1974) [hereinafter cited as SINGER & STATSKY]; text accompanying notes 153-212 *infra*.

135. *See, e.g.*, H. PACKER, THE LIMITS OF THE CRIMINAL SANCTION 35-70 (1968). *See also* CONTEMPORARY PUNISHMENT (R. Gerber & P. McAnany eds. 1972) [hereinafter cited as CONTEMPORARY PUNISHMENT]; text accompanying notes 228-303 *infra*.

136. *See, e.g.* Nolan v. Fitzpatrick, 451 F.2d 545, 550-51 (1st Cir. 1971); Brown v. Peyton, 437 F.2d 1228, 1231 (4th Cir. 1971); Carothers v. Follette, 314 F. Supp. 1014, 1024 (S.D.N.Y. 1970).

137. *See, e.g.*, O'Connor v. Donaldson, 422 U.S. 563, 573-76 (1975); Workman v. Commonwealth, 429 S.W. 2d 374, 377-78 (Ky. 1968); State v. Ward, 57 N.J. 75, 82, 270 A.2d 1, 5 (1970).

138. Preiser v. Rodriguez, 411 U.S. 475, 498-99 (1973) (tracing the rise of judicial activism). *See generally Right to Rehabilitation*, *supra* note 7, at 233-36; Note, *Beyond the Ken of the Courts: A Critique of Judicial Refusal To Review the Complaints of Convicts*, 72 YALE L.J. 506 (1963).

generally denied, either on the ground that courts lack expertise in matters of prison administration,[139] or on the ground that such administration is an executive function, not a judicial one.[140]

More recently, however, courts have begun to exercise a limited, but vigorous review of prison policy when such policy has encroached on constitutional freedoms of inmates.[141] While acknowledging the necessary curtailment of rights and privileges brought about by incarceration, the courts have recognized that a prisoner retains "all the rights of an ordinary citizen except those expressly, or by necessary implication, taken by law."[142] This review has proceeded under a number of theories, including due process,[143] equal protection,[144] and the prohibition of cruel and unusual punishment.[145] It has also involved varying standards of stringency, ranging from extreme rational-basis deference to strict scrutiny.[146] Additional tests are also em-

139. Procunier v. Martinez, 416 U.S. 396, 404-05 (1973); SINGER & STATSKY, *supra* note 134, at 581.

140. SINGER & STATSKY, *supra* note 134, at 581.

141. The movement toward more stringent review has been encouraged by policy statements of a number of national bodies. One prominent study group, for example, urged that appellate review of sentences may be necessary to fulfill courts' obligations as arbiters of constitutional disputes. NATIONAL ADVISORY COMM'N ON CRIMINAL JUSTICE STANDARDS AND GOALS, CORRECTIONS, Standard 5.11, Commentary at 175-76 (1973) [hereinafter cited as STANDARDS & GOALS]. *See also* ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, SENTENCING ALTERNATIVES AND PROCEDURES § 6.1 (Approved Draft 1968); SINGER & STATSKY, *supra* note 134, at 455-95 (discussing rise of the movement toward review).

142. Coffin v. Reichard, 143 F.2d 443, 445 (6th Cir. 1944), *cert. denied*, 325 U.S. 887 (1945).

143. McNeil v. Director, Patuxent Inst., 407 U.S. 245 (1972); Jackson v. Indiana, 406 U.S. 715, 738 (1972) ("[D]ue process requires that the nature and duration of commitment bear some reasonable relation to the purpose for which the individual is committed."). *See generally* Singer, *Bringing the Constitution to Prison: Substantive Due Process and the Eighth Amendment*, 39 U. CINN. L. REV. 650 (1970).

144. *E.g.*, Morales v. Schmidt, 340 F. Supp. 544, 549-50 (W.D. Wis. 1972), *remanded*, 494 F.2d 85 (7th Cir. 1974); Gilmore v. Lynch, 319 F. Supp. 105, 109-11 (N.D. Cal. 1970); *see* Dwyer & Botein, *The Right to Rehabilitation for Prisoners—Judicial Reform of the Correctional Process*, 20 N.Y.L.F. 273, 281-89 (1974).

145. *E.g.*, Fowler v. North Carolina, 96 S. Ct. 3212 (1976) (mem.); Furman v. Georgia, 408 U.S. 238 (1972) (Brennan, J., concurring); Trop v. Dulles, 356 U.S. 86 (1958); Weems v. United States, 217 U.S. 349 (1910); *see* Note, *Aversion Therapy: Punishment As Treatment and Treatment As Cruel and Unusual Punishment*, 49 S. CAL. L. REV. 880, 925-46 (1976). Often eighth amendment issues, especially those concerning excessiveness of punishment, are interwoven with due process and equal protection analyses, making it difficult to determine the precise ground relied on in the opinion. *See* H. KERPER & J. KERPER, LEGAL RIGHTS OF THE CONVICTED 293-97 (1974).

146. *E.g.*, Procunier v. Martinez, 416 U.S. 396, 407-14 (1974) (discussing standard of review in first amendment cases); Gilmore v. Lynch, 319 F. Supp. 105, 108-59 (N.D. Cal. 1970) (access to legal materials); cases cited notes 183-84 (relaxed standard of review in hair length cases), 185-89 (high standard of review in race discrimination cases) *infra*; *see* Morales v. Schmidt, 340 F. Supp. 544, 550 (E.D. Wis. 1972) (equal protection case) (requiring a compelling state interest), *remanded*, 494 F.2d 85 (7th Cir. 1974) (finding an adequate, legitimate state interest); SINGER & STATSKY, *supra* note 132, at 601-02.

ployed, depending upon the nature of the substantive right and the procedure by which the claim is lodged.[147] Regardless of the test used, however, one condition seems to be invariant: limitations placed on fundamental liberties of prisoners must be justified by their tendency to promote one or more of the essential purposes of punishment, or must be essential to an important institutional objective, such as discipline or security.[148] This rational-relationship requirement serves a critical threshold function: a failure to survive its scrutiny renders an application of a more specialized, and possibly more controversial, analysis unnecessary.[149] The universality of the test,[150] as well as its close relationship with the principal constitutional bases for review,[151] suggests that it will be applied by courts confronting challenges to continued confinement by prisoners who have undergone organic modification.[152]

1. *First Amendment Challenges: Freedom of Expression*

Carothers v. Follette,[153] a federal district court case, illustrates the close relationship between means and ends that courts have required in first amendment cases. Authorities at Green Haven State Prison in New York had deprived an inmate of 60 days of "good time" because of a letter he had written to his parents criticizing prison officials. The court held that this action could be justified only if it were reasonably and necessarily related to

147. *See, e.g.*, Procunier v. Martinez, 416 U.S. 396, 413-16 (1974) (least restrictive alternative test); Wilkinson v. Skinner, 462 F.2d 670, 672-75 (2d Cir. 1972) (clear and present danger test).

148. *See* Pell v. Procunier, 417 U.S. 817, 822 (1974); text accompanying notes 151-228 *infra*. *See also* H. PACKER, *supra* note 135, at 267-69. For a discussion of the traditional rationales for criminal punishment, *see* notes 228-303 and accompanying text *infra*.

149. Selection of the appropriate standard of review has not been an easy task for most courts. *See, e.g.*, Procunier v. Martinez, 416 U.S. 396, 406-14 (1974); Morales v. Schmidt, 340 F. Supp. 544, 550 (E.D. Wis. 1972), *remanded*, 494 F.2d 85 (7th Cir. 1974).

150. *See* notes 151-224 and accompanying text *infra*.

151. One test, for example, employed in first and eighth amendment analyses asks whether a given punishment or restriction exceeds the level of severity necessary to accomplish penological aims. *See* notes 153-76 and accompanying text *infra*. Equal protection and due process analyses turn upon a showing of a rational (or necessary) relationship to a legitimate (or compelling) state purpose of confinement. *See, e.g.*, Procunier v. Martinez, 416 U.S. 396, 419-21 (1973) (due process); Morales v. Schmidt, 340 F. Supp. 544, 549-50 (E.D. Wis. 1972), *remanded*, 494 F.2d 85 (7th Cir. 1974) (equal protection).

152. It could be argued that since the freedom to move about is one of the rights lost when a defendant receives a prison sentence, analogies to cases involving other liberties are inexact. A number of considerations undermine the force of this argument, however. First, liberty is a fundamental interest protected by the eighth and fourteenth amendments, both of which contain ends-means tests of their own. *See* notes 151 *supra*, 217 *infra*. Second, the universality of the rational-relationship test in prison law opinions, as well as its analytical simplicity, make it a likely candidate for extension to other contexts. Finally, a "new man" is arguably able to assert that his rights to move about have never been adjudicated since he is not the person who was convicted of the crime. *See* notes 240-44, 280-85 and accompanying text *infra*.

153. 314 F. Supp. 1014 (S.D.N.Y. 1970).

the advancement of a legitimate purpose of imprisonment, such as rehabilitation or prison discipline.[154] The court rejected the argument that correspondence with outsiders could interfere with an inmate's preparation for civilian life; indeed, it felt the opposite was true.[155] Nor did the letters pose a sufficient threat to prison safety to warrant disciplinary action. Although the court conceded that the state could adopt regulations designed to prevent sending escape plans or messages relating to illegal activities,[156] the prison had not established that its interception of mail was narrowly designed to prevent such activity, or that the inmate's letter violated any of fourteen enumerated regulations the prison had established to control correspondence with outsiders.[157] Since the letter posed no threat to security or to other legitimate objectives of confinement, the court held the prison's disciplinary action unconstitutional.[158]

In *Procunier v. Martinez*,[159] another case involving mail censorship, the United States Supreme Court employed a similar analysis. Since the rights of free persons were implicated,[160] the Court invoked a strict standard of review. After examining each possible legitimate state interest, it concluded that the censorship employed did not promote these objectives by least onerous means and held the regulation unconstitutional.[161]

The relationship of prison rules to penal objectives was also closely analyzed in *Nolan v. Fitzpatrick*,[162] in which an inmate challenged a rule of the Massachusetts Correctional Institution at Walpole. that prohibited all correspondence with the public press. Writing for the First Circuit, Judge Coffin discussed each possible state interest at stake—security, deterrence, retribution, protection of the public, and rehabilitation.[163] The rehabilitation argument was found unconvincing since letterwriting is psychologically rehabilitative and assists the inmate in learning to channel his criticism in socially acceptable ways.[164] The interest in prison security could not justify the complete ban on letters to the news media since a partial ban on incoming

154. *Id.* at 1024.
155. *Id.* at 1025.
156. *Id.* at 1024.
157. *Id.*
158. *Id.* at 1030.
159. 416 U.S. 396 (1974).
160. *Id.* at 408-10. "Whatever the status of a prisoner's claim to uncensored correspondence with an outsider, it is plain that the latter's interest is grounded in the First Amendment's guarantee of freedom of speech." *Id.* at 408.
161. *Id.* at 416.
162. 451 F.2d 545 (1st Cir. 1971).
163. *Id.* at 548-51.
164. *Id.* at 551.

mail would insure that inflammatory letters to the editor were not circulated within the prison community.[165]

The relationship of the ban to retribution and deterrence, however, was considered more complex.[166] Not only would any rule restricting the activities of prisoners further deterrence, the court observed,[165] but it would at the same time advance to some degree retribution—the notion that those convicted of crime should suffer.[168] The issue was not whether these interests were minimally furthered by the rule, but whether the use of a ban on all letters to the press was *essential* to these purposes.[169] By having held that prisoners retain certain rights, courts have implied that certain deprivations are inessential to the furtherance of either deterrence or retribution.[170] Since the state had not demonstrated that the mail rule was essential to these purposes, the rule violated the first amendment.[171]

2. *Other Liberties*

Courts have also employed an interest, or rational-basis, analysis in adjudicating violations of other freedoms.

a. *Religious freedom*: In *Brown v. Peyton*,[172] the Fourth Circuit considered a claim by Black Muslim prisoners that they were denied access to religious literature and refused permission to conduct prayer meetings. The

165. *Id.* at 548-50.

166. *Id.* at 550.

167. *Id.*

168. *Id.*

169. *Id.* at 551. *But see* Johnson v. Rockefeller, 365 F. Supp. 377 (S.D.N.Y. 1973) (upholding New York ban on the marriage of prisoners while in prison). Plaintiffs in *Johnson* had argued that prohibiting marriage frustrates the penological goal of rehabilitation. The court agreed that this might be so, "[b]ut it is not for us, whatever our personal views, to choose among the various possible penological goals or to pass upon the wisdom of penal legislation aimed at deterrence or even retribution." *Id.* at 380. Evidently, the court felt that so long as a restriction serves any conceivable penological interest, the restriction is justified.

170. 451 F.2d at 547.

171. *Id.* First amendment protection possibly could be extended to release decisions. Certainly, some of the interests involved are the same, principally the right to speak and participate in society. If courts adopt this suggestion, the substance of first amendment cases, as well as the reasoning by which they reach their result would be applicable to release claims by new men. *Cf. Legislating Control, supra* note 1, at 255-61 (first amendment protects the right to produce and express ideas); *Right to Rehabilitation, supra* note 7, at 237, 239-41 (1971) (raising the possibility that courts might find a right to rehabilitation based on the first amendment). Since the connection between personal liberty and the freedom of expression is a close one, it seems intuitively plausible that continued incarceration should be made to comport with the same standards as those applied in the censorship of mail, and that continued incarceration must further one or more of the substantial governmental interests analyzed more fully below. No court appears to have adopted this approach in a challenge to incarceration, however, and the principal avenues for launching such challenges remain those discussed at notes 190-226 *infra*.

172. 437 F.2d 1228 (4th Cir. 1971).

court held that they were entitled to a hearing to determine whether legitimate state interests justified such a ban and, if so, whether the ban represented the least onerous method of accomplishing the state's objective.[173] The court directed that the prisoners' claim must be weighed against the goals of protection of the public, rehabilitation, retribution, internal discipline, and reduction of administrative cost.[174] Other courts which have reviewed claims of Black Muslims have arrived at differing results, particularly during times of racial unrest.[175] Still, their approach has invariably been the same—an examination of the necessity of the regulation in light of the prison's legitimate objectives. Cases involving more conventional religions receive similar treatment, although the interest analysis tends to be more cursory, and the outcome more stereotyped.[176]

b. *Access to the courts*: In complaints by prisoners that prison officials had denied them access to the courts, the interest analysis often focuses on whether the limitation can be justified by administrative necessity or the requirements of prison discipline. In *Johnson v. Avery*,[177] for example, a regulation at Tennessee State Penitentiary denied prisoners the assistance of jailhouse lawyers in preparing writs. In arriving at its holding that the regulation was unjustifiable,[178] the United States Supreme Court weighed the state's interest in administrative efficiency against the value of the writ in our scheme of justice.[179] Another Supreme Court opinion, *Procunier v. Martinez*,[180] involved a challenge to a prison rule that denied law students and paralegal workers access to prisoners. The Court required that the rule be shown necessary to the attainment of legitimate penal goals and that it be the least onerous method of achieving such goals.[181] Since the state failed to make such a showing, the lower court's decision invalidating the regulation was upheld.[182]

c. *Hair length regulations*: In challenges to hair length rules, courts have typically sided with the prison administration, finding the regulations appropriate because they tend to promote personal cleanliness, an aspect of the

173. *Id.* at 1232.

174. *Id.* at 1231-32.

175. *E.g.*, Jones v. Willingham, 248 F. Supp. 791 (D. Kan. 1965); Desmond v. Blackwell, 235 F. Supp. 246 (M.D. Pa. 1964)—(both upholding restrictions on Black Muslim gatherings).

176. *E.g.*, Cruz v. Beto, 405 U.S. 319 (1972) (upholding practice of Buddhism in Texas prison); *see* Cooper v. Pate, 378 U.S. 546 (1964); Howard v. Smyth, 365 F.2d 428 (4th Cir.), *cert. denied*, 385 U.S. 988 (1966).

177. 393 U.S. 483 (1969).

178. *Id.* at 490.

179. *Id.* at 485-90.

180. 416 U.S. 396 (1974).

181. *Id.* at 420.

182. *Id.* at 421.

prison's rehabilitative and custodial functions.[183] At least one court has applied an intermediate level rational-basis test reminiscent of the earlier "hands off" policy since the court felt that hair length regulations did not implicate fundamental values.[184]

d. *Race discrimination*: By contrast, courts entertaining challenges to race discrimination have rarely upheld the discriminatory practice, even though it might arguably have furthered state interests in prison security and discipline. *McClelland v. Sigler*[185] involved a challenge to racially segregated housing in two units of the Nebraska Penal and Correctional Complex. The court conceded it was "not unimpressed" with the argument that these arrangements were needed to prevent interracial strife.[186] Nevertheless, the segregation was held to violate the fourteenth amendment since the state's interest in alleviating racial tensions was not great enough to override the petitioners' interest in enjoying nondiscriminatory treatment.[187] Segregation in Georgia prisons had received similar scrutiny,[188] although the opinion in that case had suggested that the state's interest in security might justify temporary segregation of inmates during outbursts of racial strife.[189]

Like the first amendment cases already considered, these opinions give additional support to the suggestion that courts will apply an interest, or rational-relationship analysis to challenges by the "new man" that his continued confinement is unjustifiable.

B. Direct Attacks on Incarceration: Appellate Review

In addition to demonstrating increased activism in connection with unnecessarily restrictive prison rules, courts have subjected certain aspects of confinement itself to appellate review.

183. *E.g.*, Rinehart v. Brewer, 360 F. Supp. 105 (S.D. Iowa 1973); *cf.* Bishop v. Colaw, 450 F.2d 1069 (8th Cir. 1971). *Bishop* involved a substantially equivalent high school rule held not justifiable by reference to safety and sanitation requirements since these objectives were capable of being achieved by less restrictive rules such as requiring caps. The district court in *Rinehart* refused to follow the *Bishop* court's lead, urging that the prison's needs for control over inmates are higher than those of high school administrators over students. Rinehart v. Brewer, 360 F. Supp. at 112.

184. Rinehart v. Brewer, 360 F. Supp. 105, 112 (S.D. Iowa 1973).

185. 327 F. Supp. 829 (D. Neb. 1971).

186. *Id.* at 833.

187. *Id.* at 834. In arriving at its holding, the court cited with approval an earlier Supreme Court decision which had reviewed a district court's desegregation order directing an end to racial segregation in Alabama prisons. *Id.* at 832, *citing* Lee v. Washington, 390 U.S. 333 (1968). The Supreme Court summarily upheld the decision below, finding the state's claim that insufficient allowance had been made for its interest in prison security without merit. 327 F. Supp. at 334.

188. Wilson v. Kelley, 294 F. Supp. 1005 (N.D. Ga. 1968).

189. *Id.* at 1009 n.5.

Traditionally, appellate courts were reluctant to declare sentences excessive because sentence length was considered a matter falling within the province of the legislature and the sentencing judge.[190] Recently, however, courts have begun to overturn sentence determinations in cases involving egregious error or manifest unfairness.

1. *Special Defendants*

In *State v. Ward*,[191] the New Jersey Supreme Court suspended the 2- to 3-year sentence of an 18-year-old youth convicted for possessing marijuana—his first such offense—on the ground that the sentence was too harsh and thus an abuse of the trial judge's discretion. Although the trial judge had imposed the sentence pursuant to a statute permitting sentences of 2 to 15 years, the court found the sentence to be against the public interest, since the youth, if required to serve time, would likely emerge more dangerous to society and to himself than if required to make amends outside of prison.[193]

In *Workman v. Commonwealth*,[194] two 14-year-old boys had been convicted of raping an elderly woman, and sentenced to life imprisonment without possibility of parole. The Kentucky Court of Appeals held the parole restriction unconstitutional as applied to juveniles, since juveniles are not incorrigible; they retain the capacity to grow and mature.[195] The court concluded that the parole restriction could not have been in accord with legislative intent, for the statute was obviously aimed at dangerous incorrigibles, not malleable youths.[196]

In *Watson v. United States*,[197] an adult narcotics addict had received a mandatory 10-year sentence for selling drugs. The Court of Appeals for the District of Columbia held that while such a sentence might be justified in some cases, its imposition in cases of confirmed addicts abused discretion since addicts are not fully responsible for their actions.[198]

These cases illustrate three rationales under which organically reconstructed prisoners could challenge confinement. Like the confinement of the juvenile in *Ward*, continued incarceration of a new man serves little societal

190. *See* United States v. Rosenberg, 195 F.2d 583, 603-11 (2d Cir. 1952); Stanford v. State, 110 So. 2d 1 (Fla. 1959); STANDARDS & GOALS, *supra* note 141, at 142-43.

191. 57 N.J. 75, 270 A.2d 1 (1970).

192. *Id.* at 81, 270 A.2d at 4.

193. *Id.* at 82, 270 A.2d at 5. *See also* State v. Brennan, 115 N.J. Super. 400, 405-08, 279 A.2d 900, 902-04 (1971).

194. 429 S.W. 2d 374 (Ky. 1968).

195. *Id.* at 378.

196. *Id.*

197. 37 U.S.L.W. 2352 (D.C. Cir. Dec. 13, 1968).

198. *Id.*

purpose[199] and risks exposing the inmate to harmful influences.[200] Like the petitioner in *Workman*, the organically rehabilitated individual, by his rehabilitation, has demonstrated his own malleability and potential for growth.[201] Arguably, his continued confinement is also inconsistent with legislative intent, since sentencing statutes cannot reasonably be aimed at persons who are neither in need of reformation nor dangerous to society.[202] Finally, as in *Watson*, reviewing courts might well be reluctant to impose lengthy sentences on individuals whose offenses, while not rising to the level of legal insanity, are expressions of organic pathology.[203]

2. *Therapeutic Incarceration*

Closely related to the principle of the *Watson* case is the tendency, in both statutory and case law, to provide for review of the status of persons whose original confinement was based on the need for treatment and who may have since recovered.[204] Civil and criminal commitment statutes,[205] as well as sexual psychopath statutes,[206] frequently provide for periodic review and examination. Where such provisions are absent, courts have often imposed a duty on the institution to utilize the least onerous form of treatment, including release when appropriate.[207]

The requirement of least onerous treatment was recently reinforced by the Supreme Court in *O'Connor v. Donaldson*.[208] Donaldson, an inmate in a

199. *See* text accompanying notes 228-303 *infra*.

200. For an account of the shocking conditions that prevail in prisons today, *see, e.g.*, Holt v. Sarver, 309 F. Supp. 362 (E.D. Ark. 1970), *aff'd*, 442 F.2d 304 (8th Cir. 1971); SINGER & STATSKY, *supra* note 134, at 511-80, 751-74.

201. At least one commentator has expressed reservations at calling organically reformed individuals "rehabilitated." *See Legislating Control*, *supra* note 1, at 296-307.

202. Protection of these interests has been urged by courts and commentators as among the most central objectives of our system of criminal justice. *See, e.g.*, notes 162-71 and accompanying text *supra*, 228-303 and accompanying text *infra*.

203. *See generally* H. PACKER, *supra* note 135, at 50-51, 130-35.

204. For a lucid discussion of the movement toward therapeutic justice, see generally SINGER & STATSKY, *supra* note 134, at 13-268. For a discussion of indeterminate sentences and their use for therapeutic and rehabilitative rather than punitive purposes, see Dershowitz, *Indeterminate Confinement: Letting the Therapy Fit the Harm*, 123 U. PA. L. REV. 297 (1974).

205. Many jurisdictions provide for periodic examinations of involuntarily hospitalized persons. *See, e.g.*, D.C. CODE ENCYCL. ANN. § 21-546 (1967); KY. REV. STAT. ANN. § 202.239 (1972); N.M. STAT. ANN. § 34-2-10 (1954). *See also* NATIONAL INST. OF MENTAL HEALTH, A DRAFT ACT GOVERNING HOSPITALIZATION OF THE MENTALLY ILL § 15 (1952).

206. *E.g.*, CAL. WELF. & INST. CODE § 6327 (West Supp. 1976); MASS. GEN. LAWS ANN. ch. 123A, § 9 (1969); N.J. STAT. ANN. § 2A:164-8 (1971).

207. *E.g.*, Covington v. Harris, 419 F.2d 617, 623-25 (D.C. Cir. 1969); Lake v. Cameron, 364 F.2d 657 (D.C. Cir. 1966). *See generally* STANDARDS & GOALS, *supra* note 147, Standard 5.2; Singer, *Sending Men to Prison: Constitutional Aspects of the Burden of Proof and the Doctrine of the Least Drastic Alternative as Applied to Sentencing Determinations*, 58 CORNELL L. REV. 51 (1972).

208. 422 U.S. 563 (1975).

mental institution for 15 years, had been committed upon allegations by his father that he suffered delusions. At trial the jury found that Donaldson was not dangerous to himself or to others, and that friends were willing to care for him outside the institution.[209] Holding that a person not dangerous to himself or to others could not be constitutionally confined unless he received rehabilitative treatment, the court had awarded Donaldson damages from his incarcerators. The Supreme Court upheld the order, stating that "given the jury's findings, [no rationale] was left . . . for keeping Donaldson in confinement."[210] Since Donaldson was dangerous neither to himself nor to others and had the prospect of shelter and care in the home of friends, the original grounds for commitment were now dissipated: "even if his involuntary confinement was initially permissible, it could not constitutionally continue after that basis no longer existed."[211]

The movement to require the least onerous alternative in therapeutic confinement, state statutes requiring periodic review of the status of prisoners, and *Donaldson* all suggest that when confinement is imposed to effect therapeutic ends, the attainment of these ends should result in release.[212]

3. *Cruel and Unusual Punishment*

A more traditional basis for appellate attack on sentences—although one that has been used sparingly—is the eighth amendment's prohibition of cruel and unusual punishment. In recent years, the amendment has been the basis of successful challenges to indeterminate sentences,[213] the death penalty,[214] and crimes of status.[215] Entire state prison systems have been held to violate the eighth amendment because of substandard living conditions and inadequate rehabilitative opportunities.[216]

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209. *Id.* at 568-69.

210. *Id.* at 574.

211. *Id.* at 575.

212. The criminal analog of therapeutic confinement provisions, indeterminate sentence statutes, now exist in a majority of United States jurisdictions. Their purpose is to permit release "at the earliest time within the limits fixed which [the inmate's] personal situation indicates." R. CLARK, CRIME IN AMERICA 222 (1970). *But see* J. MITFORD, KIND AND USUAL PUNISHMENT 81 (1973). Where such a statute is in effect, a parole board's refusal to permit the discharge of an organically rehabilitated prisoner could be challenged as an abuse of discretion. *Cf.* cases cited notes 191-97 *supra* (unnecessarily long sentences, even though within statutory limits, held abuse of trial courts' discretion).

213. People v. Wingo, 14 Cal. 3d 169, 534 P.2d 1001, 121 Cal. Rptr. 97 (1975); *In re* Lynch, 8 Cal. 3d 410, 503 P.2d 921, 105 Cal. Rptr. 217 (1972); *cf.* Jackson v. Indiana, 406 U.S. 715 (1972) (discussing petitioner's eighth amendment claim but deciding on grounds of equal protection and due process). *Contra*, Carnley v. Cochran, 118 So. 2d 629 (Fla. 1960).

214. Furman v. Georgia, 408 U.S. 238, 257 (1972) (Brennan, J., concurring).

215. Robinson v. California, 370 U.S. 660, 676 (1962); *see* Powell v. Texas, 392 U.S. 514 (1968).

216. Holt v. Sarver, 309 F. Supp. 362 (E.D. Ark. 1970), *aff'd*, 442 F.2d 304 (8th Cir. 1971); Commonwealth *ex rel.* Bryant v. Hendrick, 444 Pa. 83, 280 A.2d 110 (1971). Where the living

Eighth amendment analysis includes three distinct tests: (1) an excessiveness test, prohibiting punishment not promoting penal goals;[217] (2) a proportionality test, prohibiting punishment beyond proportion to the crime;[218] and (3) an inherently-cruel-and-unusual test, prohibiting punishment shockingly cruel.[219] Courts have held that both proportionality and shocking cruelty must be interpreted in light of evolving standards of what constitutes permissible punishment.[220] In challenging the legality of continued confinement, new men may utilize variations of these tests. For defendants who are young and malleable, or whose prospects for improvement are otherwise good, long prison terms have been held inappropriate, since long terms would exceed the degree of punishment necessary to achieve reform.[221] As is discussed more fully in the next Section,[222] the new man might similarly argue that his own capacity for reform had been proven, and that further punishment would consequently be consititutionally unjustifiable.

The excessiveness test examines the relationship between punishment and penological goals. Though extended review of the objectives of the criminal justice system and the extent to which classic rationales for punishment remain viable after organic transformation must be deferred until the next Section,[223] the earlier discussion of prison law cases[224] should suggest that curtailing the freedom of organically rehabilitated prisoners can pose conceptual problems for traditional bases of punishment. If, as is suggested later, organic treatment can at times undercut all possible bases of punishment, then such punishment may well be vulnerable to eighth amendment attack.

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conditions have been egregious, courts have even threatened to order the prisoners released as a remedy. Curley v. Gonzalez, Civ. No. 8372 (D.N.M. July 29, 1970) (jail complied with overcrowding order by releasing all but 60 prisoners).

217. Furman v. Georgia, 408 U.S. 238, 257 (1972) (Brennan, J., concurring); Workman v. Commonwealth, 429 S.W.2d 374, 377 (Ky. 1968), Jordan v. Fitzharris, 257 F. Supp. 674, 679 (N.D. Cal. 1966).

218. Weems v. United States, 217 U.S. 349, 367, 370 (1910); *In re* Lynch, 8 Cal. 3d 410, 503 P.2d 921, 105 Cal. Rptr. 217 (1973); *see* Wright v. McMann, 460 F.2d 126, 132 (2d Cir. 1972); Landman v. Royster, 333 F. Supp. 621, 646 (E.D. Va. 1971); Carothers v. Follette, 314 F. Supp. 1014 (S.D.N.Y. 1970).

219. Trop v. Dulles, 356 U.S. 86, 100-01 (1958). *See generally* Note, *Aversion Therapy: Punishment As Treatment and Treatment As Cruel and Unusual Punishment*, 49 S. CAL. L. REV. 880, 925-46 (1976).

220. *E.g.*, Weems v. United States, 217 U.S. 349, 374, 378 (1910); Trop v. Dulles, 356 U.S. 86, 101 (1958); Furman v. Georgia, 408 U.S. 238, 242 (1972).

221. *E.g.*, Jones v. State, 510 P.2d 1070, 1071 (Alas. 1973); Workman v. Commonwealth, 429 S.W.2d 374, 377 (Ky. 1968); State v. Keck, 187 Neb. 794, 795-96, 194 N.W.2d 186, 187 (1972); State v. Brennan, 115 N.J. Super. 400, 406-08, 279 A.2d 900, 904 (1971).

222. Notes 265-69 and accompanying text *infra*.

223. Notes 235-303 and accompanying text *infra*.

224. Notes 148-89 and accompanying text *supra*.

A fourth, more speculative grounds for judicial scrutiny is the eighth amendment's prohibition of punishment based on status. Two Supreme Court and a handful of other decisions[225] establish that individuals may not be punished solely because of their status—there must also be a criminal act. Where technologically induced change has been so extensive as to suggest a transformed identity,[226] the new man might well argue that he is being punished for an act that is not his, and that his incarceration is thus based solely on his status of being presently incarcerated.[227]

III. RELEASE DECISIONS AND THE JUSTIFICATIONS FOR CRIMINAL PUNISHMENT

As the above review suggests, means-end scrutiny figures prominently in each of the tests courts are likely to use in reviewing release requests of organically rehabilitated offenders. Where it can be shown that incarceration advances recognized objectives of punishment, such incarceration will likely be left undisturbed. But where it cannot be so demonstrated, incarceration should prove vulnerable to constitutional attack.[228]

The goals of punishment have been categorized in various ways, including utilitarian,[229] behavioral,[230] retributive,[231] and treatment-

225. Robinson v. California, 370 U.S. 660 (1962); Powell v. Texas, 392 U.S. 514 (1968); *e.g.*, Robison v. Miner & Haug, 68 Mich. 549, 37 N.W. 21 (1888).

226. *Cf.* text accompanying notes 240-44, 280-85 *infra* (continuity of identity depends on purpose for which identity is required).

227. Problems of legal identity created by organic treatment are discussed again in Section III in connection with the deterrent and retributive rationales of punishment.

228. The emphasis in Sections II and III on the constitutionality of punishment is not intended to minimize the significance of the countless informal, nonjudicial contacts defendants have with the criminal justice system. Police officers, prosecutors, probation officers, and parole board members can affect a defendant's ultimate disposition, sometimes as much or more than judges and juries. These individuals, like sentencing judges, also operate under some assumptions concerning the purposes criminal punishment is supposed to serve. *E.g.*, Morris, *Foreword* to CONTEMPORARY PUNISHMENT, *supra* note 135, at vii. Whether articulated or not, these beliefs—which may range from the most "enlightened" of rehabilitation theory to unadorned retributivism—inevitably color innumerable day-to-day decisions about who should be arrested, brought to trial, and committed to a nonpenal treatment program. *Id.*; *see* Dawson, *The Decision To Grant or Deny Parole: A Study of Parole Criteria in Law and Practice*, 1966 WASH. U.L.Q. 243; Goldstein, *Police Discretion: The Ideal Versus the Real*, 23 PUB. ADM. REV. 140 (1963); LaFave, *The Police and Nonenforcement of the Law* (pt. 1), 1962 WIS. L. REV. 104; Note, *Prosecutor's Discretion*, 103 U. PA. L. REV. 1057 (1955). *See generally* Kadish, *Legal Norm and Discretion in the Police and Sentencing Processes*, 75 HARV. L. REV. 904 (1962). Any adjustment in the conceptual structure we use to determine the appropriateness of punishment required by the advent of organic treatment will thus have an impact at many levels of functioning of our system of criminal justice.

229. *E.g.*, S. BENN & R. PETERS, SOCIAL PRINCIPLES AND THE DEMOCRATIC STATE 18, 173-85 (1959); H. PACKER, *supra* note 135, at 11.

230. *E.g.*, H. PACKER, *supra* note 135, at 11-16.

231. *See generally* Hawkins, *Punishment and Moral Responsibility*, 7 MOD. L. REV. 205 (1944). *See also* H. PACKER, *supra* note 135, at 9-13.

punishment models.[232] The goals themselves may well vary from case to case, and from one type of offense to another.[233] Nonetheless, the interests underlying the classificatory schemes appear as variants of the four classic principles—deterrence, retribution, rehabilitation, and protection of the public.[234] The following discussion reviews each of these traditional rationales in light of organic treatment. Throughout, an attempt is made to distinguish two polar cases: that of the individual whose criminogenic organic substrate has been narrowly excised and that of the individual whose treatment has produced broad-based personality changes along with removal of the offending behavioral trait or propensity.

A. THE DETERRENCE INTEREST AND THE NEW MAN

Deterrence has long been considered a fundamental justification for the criminal sanction.[235] Criminal laws are passed to denounce actions that we find intolerable. This denunciation is made credible when those who break the law are punished. The fear instilled in potential lawbreakers by the knowledge that the guilty suffer for their misdeeds is believed to deter them from committing similar offenses. Society is thereby protected from further harm. This deterrent effect is meant to operate on two categories of individuals, those who have committed crimes, and members of society at large. The former effect is sometimes termed "specific deterrence";[236] the latter, "general deterrence."[237]

In cases of organic rehabilitation, the continued applicability of both specific and general deterrence is in doubt. Specific deterrence seems particularly eroded. Since this type of deterrence rests on a prediction that confinement will reduce the offender's propensity to repeat a criminal act, once that propensity has been removed, the reason for continued punishment

232. *E.g.*, H.L.A. HART, PUNISHMENT AND RESPONSIBILITY 2-13 (1968); H. PACKER, *supra* note 135, at 9-13.

233. Morris, *Foreword* to CONTEMPORARY PUNISHMENT, *supra* note 135, at vii.

234. *E.g.*, United States v. Brown, 381 U.S. 437, 458 (1965).

235. *E.g.*, Sauer v. United States, 241 F.2d 640, 648 (9th Cir. 1957). *See generally* Andenaes, *The General Preventive Effects of Punishment*, 114 U. PA. L. REV. 949 (1966).

236. Specific deterrence consists of after-the-fact inhibition of the person punished. General deterrence, by contrast, is inhibition in advance by the threat of punishment. Specific deterrence rests on the assumption that the individual will avoid future conduct which is likely to subject him to imprisonment again. *See* L. ORLAND, JUSTICE, PUNISHMENT, TREATMENT 186 (1973).

237. General deterrence was first discussed, in modern times at least, by Bentham. J. BENTHAM, *Principles of Penal Law*, pt. II, bk. 1, ch. 6, in WORKS 399 (J. Bowling ed. 1962). The concept has received continual criticism. *E.g.*, Sellin, *Death and Imprisonment as Deterrents to Murder*, in THE DEATH PENALTY IN AMERICA 274 (H. Bedau ed. 1964). The doctrine, however, has been revitalized by Andenaes. *See* Andenaes, *General Prevention—Illusion or Reality?*, 43 J. CRIM. L.C. & P.S. 176 (1952).

ceases.[238] The relationship between organic rehabilitation and general deterrence, however, is more complex. The early release of once-violent offenders could be seen as rewarding them for their behavior. The public will to resist the temptation to commit like offenses could thereby be weakened.

A number of considerations militate against this conclusion, however. First, the therapy itself, even if self-imposed, might be seen as a form of punishment most persons would choose to avoid.[239] This would appear to be especially true in the case of the more radical therapies, like psychosurgery, that can produce wide-ranging changes in character and personality. The transformation of identity that can accompany such treatments would be seen by many as a kind of death in which individual X_1 ceases to exist and individual X_2 is created in his place.[240] This attitude might be as effective as the threat of punishment in deterring potential lawbreakers.

A second consideration derives from a modification of the deterrence theory. Many critics have pointed out that the deterrence rationale would, in principle, justify punishing an innocent man if potential offenders could be thereby deterred. To avoid this result, modern proponents of deterrence have added the requirement that the individual punished must be chosen from among the guilty.[241] Where personality modification has been severe this condition may be unfulfilled, since the posttreatment individual's identity differs from that of the individual who committed the crime.[242] In other areas

238. Other reasons might, of course, remain intact. See discussion of other justifications for criminal punishment discussed at notes 262-313 and accompanying text *infra*. *See generally* Shepherd, *Prison Rehabilitation: A Proposal for a Legally Enforceable Treatment Contract*, 1 J. CONTEMP. L. 201 (1975).

239. *Compare* Gobert, *Psychosurgery, Conditioning, and the Prisoner's Right To Refuse "Rehabilitation,"* 61 VA. L. REV. 155, 157-58 (1975), *with Legislating Control, supra* note 1, at 292 n.188 (suggesting that a frequent base of horror is the theft of the self, the fear that one's identity is in danger of being stolen).

240. *E.g., Legislating Control, supra* note 1, at 337 n. 338; cases cited notes 88 *supra*, 244 *infra*.

241. *E.g.*, H. PACKER, *supra* note 135, at 62-70. There may be other limits to what may be done in the name of deterrence. In Lee v. Washington, 390 U.S. 333, 334 (1968), the Supreme Court held race segregation in prison unconstitutional unless demonstrably necessary for prison security. The Court might have sought to justify the practice by reference to the principle of deterrence. That it did not do so suggests that the more highly protected personal interests cannot be violated in the interest of deterring others from criminality. If prisons may not justify racial discrimination in order to promote deterrence, it seems reasonable to suppose that prisons may not confine an organically rehabilitated prisoner in order to accomplish the same end; both practices seem equally offensive to basic notions of human dignity and worth.

242. *Compare* note 1 *supra* (William Brindle's appeal), *with* notes 122-25 and accompanying text *supra* (radical personality alterations following organic treatment). *See also* J. DELGADO, *supra* note 4, at 214 (discussing identity alteration); Editorial, *On the Legal Control of Psychosurgery*, 157 J. NERVOUS & MENTAL DISORDERS 151, 151-52 (1973) (characterizing extensive brain operations as tantamount to identity change, since the brain is the organ most closely identified with the human "self"); Brown, Wienckowski & Bivens, *Psychosurgery: Perspective on a Current Issue* 2 (NIMH 1973) (describing the effect of some psychosurgical

the law has recognized changes in legal status resulting from changes that occur naturally.[243] Thus, it is hardly unreasonable also to recognize the changes that take place suddenly as the result of deliberate technological intervention.[244] Accordingly, when the changes in the rehabilitated offender are great, it may well appear that further punishment for the sake of deterrence is inappropriate because it violates the principle that innocent persons should not be punished merely to discourage others.

Where the treatment has only affected a single neurological or behavioral trait,[245] the case for deterrence is somewhat stronger. The claimant retains the basic personality structure he had before treatment. He acts and speaks as he did before and has the same set of memories. He has merely lost his propensity to commit certain violent crimes. Arguably, such an individual retains enough of his previous identity to justify punishing him in order to deter others.[246]

Although general deterrence may remain intact conceptually, some practical difficulties undermine its vitality, even in cases of inmates who have

operations as changing destructive, hyperactive individuals "into placid 'housekeeper[s]' by psychosurgery"). For a discussion of the psychological and philosophical foundations of the concept of personal identity, and some of the implications of identity changes, see Comment, *The Limits of State Intervention: Personal Identity and Ultra-Risky Actions*, 85 YALE L.J. 826 (1976). In reality, an abstract, metaphysical inquiry into the nature of human essence and identity is probably unnecessary to resolve the question at issue in release decisions. Such decisions only require that a determination be made whether a given individual X_2 is sufficiently unlike individual X_1 (pretreatment) to warrant treating him differently. With general deterrence this amounts to a determination of whether X_1 and X_2 are sufficiently alike that punishing X_2 for the crimes of X_1 will deter potential offenders. Presumably, this is a fact question capable of empirical determination.

243. *See e.g.*, Roe v. Wade, 410 U.S. 113, 164-66 (1973) (fetuses attaining viability); Workman v. Commonwealth, 429 S.W.2d 374, 377-78 (Ky. 1968) (juveniles attaining age of majority). *See also In re* Gault, 387 U.S. 1 (1967); State v. Hadley, 65 Utah 109, 234 P. 940 (1925) (aged person declining into senile dementia).

244. *Compare* State v. Murphy, 156 Wash. 2d 761, 355 P.2d 323 (1960), *with* People v. Bicknell, No. 102329 (San Jose, Cal., Mun. Ct., June 21, 1976). In *Murphy* the defendant obtained a new trial on the grounds that he had testified while under the influence of powerful psychoactive drugs administered by prison officials immediately before his trial. He convinced the court that the drug had so altered his appearance and demeanor that the jury had been exposed to someone other than his true self. In *Bicknell* a criminal defendant was acquitted following testimony, given under hypnosis, showing that he suffered from a split personality. Using the "testimony" of two alter egos against a third, evil alter ego, it was shown that the crime had been committed by evil "Johnnie," who had since been purged by psychiatric treatment. The trial was evidently the first in Anglo-American history in which a plea of split identity resulted in an acquittal.

245. For a discussion of the narrowness of the effects of various treatment modalities, see text accompanying notes 67-101 (chemical treatment), 107-16 (fractional psychosurgery) *supra*.

246. This of course supposes that other theories of punishment are ignored. At this point in the analysis, it is still possible that an individual whose punishment makes no sense in terms of deterrence might justifiably be punished in order to serve some other value, *e.g.*, retribution.

undergone narrow modification. One difficulty lies in calculating sentence length. While the concept of deterrence tells us that certain individuals should be punished, it says little about the severity of such punishment.[247] To resolve this theoretical difficulty, most advocates of deterrence turn to the principle of utility: since punishment is an evil, it should continue no longer than necessary to produce the needed level of deterrence.[248] In the case of narrowly modified individuals, the duration of punishment so measured may approach zero. If the public knows that the offender has undergone treatment and no longer poses a danger to society, punishment may lose its exemplary effect. Indeed, punishment could have negative utilitarian value if it discouraged persons in need of treatment from seeking it. Why undergo organic personality change if so doing could have no possible effect on one's sentence?[249]

Consideration of the types of offenses for which organic therapy is likely to be sought yields a further reason for doubting the deterrent value of punishing rehabilitated offenders. Andenaes has observed that the deterrent effect of punishment depends, in large part, on the type of offense.[250] In criminal acts that are *mala in se*, the law supports an existing moral revulsion; even if the legal sanction were withdrawn, public opinion would continue to condemn them.[251] In contrast, acts that are *mala prohibita* are condemned only because they are illegal.[252] Thus, if it became possible to "cure" tax evasion by a simple, painless operation, society might decide not to release organically rehabilitated tax offenders to avoid weakening an already tenuous norm. On the other hand, society might decide to release a fully rehabilitated sex offender; he poses less of a risk to the vitality of the norm against sex offenses since there already exists a strong community attitude disapproving such behavior. In general, the more rational and normally motivated the conduct, the greater the need for the criminal sanction.[253] Since acts of senseless violence by individuals suffering from organic pathology are not acts normal persons are likely to desire to emulate, shortening the sentence of

247. Evidence of this can be gained from observing that, as an empirical matter, the relationship between sentence length and deterrence is complex. Long sentences do not always deter better than short ones. *See* Andenaes, *The General Preventive Effects of Punishment*, 114 U. PA. L. REV. 949, 964-70 (1966).

248. *See, e.g.*, Battle v. Norton, 365 F. Supp. 925, 931 (D. Conn. 1973) (parole board can refuse to grant parole in cases where early release would depreciate the seriousness of the offense in the eyes of the public, *i.e.*, where general deterrence might be harmed); S. BENN & R. PETERS, SOCIAL PRINCIPLES AND THE DEMOCRATIC STATE 181, 186-94 (1959).

249. *See generally* Gobert, *Psychosurgery, Conditioning, and the Prisoner's Right To Refuse "Rehabilitation,"* 61 VA. L. REV. 155, 157-58 (1975) (discussing the deterrent effects of making organic treatment a compelled procedure).

250. Andenaes, *The General Preventive Effects of Punishment*, 114 U. PA. L. REV. 949, 957-58 (1966).

251. *Id.* at 957.

252. *Id.*

253. *Id.* at 958.

small numbers of such individuals is not likely to encourage such lawless behavior.

In summary, it appears that specific deterrence offers no support for prolonging the confinement of organically rehabilitated individuals. General deterrence remains valid only if the therapy itself is not seen as constituting an adequate punishment, and even then only in cases where personality change is not so great as to change the identity of the individual. In both classes of cases practical sentencing considerations vitiate the need for further punishment.

B. REHABILITATION

Many of the same considerations that militate against the deterrence rationale operate to attenuate the rehabilitative principle as well. The rehabilitation theory can be summarized as involving the beliefs that:

(1) Human behavior is the product of antecedent causes;

(2) These causes can be identified with scientific precision;

(3) Measures can be taken to treat these causes so that the undesirable behavior is eliminated; and

(4) This enterprise—sometimes called the "therapeutic state"—is the only defensible reason for incarcerating human beings in a civilized society.[254]

The proponents of rehabilitation theory tend to see criminality as a sickness, over which the criminal has no more control than a person suffering from headache or fever.[255] Inflicting punishment on such persons is itself a crime[256] comparable to flogging victims for having contracted influenza or suffered a broken limb. Criminality has not been viewed this way until recently because medical science had not been able to cure it.[257] But now that physicians have learned to alter the psychological and physical bases of much criminal behavior,[258] refusal to accept the rehabilitative ideal is as irrational as the resistance, two centuries ago, to treating insanity as a form of illness.[259] Before the rehabilitative ideal can be accepted, its proponents argue, correctional institutions will need to adopt a "therapeutic attitude" and cease treating criminals as objects of hatred and scorn.[260] Suffering and deprivation should cease to be regarded as inevitable accompaniments of prison life.

254. Allen, *Criminal Justice, Legal Values and the Rehabilitative Ideal*, 50 J. CRIM. L.C. & P.S. 226 (1959). *See generally* H.L.A. HART, PUNISHMENT AND RESPONSIBILITY 158-210 (1968); H. PACKER, *supra* note 135, at 9-71.

255. *E.g.*, K. MENNINGER, THE CRIME OF PUNISHMENT 254 (1968).

256. *See generally id.*

257. *Id.* at 255-58.

258. *Id.* at 258; notes 36-182 and accompanying text *supra*.

259. K. MENNINGER, THE CRIME OF PUNISHMENT 258 (1968).

260. *Id.* at 262.

Although the infliction of punishment may have some slight utility in the case of certain hardened offenders, who may need to have demonstrated to them the futility of their way of life,[261] suffering should not be imposed for its own sake.

Although this view has not escaped criticism,[262] the rehabilitation position is consistent with a long developmental trend in American penological thinking[263] and appears unlikely to diminish in importance in the near future. Indeed, prison reformers have recently begun to press for acceptance of rehabilitation as a constitutional or statutory right of the confined.[264]

Regardless whether rehabilitation should be accepted as the preeminent principle its advocates urge, the question remains whether rehabilitation can justify continued punishment for new men. Since the objective of rehabilitation is to produce an individual whose propensity to violate societal norms has been reduced to acceptable levels, once this reduction has been brought about there would appear to remain no further need for confinement. As in the case of deterrence, additional incarceration could frustrate the rehabilitative objective by exposing the prisoner to corrupting influences and by causing resentment at being punished even though he is no longer a threat to society.[265]

Some commentators, however, have disputed the propriety of describing as "rehabilitated" persons whose reformation has been effected by physical means. Rehabilitation, they argue, requires that the offender demonstrate a capacity for self-reform and self-restraint.[266] The organically reformed man has demonstrated neither; he has simply been placed in a physical condition in which he is unable to break the law.[267] Such reconstitu-

261. *See* McCorkle & Korn, *Resocialization Within Walls*, 295 ANNALS 88, 96-97 (1964).

262. *E.g.*, Allen, *Criminal Justice, Legal Values and the Rehabilitative Ideal*, 50 J. CRIM. L.C. & P.S. 226 (1959); Dershowitz, *Indeterminate Confinement: Letting the Therapy Fit the Harm*, 123 U. PA. L. REV. 296 (1974); Stender, *The Need to Abolish "Corrections,"* 14 SANTA CLARA LAW. 793 (1974).

263. *E.g.*, Dershowitz, *Indeterminate Confinement: Letting the Therapy Fit The Harm*, 123 U. PA. L. REV. 297, 304-15 (1974). *See generally* AMERICAN CORRECTIONAL ASS'N MANUAL OF CORRECTIONAL STANDARDS 10-20 (3d ed. 1966); *Right to Rehabilitation, supra* note 7.

264. *E.g.*, *Right to Rehabilitation, supra* note 7; Comment, *A Statutory Right to Treatment for Prisoners: Society's Right of Self Defense*, 50 NEB. L. REV. 543, 545 (1971).

265. For a description of some of the shameful conditions existing in our penal institutions, see Holt v. Sarver, 309 F. Supp. 362 (E.D. Ark. 1970); K. MENNINGER, THE CRIME OF PUNISHMENT 28-89 (1968).

266. Note, *Conditioning and Other Technologies Used to "Treat?" "Rehabilitate?" "Demolish?" Prisoners and Mental Patients*, 45 S. CAL. L. REV. 616, 657-58 (1972); *cf.* Shapiro, *The Uses of Behavior Control Technologies: A Response*, ISSUES IN CRIMINOLOGY, vol. 7, Fall 1972, at 55, 59-63 (nonvolitional conforming behavior is not praiseworthy).

267. *See* Shapiro, *The Uses of Behavior Control Technologies: A Response*, ISSUES IN CRIMINOLOGY, vol. 7, Fall 1972, at 55, 60.

tion is, at best, morally neutral—the prisoner can neither be praised nor blamed for it.[268] The moral status of such persons is thus different from that of prisoners who, having repented their misdeeds, voluntarily embark on programs designed to make them into better persons.

There are two possible responses to this argument. First, when organic treatment is undertaken at the prisoner's initiative, the changes brought about become morally significant and may be taken as evidence of his reformation. Second, the argument, to the extent that it is persuasive, rests on an equivocation between means and ends or between processes and goals. Such confusion is invited by the two meanings of rehabilitation, which can refer both to cures and to treatments. When courts scrutinize prison action that encroaches on fundamental liberties of inmates, they are ordinarily concerned with the action's relationship to ends, not means. Expressed differently, they look to its tendency to promote certain objectives of the criminal justice system, rather than the action's possible characterization as one of a variety of acceptable means. When it is seen that the term "rehabilitation" refers ambiguously to both ends and means, the problem vanishes. Penal systems can no more rationally refuse to release an inmate who is reformed and otherwise entitled to release simply because he has undergone rehabilitation of one type rather than another, than they can deny release to a convict who has served his full sentence on the grounds that he spent his entire time in a state of self-induced trance.[269]

C. RETRIBUTION

The retributive rationale has been formulated in a variety of ways. Common to these is the assertion that punishment is justified not because of some future gain expected to result from inflicting it but because of the historical fact that

268. *See* Note, *Conditioning and Other Technologies Used To "Treat?" "Rehabilitate?" "Demolish?" Prisoners and Mental Patients*, 45 S. CAL. L. REV. 616, 655-58 (1972); Shapiro, *The Uses of Behavior Control Technologies: A Response*, ISSUES IN CRIMINOLOGY, Fall 1972, at 55, 62.

269. A refusal to recognize as rehabilitated those individuals whose cure has been effected by organic means, like denial of release to the prisoner who spends his days in a state of trance, may well reflect a concern deriving from another basis—retributivism. Because such a prisoner's "rehabilitation" has been made so easy, he has not yet fully paid his debt to society. Until this debt is paid, his readiness for release (his "rehabilitation") is incomplete. Intuitive feelings that evildoers must atone for their sins remain unsatisfied; no showing that the offender is now harmless will satisfy these feelings. Whether this objection makes sense is considered more fully in the next Section. When addressed strictly in rehabilitative terms, however, this objection appears to offer little support for refusing to recognize as reformed individuals who have undergone organic therapy which has demonstrably reduced their potential for violence to normal levels. Note, *Conditioning and Other Technologies Used to "Treat?" "Rehabilitate?" "Demolish?" Prisoners and Mental Patients*, 45 S. CAL. L. REV. 616, 658 & n.210 (1972). *But cf.* H. PACKER, *supra* note 135, at 57-58 (autonomy problems pose a further objection to rehabilitation as a primary goal of punishment).

an offense has been committed.[270] The earliest known formulation is the Old Testament *lex talionis*: an eye for an eye, a tooth for a tooth.[271] Because the offender has taken what is not his, something of his must be taken in return. Aristotle and Aquinas were retributivists, as was Kant, whose *Philosophy of Law* declares that "[p]unishment . . . must in all cases be imposed only because the individual on whom it is inflicted *has committed a Crime.*"[272]

Some commentators have sought to temper the retributive demand with an admixture of moral and humanitarian concerns, often reflecting a preoccupation with the prisoner's reformation. Fyodor Dostoyevsky wrote that criminal punishment is as much a matter of moral insight as of impersonal justice, since the offender becomes morally rehabilitated through the experience of deprivation and suffering.[273] Others, however, resist any attempt to combine retributive with nonretributive justifications, arguing that this dilutes the moral basis of the retributivist position. Sir Walter Moberly, for example, writes that retributivists reject the notion that punishment should be inflicted for utilitarian reasons such as deterrence or reformation. Such punishment degrades the victim since it treats him as a means rather than an end in himself.[274]

Modern courts have given retribution, however defined, a mixed reception. Several opinions frown on retribution as an expression of bloodlust,[275] while others, including Justice Stewart's concurring opinion in *Furman v. Georgia*, find the retributive instinct an indispensable expression of moral feeling.[276]

Since, in its classic formulation, retribution is essentially retrospective, it might appear to offer an unassailable justification for continuing to punish rehabilitated offenders. If the only reason for inflicting punishment is a past event—the prisoner's crime—it is difficult to see how a subsequent event—his alleged rehabilitation—can affect the retributive rightness of his sentence. Still, such punishment, even granting the retributivist premise, can be attacked on a number of grounds.

270. Mabbott, *Punishment*, 48 MIND 152 (1939). *See also* A. EWING, THE MORALITY OF PUNISHMENT 13 (1929).

271. *Exodus* 21:23-25; *see* 4 W. BLACKSTONE, COMMENTARIES *12.

272. I. KANT, PHILOSOPHY OF LAW 195 (W. Hastie transl. 1974 ed.) (emphasis in original).

273. Chapter introduction, *Retribution*, in CONTEMPORARY PUNISHMENT, *supra* note 135, at 40 (discussing Dostoyevsky's and Kant's notions of retributive punishment). *See also* Pope Pius XII, *Crime and Punishment*, 6 CATH. LAW. 92, 97-100, 108-09 (1960).

274. W. MOBERLY, THE ETHICS OF PUNISHMENT 109-10, 117 (1968).

275. *See* Commonwealth v. Ritter, 13 Pa. D. & C. 285, 290-91 (1930); *cf.* Williams v. New York, 337 U.S. 241, 248 (1949) (retribution no longer the dominant objective of the criminal law).

276. 408 U.S. 238, 308 (1972) (Stewart, J., concurring).

First, many retributive theorists believe that moral condemnation by the community is central to retributive punishment.[277] Such punishment expresses and gives tangible form to our sense of moral outrage at persons who have violated our laws.[278] Punishing offenders solidifies societal consensus in moral matters and strengthens the general will to obey the law.[279]

To the extent that moral outrage is central to retributivism, this basis for punishment may be undermined when technological advances make outrage an inappropriate response. Anger might seem less appropriate when the physical basis of the criminal behavior is known, making the behavior proportionately less free.[280] Moral outrage might also appear inappropriate once the offender has been demonstrably rehabilitated. If moral outrage requires a present target, as opposed to a past one, the reason for outrage disappears when the target changes and is no longer present. It is perhaps conceptually possible to imagine outrage directed at individual X_2, because of his connection with individual X_1, but the more these individuals differ with respect to their blame-making predicates, the more the retributive instinct becomes blurred and loses its intuitive appeal.[281] Retribution requires an identity between the person punished and the individual who committed the offense. "[A] criminal cannot substitute another to undergo his punishment";[282] unlike money debts these are moral debts that can only be paid by the criminal himself. But just as the moral instinct becomes attenuated when the target individual differs from the person who committed the crime, the

277. E. DURKHEIM, THE DIVISION OF LABOR IN SOCIETY 108-09 (G. Simpson transl. 1933); Hart, *The Aims of Criminal Law*, 25 LAW & CONTEMP. PROB. 401, 404-05 (1958). *See also* STANDARDS & GOALS, *supra* note 141, at 145.

278. *E.g.*, Furman v. Georgia, 408 U.S. 238, 308 (1972) (Stewart, J., concurring); E. DURKHEIM, THE DIVISION OF LABOR IN SOCIETY 108-09 (G. Simpson transl. 1933).

279. E. DURKHEIM, THE DIVISION OF LABOR IN SOCIETY 108-09 (G. Simpson transl. 1933).

280. For example, sleepwalkers are no longer punished. Fox, *Physical Disorder, Consciousness, and Criminal Liability*, 63 COLUM. L. REV. 645, 652-56 (1963); *see* Fain v. Commonwealth, 78 Ky. 183 (1879); Bradley v. State, 277 S.W. 147 (Tex. Crim. 1925); MODEL PENAL CODE § 2.01 (Proposed Official Draft 1962). Nor are epileptics condemned for actions carried out during seizures. *E.g.*, People v. Decina, 2 N.Y.2d 133, 146, 138 N.E.2d 799, 807, 157 N.Y.S.2d 558, 570 (1956) (Desmond, J., concurring in part, dissenting in part). The language we use to describe such individuals betrays our feeling that their acts are blameless. We speak of them as not "being themselves." When they "return to their senses," they feel "regret," rather than "remorse." In the same fashion, moral outrage could seem inappropriate when the offense is the product of a treatable chemical imbalance, *see* notes 15-22, 67-101 and accompanying text *supra*, neurological anomaly, *see* notes 116-26 and accompanying text *supra*, or other physical disorder, particularly when the resulting violent impulse is irresistible. *See* discussion at noes 28-35 *supra*.

281. *Compare* W. MOBERLY, THE ETHICS OF PUNISHMENT 116 (1968) ("my misdeed is not only something which has happened to me like a misfortune or a disease . . . I did it and I *chose* to do it . . . ."), *with* sources cited note 280 *supra*.

282. J. HALL, GENERAL PRINCIPLES OF CRIMINAL LAW 318 (2d ed. 1947); *see* Flew, *The Justification of Punishment*, 29 PHILOSOPHY 291, 293-94 (1954).

required identity between offender and the recipient of punishment becomes indistinct when the original offender has undergone organic treatment resulting in extensive personality change.[283] If we punish because there is a debt to be paid,[284] when the person owing the debt is no longer present, the debt may simply become uncollectible.[285]

A final difficulty in applying the retributive rationale to new men lies in determining the appropriate degree of punishment. Most retributivist writers have rejected the notion that offenders must be made to suffer in proportion to the suffering they have caused.[286] Instead, they urge only that punishment not

283. In actuality, it should not be necessary to show that the offender is a different person from the one who committed the crime. Most formulations of the retributivist position only require that there be a close connection, not a complete identity, between the individual selected for punishment and the person adjudged guilty. For example, they state punishment is a deprivation of good and an imposition of evil intimately applied to an offender because of his commission of a harm forbidden by penal law. Pope Pius XII, *Crime and Punishment*, 6 CATH. LAW. 92, 94 (1960). There must be an essential causal connection between the person punished and the crime. *Id.* Where such a connection is lacking, punishment is retributively inappropriate. In practice it should be a great deal easier to show that the requisite nexus has been broken than that one is an entirely different individual from the one who committed the crime. One effect of such a conclusion is to make release claims predicated on an absence of retributive justification open to individuals who have undergone narrow modification as well as those who maintain therapy has given them a new identity.

284. *Compare* W. MOBERLY, THE ETHICS OF PUNISHMENT 109-10 (1968), *with* Pope Pius XII, *Crime and Punishment*, 6 CATH. LAW. 92 (1960) (criminal owes a spiritual debt).

285. *Cf.* text accompanying notes 235-53 *supra* (discussion of identity modification and deterrence). Unlike the earlier inquiry, the issue here is a conceptual, not an empirical one: When is X_1, who has committed a crime, sufficiently unlike X_2, an organically altered individual, to warrant suspension of the retributive principle? No court has ruled on such an issue, although it apparently entered into William Brindle's appeal, for the simple reason that until now it has not been possible to certify organic change with the requisite degree of reliability. Thus, parole and other release proceedings have been considered highly discretionary, and courts have been reluctant to overturn the findings of such boards in the absence of gross abuse of discretion. This rule is appropriate in most instances; after all, little is known about the spiritual and moral forces at work in nonorganic rehabilitation. This is an area governed by intuition and feeling, rather than hard data.

The present problem, however, is a different one. Demonstrable change has occurred. The issue is whether the quantum of change is sufficient to warrant a finding that a "new man" is present. If so, is retributive punishment appropriate? In the absence of guidelines for determining legal identity, such cases will be decided on a case-by-case basis. This is not to say that precedent is totally lacking. *See* note 251 and accompanying text *supra* (discussion of situations involving legally recognized identity modification). To cite but one example, juveniles are treated as differentiable legal entities from the adults they will become. This is based on a policy decision that juveniles have the potential for change and growth. As one starting point, then, a court could ask whether the difference between X_1 and X_2 is of the same order of magnitude as that commonly observed in a typical individual as he passes from adolescence to adulthood. Naturally, the quantum of change required would vary with the interests prompting the inquiry. We might decide to hold X_2 responsible for X_1's debts, for example, but not his crimes. This would reflect a feeling that criminal retribution requires a high degree of identity between X_1 and X_2, while commercial necessity might dictate a different result.

286. Walker, *Varieties of Retributivism*, in CONTEMPORARY PUNISHMENT, *supra* note 135, at 83, 83, 85. *But see* Mabbott, *Punishment*, 48 MIND 152, 152-54 (1939) (criticizing other retributiv-

be "excessive."[287] Concepts of excessiveness, or proportionality, become elusive, however, when blame-making propensities become mutable at will. What was a retributively just sentence at the time of its imposition might appear excessive in light of later events, in particular the prisoner's organic transformation. If a retributivist looks only to the past, insisting that future events cannot alter a sentence that was just when imposed, then, of course, his position cannot be assailed on these grounds. In such a case, the only recourse would seem to lie in persuading him that the person being punished is not the one whose past contains the blame-making event, or, less paradoxically, that the two individuals are insufficiently alike to warrant continued punishment.

In summary, the retributive rationale seems greatly, perhaps fatally, eroded in cases of organic rehabilitation. At most, it would appear to justify brief sentences responsive to the community's need for vengeance. The need for even such short sentences may well disappear when the organic bases of certain types of criminal acts become better known.

D. SOCIETAL PROTECTION

A final rationale is societal protection, the notion that society is justified in confining criminals in order to prevent them from causing further harm. This rationale is essentially predictive: the criminal is punished not for what he has done, but for what he might do.[288] It is assumed that one bad act is likely to be followed by another. An individual who has been dangerous in the past is likely to be dangerous in the future.[289]

Societal protection appears to play an important role in sentencing decisions, particularly in cases involving violent crime.[290] Persons who have acted violently in the past, and are thus regarded likely to repeat the offense in the future, are apt to be "sent away" for long prison terms.[291] In contrast, individuals who have no history of violent offenses or whose actions appear to have been the product of unique circumstances unlikely to be repeated are apt to be treated more leniently.[292] The interest in societal protection has been

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ists for succumbing to the temptation to admit nonretributive principles into the sentencing determination).

287. Walker, *Varieties of Retributivism*, in CONTEMPORARY PUNISHMENT, *supra* note 135, at 83.

288. *E.g.*, H. PACKER, *supra* note 136, at 49.

289. *Id.* at 49-50; *see* N. MORRIS & G. HAWKINS, THE HONEST POLITICIAN'S GUIDE TO CRIME CONTROL, 185-92 (1970).

290. *E.g.*, Chapter introduction, *Social Defense*, in CONTEMPORARY PUNISHMENT, *supra* note 135, at 129-30; *see* NATIONAL COUNCIL ON CRIME AND DELINQUENCY, GUIDES TO SENTENCING THE DANGEROUS OFFENDER 1-5 (1969).

291. Chapter introduction, *Social Defense*, in CONTEMPORARY PUNISHMENT, *supra* note 135, at 130; *see* SINGER & STATSKY, *supra* note 134, at 291-92.

292. N. MORRIS & G. HAWKINS, THE HONEST POLITICIAN'S GUIDE TO CRIME CONTROL 203 (1970); SINGER & STATSKY, *supra* note 134, at 301-08.

cited with approval by a number of courts[293] and has been recognized in several model statutes.[294] Typically, these record the importance of a determination of dangerousness[295] and stress the need for psychiatric reports, neurological workups, and other evidence prior to imposing sentence.[296]

Can societal protection justify the continued incarceration of individuals who have undergone organic rehabilitation? Since such individuals have been treated and certified as having a probability of recidivism below a level agreed to be safe,[297] the interest in societal protection is at best, marginally furthered by continued confinement. Whether the defendant's safety becomes known at the time of trial or after the sentence is begun to be served is immaterial; in either case confinement contributes little to societal safety.

It might be urged that the new man, having already violated the law, should be held to a higher standard than mere safety. This demand would be misconceived, however. Insofar as it reflects a feeling that evildoers should redeem themselves by traversing a difficult path, it responds more appropriately to the retributive impulse.[298] Insofar as it expresses a concern that moral values will decline if offenders go free too easily, it is more properly addressed to general deterrence.[299] And, to the extent that it seeks to assure public safety by building in a margin for error, it misconceives the nature of the certification process, by its very nature probabilistic.[300]

In terms of societal protection, the appropriate sentence for the organically rehabilitated inmate is no sentence at all; societal protection has already been achieved. Admittedly, most sentencing decisions are not made on social protection grounds alone; they respond, rather, to a mix of motives. In cases of violent crime, the sentence generally has two components—time to be

293. *E.g.*, United States v. Brown, 381 U.S. 437, 458 (1965); Berrigan v. Norton, 322 F. Supp. 46, 51 (D. Conn. 1971).

294. MODEL PENAL CODE § 7.01 (Proposed Official Draft 1962); ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, SENTENCING ALTERNATIVES AND PROCEDURES §§ 2.1-2.2 & Commentary (Approved Draft 1968); NATIONAL COUNCIL ON CRIME AND DELINQUENCY, MODEL SENTENCING ACT §§ 5-6 (1963).

295. *E.g.*, STANDARDS AND GOALS, *supra* note 141, at 145.

296. *E.g.*, NATIONAL COUNCIL ON CRIME AND DELINQUENCY, MODEL SENTENCING ACT § 6, (1963); *see* NATIONAL COUNCIL ON CRIME AND DELINQUENCY, GUIDES TO SENTENCING THE DANGEROUS OFFENDER 4-8 (1969).

297. The point at which such certification can be made, as a matter of scientific judgment, would vary from one modality to another. *Compare* note 90 and accompanying text *supra, with* notes 98-101 and accompanying text *supra* and note 35 *infra*. Such linedrawing decisions are not purely technological ones, since they inevitably involve normative components, *viz.*, "At what point should we accept a rehabilitated individual into society?" The point at which risk is seen as acceptable will presumably depend on the theory or theories used to justify punishment. *See* notes 228-34 *supra*.

298. *See* notes 270-88 and accompanying text *supra*.

299. *See* note 237 and accompanying text *supra*.

300. *See* note 133.

served because of what the defendant has done, and time to be served as protective detention against what he might do in the future.[301] When the prisoner has been freed of his violent propensities, the second component would drop out. The appropriate sentence would then depend on the extent to which the retributive principle is applicable to organically reformed offenders. This, in turn, would rest on factors considered earlier,[302] principally the effect of identity change on the retributive principle.[303] In itself, however, societal protection offers scant support for the continued confinement of new men.

IV. THE RELEASE DECISION: REMEDIES FOR UNJUST CONFINEMENT

Remedies for the organically rehabilitated prisoner who desires to challenge his confinement include appellate review of sentence,[304] motions to reduce sentence,[305] state and federal habeas corpus and their statutory equivalents,[306] pardon and commutation of sentence,[307] parole,[308] and a variety of statutory postconviction remedies.[309] There is considerable duplication and overlapping among the various procedures,[310] as well as uncertainty over the extent of due process protections available at various stages of the proceedings.[311]

None of the existing remedies is ideally suited to hearing challenges based on organic reformation. Some have restrictive limitations on the time of filing.[312] Others are highly discretionary, or impose an unreasonably heavy

301. *E.g.*, Silving, *"Rule of Law" in Criminal Justice*, in ESSAYS IN CRIMINAL SCIENCE 77 (G. Mueller ed. 1961) (discussing the dual-track system in comparative perspective).

302. Notes 270-85 and accompanying text *supra*.

303. *See* notes 280-85 and accompanying text *supra*.

304. *E.g.*, CONN. GEN. STAT. ANN. §§ 51-196 (West Supp. 1976); FLA. STAT. ANN. § 924.41 (West Supp. 1973); MASS. GEN. LAWS ANN. ch. 278 §§ 28 to 28D (1972); N.Y. CRIM. PROC. LAW § 460.10 (McKinney 1971).

305. Under the common law, courts had the power to modify sentences if they acted within the term in which sentence was passed. United States v. Benz, 282 U.S. 304 (1931); *see* United States v. Murray, 275 U.S. 347 (1928). *E.g.*, DEL. SUP. CT. R. (CRIM.) 35(b) (Supp. 1975); FLA. STAT. ANN. (R. CRIM. PROC.) 3.800 (1975); *cf.* FED. R. CRIM. P. 35 (setting various times for sentence reduction).

306. *E.g.*, U.S. CONST. art. I, § 9; CAL. CONST. art. 1, § 3; 28 U.S.C. § 2255 (1970); CAL. PENAL CODE §§ 1474-1508 (West 1970).

307. *E.g.*, U.S. CONST. art. II, § 2 ("he [the President] shall have the Power to grant Reprieves and Pardons for offenses against the United States except in Cases of Impeachment."); CAL. PENAL CODE §§ 4852.01-.21 (West 1970).

308. Since the mid-1930's, every state and the federal system has had some form of parole. For a state-by-state discussion of parole structures, see W. O'LEARY & J. NUFFIELD, THE ORGANIZATION OF PAROLE SYSTEMS IN THE UNITED STATES (1972).

309. *E.g.*, ARIZ. REV. STAT. ANN. § 13-2001 to 2027 (1956); KY. REV. STAT. ANN. § 11.42 (1972); ORE. REV. STAT. §§ 138.510-.680 (1963).

310. ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, STANDARDS RELATING TO POST-CONVICTION REMEDIES § 1.1, Commentary, at 24 (Approved Draft 1968).

311. *Id.* at 65, 75, 76.

312. *E.g.*, FED. R. CRIM. P. 33 (2-year limitation on motion for new trial on newly

burden of proof on the petitioner.[313] Still others have jurisdictional[314] or evidentiary restrictions[315] that limit their helpfulness. Although most of the traditional remedies could probably be stretched to accommodate cases of organic rehabilitation, a new, more flexible remedy would avoid the need for tortured interpretation. Alternatively, some of the model postconviction statutes that have been proposed by law reform bodies[316] and adopted by a minority of jurisdictions[317] seem capable of being extended to deal adequately with the release issues posed by new men.

A. FRAMING THE ISSUES—THE PRIMA FACIE CASE FOR RELIEF

The new man who seeks release must first establish that he has undergone the necessary degree of change. Then, he must show that this change invalidates the bases for his incarceration.

Proof of rehabilitation can be carried out by offering medical evidence that the prisoner's dangerous tendencies have been alleviated and are unlikely to return. If the offender is no longer dangerous but requires additional treatment or observation to ensure that his symptoms will not recur, he will need to convince the court that, if released, he will make himself available for the necessary treatment or examination.

The inmate will then need to persuade the court that the change he has undergone invalidates the bases upon which his sentence was predicated.[318] If

discovered evidence); FLA. STAT. ANN. (R. CRIM. PROC.) 3.800(b) (1975) (time limitations on motion to reduce sentence); WYO. STAT. § 7-408.1 (Supp. 1975) (5-year limitation on statutory postconviction remedy).

313. *See* Hines v. State Bd. of Parole, 293 N.Y. 254, 257, 56 N.E.2d 572, 573 (1944) (much-cited statement of the absolute nature of the parole board's discretionary powers in determining release dates). Pardon and commutation of sentences are considered matters of executive "grace." *See* SINGER & STATSKY, *supra* note 140, at 1127, 1217.

314. *E.g.*, Preiser v. Rodriguez, 411 U.S. 475 (1973); Fay v. Noia, 372 U.S. 391, 434-36 (1963) (exhaustion requirement in federal habeas corpus); United States v. Murray, 275 U.S. 347 (1928); State *ex rel.* Zabel v. Municipal Court, 179 Wis. 195, 190 N.W. 121 (1922) (sentencing court loses power to modify sentence once defendant has been delivered to the institution).

315. *See* ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, STANDARDS RELATING TO POST-CONVICTION REMEDIES § 4.6 (Approved Draft 1968).

316. *E.g.*, *id.*; UNIFORM POST-CONVICTION PROCEDURE ACT (1955); *see* ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, STANDARDS RELATING TO APPELLATE REVIEW OF SENTENCES (Approved Draft 1968).

317. *See* N. KERPER & J. KERPER, LEGAL RIGHTS OF THE CONVICTED 243-44 (1974).

318. Often this will not require a separate inquiry, as a number of the techniques include response testing as an integral part of the treatment. *E.g.*, notes 89-90 and accompanying text *supra* (chemical treatment for sex offenders). Where predictable results are less easily attained and relapse is possible, *see* notes 123-32 and accompanying text *supra* (discussion of psychosurgery), a court might reasonably require the prisoner to submit to an extended period of observation and testing before ordering release. For a general discussion of the success-certifiability problem, *see* note 133 *supra*.

the prisoner is only seeking to prove that his violent propensity has been narrowly treated, this showing will center around general deterrence and retribution.[319] When the sentencing record is inconclusive, the inmate may be limited to arguing that these interests are disfavored in sentencing policy generally or have been disapproved by statute or court decision in his jurisdiction.[320] In a jurisdiction which provides minimum sentences, he may argue that the minimum term represents the state's interest in retribution;[321] if he has already served the minimum term, he can then argue that the interest in retribution has been satisfied. On the other hand, if the inmate succeeds in proving that his modification has amounted to an identity change, this second step will not be necessary, since this degree of change renders inapplicable all possible bases of confinement.[322]

B. THE APPROPRIATE FORUM

Decisions concerning the release of an organically rehabilitated inmate should be made by the court that imposed the original sentence, rather than some other body. The sentencing court is in the best position to know the relative weight of the various factors that entered into the original sentence and to evaluate the extent to which these may have been satisfied by the prisoner's rehabilitation. The record of the original proceedings will be found there, as well as the presentence report.[323] If it becomes necessary to recall

319. *See* text accompanying notes 235-53, 270-88 *supra.*

320. Deterrence has been criticized as an inadequate basis for punishment since the fear of sanction rarely deters potential offenders. Retribution has been characterized as an anachronistic expression of the instinct for tribal vengeance and as inconsistent with the goal of rehabilitation. *E.g.*, Williams v. New York, 337 U.S. 241 (1949); G. PLAYFAIR & D. SINGTON, CRIME, PUNISHMENT AND CURE 13-15 (1965); Chapter introductions, in CONTEMPORARY PUNISHMENT, *supra* note 135, at 39-40, 93-95. State constitutions, statutes, or enabling legislation relating to particular criminal institutions may refer to rehabilitation as the principal aim of confinement, thereby implicitly excluding deterrence and retribution. *E.g.*, IND. CONST. art. 1, § 18 ("The penal code shall be founded on the principles of reformation, and not of vindictive justice."); MONT. CONST. art. III, § 24 ("Laws for the punishment of crime shall be founded on the principles of reformation and prevention."); CAL. PENAL CODE §§ 2002, 2032 (West 1970) (rehabilitation is primary purpose of penal institutions); *see* COLO. REV. STAT. § 39-10-1 (1965) (setting out purpose of a particular penal program). Courts have cited these and similar statutes in striking down institutional programs that were not conducive to the advancement of statutorily defined objectives. *E.g.*, Millard v. Cameron, 373 F.2d 468, 472-73 (D.C. Cir. 1966); United States v. Alsbrook, 336 F. Supp. 973, 979-81 (D.D.C. 1971). *See also* S. RUBIN, THE LAW OF CRIMINAL CORRECTIONS 740 (2d ed. 1973); Comment, *A Statutory Right to Treatment for Prisoners: Society's Right to Self Defense*, 50 NEB. L. REV. 543 (1971). *See* text accompanying notes 332-34 *infra* (proposed procedure when the sentencing record is incomplete).

321. *Cf.* ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, STANDARDS RELATING TO SENTENCING ALTERNATIVES AND PROCEDURES §§ 2.2, 2.5 (Approved Draft 1968) (suggesting that a minimum sentence might be necessary in certain cases in response to the "gravity" of the offense).

322. *See* notes 241-46 and accompanying text *supra.*

323. ABA PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE, STANDARDS RELATING TO SENTENCING ALTERNATIVES AND PROCEDURES §§ 4.1-4.5 (Approved Draft 1968).

witnesses, these will be more conveniently available in the original court than elsewhere. To protect against the possibility of prejudice arising because the site of review and that of the original sentencing are the same, change of venue can be provided for and made liberally available.

C. Period of Limitations

Many release procedures require that the inmate file for relief within a given period after sentence is imposed.[324] Others require that the inmate first serve a fixed minimum term or portion of his sentence before the remedy is available.[325] These limitations, which may make sense in other contexts, are less easily justified in cases of organic rehabilitation. Organic therapy may be administered at any point in the prisoner's sentence. When it is successful, the justification for further punishment may cease. Accordingly, it seems best to make release available whenever the inmate can show that physical correction of an organic anomaly has dissipated the original grounds of his commitment.

D. Deference To Be Accorded Prior Judgments

Many release procedures have traditionally been held to be highly discretionary.[326] Parole board determinations, for example, have rarely been overturned on substantive grounds.[327] These decisions have been considered to fall in an area of intuitive judgment, in which the board's experience justifies deference toward its decisions.[328] Where rehabilitation is no longer a matter of intuition, but becomes susceptible to objective proof, the need for judicial deference is less compelling. Accordingly, courts should not be reluctant to entertain facially meritorious claims of organic rehabilitation when the prisoner has been or will soon be reviewed for release by his parole board or adult authority.

E. Burden of Proof

Similar considerations argue for a reduction in the burden of proof inmates must bear to win release. In the past, prisoners have been required to make an almost overwhelming showing that their sentences were illegal before courts would intervene. Because of the presumption of regularity that attends judicial proceedings, it has been presumed that the initial conviction was correct and that the inmate is serving an appropriate sentence.[329] As has been

324. *See* note 312 and accompanying text *supra*.

325. 4 Attorney General's Survey of Release Procedures 4 (1939).

326. *See* note 313 and accompanying text *supra*.

327. *E.g.*, Hines v. State Bd. of Parole, 293 N.Y. 254, 257-58, 56 N.E.2d 572, 573-74 (1944).

328. *See, e.g.*, Menechino v. Oswald, 430 F.2d 403, 407-08 (2d Cir. 1970); Model Penal Code § 305.14, Comment at 98 (Tent. Draft No. 5, 1956).

329. *See, e.g.*, 28 U.S.C. § 2254(d) (1970).

seen, however, organic treatment can at times undermine the latter assumption, with the result that an inmate may find himself serving a sentence that was correct at the time of its imposition but that has ceased to be appropriate. Although a degree of skepticism is perhaps always warranted with respect to release claims,[330] courts should not impose unreasonably high standards of proof simply because release has rarely been ordered in the past or for fear of provoking a flood of applications.

An argument can be made for reversing the usual burden of proof and imposing a presumption in favor of release in certain cases.[331] Instances might arise in which prison officials have induced inmates to undergo treatment by overstating the likelihood of success. Suppose such an inmate agrees to the therapy and afterwards feels better and believes his violent impulses have been greatly moderated. Suppose, further, that the parole board refuses to release him on the sole grounds that it does not believe him and feels he has not "done enough time." In an action for relief, it might be a fairer allocation of the burden of proof to require the government to prove that the therapy has not been successful rather than to require the inmate to prove the converse. By encouraging the prisoner to undergo treatment the government implies it believes the treatment will prove successful. Having relied on that representation, the inmate should be entitled to the benefit of the assumption that the government told him the truth. One salutary effect of this shift in the burden of proof would be to encourage prison officials to be properly cautious about overselling therapies that are still unproven or experimental.

F. PRESUMPTIVE INAPPLICABILITY OF CERTAIN RATIONALES WHEN THE SENTENCING RECORD IS INCOMPLETE

Cases may arise in which the sentencing court has made no record, or an

330. Caution is an appropriate response since a release right, like other legal defenses and excuses, can inject uncertainty into the criminal law, reducing its *in terrorem* effect. *Cf.* H. PACKER, *supra* note 135, at 64 (excuses are an important source of uncertainty). Moreover, lenient treatment of offenders can encourage self-help and vigilante justice. *E.g.*, Furman v. Georgia, 408 U.S. 238, 308 (1972) (Stewart, J. concurring). Finally, indulgent treatment of offenders who do not merit it invites attack on the entire principle of releasing organically rehabilitated inmates. *Cf.* Bailey, *An Evaluation of One Hundred Studies of Correctional Outcome*, in THE SOCIOLOGY OF PUNISHMENT AND CORRECTION 733, 736-39 (2d ed. N. Johnston, L. Savitz & M. Wolfgang eds. 1970) (discussion of current disenchantment with other treatment); Gobert, *Psychosurgery, Conditioning, and the Prisoner's Right to Refuse "Rehabilitation,"* 61 VA. L. REV. 155, 158-60 (1975). *See also* Grinker, *Emerging Concepts of Mental Illness and Models of Treatment: The Medical Point of View*, 125 AM. J. PSYCHIATRY 865, 866 (1969); Yalom & Lieberman. *A Study of Encounter Group Casualties*, 25 ARCH. GENERAL PSYCHIATRY 16 (1971).

331. *Cf.* STANDARDS AND GOALS, *supra* note 141, Standard 12.3, Commentary at 423 (placing burden in sentencing on state to prove that an individual is not an appropriate candidate for release).

inadequate record, of its reasons for imposing a given sentence.[332] In these cases, unless the reasons can be reconstructed in some fashion, the inmate will be at a considerable disadvantage in showing that the state has no legitimate interest in his continued confinement. The absence of a record means that he will have to demonstrate the inapplicability of every possible sentencing rationale. Particularly in the case of retribution this may prove a formidable task, since retribution could theoretically play a part in every sentencing decision.[333]

One solution would be to permit an inference that unless the record explicitly refers to a given interest, that interest has not actively entered into the decision to incarcerate the individual. The release of a convicted felon may appear an extreme penalty for a court's failure to record its reasons for a given sentence. But, to the rehabilitated inmate, delay in obtaining his liberty after he has ceased to be a menace to society is an even harsher penalty. Since the articulation of reasons for sentencing has been urged by commentators, commissions, and law reform bodies,[334] it seems fair to place the burden of justification on the state. Accordingly, an organically reformed inmate should be entitled to a presumption that unknown and unrecorded interests have not been used to justify his confinement.

G. FRAMING THE RELIEF

Many postconviction remedies are limited in the forms of relief they offer. Depending on the remedy the inmate selects, relief can range from outright[335] or conditional[336] release to a simple reduction of sentence.[337] The civil disabilities that attend successful prosecution of each remedy also vary.[338] Because the proposed remedy contemplates that the postconviction review

332. In passing sentence, judges commonly consider the classic rationales of criminal punishment. *E.g., id.* at 142. They apply them to the particular offender in light of their knowledge of his crime and the information about him developed in the presentence report. *See* ABA PROJECT ON STANDARDS FOR CRIMINAL JUSTICE, STANDARDS RELATING TO APPELLATE REVIEW OF SENTENCES § 4.4 (Approved Draft 1968). At times, however, courts have neglected to articulate these reasons for the benefit of the record. STANDARDS AND GOALS, *supra* note 141, at 147, 195-96.

333. *See, e.g.*, Puchalski v. Vukcevich, 2 Prison L. Rep. 27, 29 (D.N.J. 1972) (parole board able to conclude, in the absence of any statement in the record to the contrary, that an inmate's sentence responded to "punitive," *i.e.*, retributive, elements—parole accordingly denied).

334. *E.g.*, STANDARDS AND GOALS, *supra* note 141, Standard 5.19, at 195; *cf.* McCleary v. State, 49 Wis. 2d 263, 182 N.W. 2d 512 (1971) (sentence reversed because trial judge failed to give reasons why he imposed a given sentence). *See also* STANDARDS AND GOALS, *supra* note 141, Standard 5.19, Commentary, at 951.

335. SINGER & STATSKY, *supra* note 134, at 1217 (executive clemency).

336. *Id.* at 1059-93 (parole release conditions).

337. *See* notes 304-05 and accompanying text *supra* (appellate review and motion to reduce sentence).

338. *See* SINGER & STATSKY *supra* note 134, at 1095-134 (collateral effects of conviction).

function as an extension of the sentencing process,[339] it seems advisable to permit the court to select any of the sentencing alternatives that are open at the time of trial. For organically reformed prisoners, these could include outright discharge, release on the condition that the individual submit to periodic treatment or observation, or release at an early specified date.[340] It could include an order that the prisoner undergo further observation and testing while in prison, or that a postsentencing investigation be carried out to ascertain the fitness of the inmate to reenter society and the ability of his community and family to accept him and to assist him in his adjustment.

CONCLUSION

Progress in several biomedical technologies suggests that propensities for certain types of acts now punishable under the criminal law are capable of being modified or eliminated. Such therapies as electronic brain stimulation, pharmacological treatment, and psychosurgery raise the possibility that a number of assumptions integral to our concept of criminal justice will give way, including that (1) the moral justification for punishment remains constant during a prisoner's confinement; and (2) an offender's identity remains unchanged throughout the same period. Any significant erosion of these assumptions necessarily weakens the connection between punishment and the traditional goals and objectives which punishment is supposed to serve.

Insistence by courts on a close means-ends fit in prison law cases involving the infringement of particular liberties, together with increased willingness to scrutinize prison sentences themselves under such theories as cruel and unusual punishment, therapeutic incarceration, and a more stringent construction of legislative intent, suggests that such erosion may give birth to a constitutional right to release. Presently existing channels are not ideally suited to consider claims based on such a release right, and new remedies will be needed. The contours of such a remedy have been sketched. It is proposed that release be available as a matter of right, rather than discretion, once the appropriate factual showing has been made. In order to protect against the possibility of overreaching by prison officials and as a further protection of the right to refuse treatment when consent has not been freely and knowingly given, the right to release would be protected by certain procedural presumptions and inferences.

339. *See* text accompanying notes 323 *supra.*

340. *Cf.* STANDARDS AND GOALS, *supra* note 141, Standard 5.2 (1973) (nondangerous offenders should be given the sentence alternatives that are the least drastic limitations on their freedom, consistent with the public safety). Where the prisoner's rehabilitation is very uncertain and release seems unwise, the inmate can be retained in the institution for an additional period of study and observation. During this time, a lighter disciplinary regime might well be appropriate, as well as useful in gauging the extent of the individual's return to normalcy.

Recognition of a release right for organically rehabilitated offenders is consistent with the view that punishment should serve rehabilitative ends. At the same time, it recognizes that punishment responds to interests other than rehabilitation and accepts the necessity of determining, in each case, the extent to which other interests militate for or against release. The need to determine more precisely the weight to be assigned such nonrehabilitative interests as general deterrence and retribution will call for greater attention by courts and legislatures to these interests. This inquiry should be undertaken soon. Although the number of cases which have raised issues of organic rehabilitation has so far been relatively small, the inexorable advance and dissemination of biotechnological techniques means that this inquiry cannot be safely delayed much longer. Unless such questions are to be resolved haphazardly as they arise, it is better that they be considered now while the law relating to organic rehabilitation is relatively unformed and has not hardened into a fixed pattern.