

ISSUES IN THE USE OF AN ELECTRONIC REHABILITATION SYSTEM WITH CHRONIC RECIDIVISTS

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CERTAIN RECENT TECHNOLOGICAL developments may soon make possible new alternatives to the incarceration of offenders. These alternatives clearly present some hazards as well as benefits. The purpose of this paper is to discuss briefly a few of the difficult and complex issues that may soon arise as a result of these new alternatives.

Some of the most relevant advances in technology are occurring in areas other than that of corrections. For example, an electronic rescue and rehabilitation system now being developed will permit the monitoring of the heart rate and geographical location of cardiac patients in an urban environment as they move through the prescribed monitored area. In the event of acute cardiac infarction, the patient could transmit an emergency signal to the base station and help could be sent immediately. Even if the patient were unconscious, the base station might automatically be alerted to his condition and location. The location would not need to be determined unless an emergency occurred. A similar system might also be used to help rescue persons subject to other types of medical emergencies, to protect mentally ill or retarded persons who might easily become lost or confused in the city, and to help safeguard persons with suicidal tendencies.¹

It should be quite apparent that if a rescue and rehabilitation system of the type just described were somewhat modified to permit frequent

1. R. Schwitzgebel, W. N. Pahnke & W. S. Hurd, *A Program of Research in Behavioral Electronics*, 9 BEHAV. SCI. 233-38 (1964).

or continuous location monitoring, it might allow the safe release of certain types of recidivists who would otherwise remain incarcerated. A parolee thus released would probably be less likely than usual to commit offenses if a record of his location were kept at the base station. If two-way tone communication with the parolee were included in this system, a therapeutic relationship might be established in which the parolee could be rewarded, warned, or otherwise signaled in accordance with the plan for therapy.

The United States has some of the longest terms of incarceration of any civilized country in the world.² Properly used, electronic technology could extend the rights of recidivists or mental patients by facilitating their early return to greater freedom in the community. In fact, when specific offending behaviors can be predicted or regulated in the community, prisons may no longer be necessary to control illegal behavior and protect the public. The ball and chain have given way to the prison courtyard, and the prison courtyard is now giving way to the half-way house. Someday prisons may become museums or monuments to the inhumanity and ineffectiveness of social retribution.

On the other hand, the misuse of electronic technology could have extremely serious consequences for the civil liberties of offenders and general public alike. The application of technology to the maintenance and modification of human behavior should therefore be a matter of considerable concern. The increasing use of electronic technology in the conduct of our daily affairs is apparent in activities such as banking, law enforcement, education, and entertainment. This trend is likely to continue.³

It is out of a realization of present technological capabilities and a concern for civil liberties that research of a "preventive" nature is currently being conducted. This research seeks primarily to identify the potential dangers, as well as benefits, of the use of electronic re-

2. G. Geis, *The Community-Centered Correctional Residence*, in CORRECTION IN THE COMMUNITY: ALTERNATIVES TO INCARCERATION 19-28 (Youth and Adult Corrections Agency, State of California 1964).

3. R. M. Bird, *The Engineering Design of an Electronic System for Remote Communication between Psychologist and Several Juvenile Delinquents*, 1965 (preliminary Ph.D. examination, Department of Engineering, University of California at Los Angeles); E. B. Konecci & A. J. Shiner, *The Developing Challenge of Biosensor and Bioinstrumentation Research*, in BIOMEDICAL TELEMETRY 299-319 (C. A. Caceres, ed. 1965); D. N. MICHAEL, SPECULATIONS ON THE RELATION OF THE COMPUTER TO INDIVIDUAL FREEDOM AND THE RIGHT TO PRIVACY, THE COMPUTER AND INVASION OF PRIVACY, *Hearings before a Subcomm. of the House Comm. on Government Operations*, 89th Cong. 184-93 (July 26, 27, and 28, 1966).

habilitation systems so that related policy and legislation may be based upon more than mere speculation. Hopefully, such preventive research may help to clarify those alternatives of action that are most likely to maximize humane values.

DESCRIPTION OF THE SYSTEM

As the system is presently constructed in a crude prototype, a participating person wears two small units approximately six inches by three inches by one inch in size, weighing together about two pounds. The equipment is unobtrusive and permits many of the usual daily activities. As the wearer walks through a specified monitored area, his transceiver activates various repeater stations which then retransmit his signal with a special location code to the base station. These repeater stations are so located that at least one is always activated by the wearer's transceiver.

The patterning of the signals from these repeater stations allow a determination of the person's geographical location. The prototype system now used extends only a few blocks during street use and covers the inside of one large building. Through the use of additional repeater stations, the system is theoretically duplicable so that a large geographical area could be covered with a large number of subjects each transmitting a unique signal. The range and specificity of the system depend upon the number and the positioning of the repeater stations with regard to the transmission characteristics of the environment.

A rehabilitation system is being designed for medical purposes that will permit the monitoring of a patient's heart rate every thirty seconds in addition to his location. A sensor and transducer worn by the patient superimpose the heart rate data upon the patient's standard location signal. Finally, the patient may send an overriding emergency signal to the base station at any time, and signals may likewise be sent from the base station to the patient.

To preserve the wearer's privacy and the anonymity of third parties, tone signals are used rather than verbal communication. Security equipment has been designed, but not constructed, that could insure the wearing of the transmitting equipment or indicate attempts to compromise or disable the system. This equipment would be compact, would involve no medical procedures, and would allow the main transmitting equipment to be removed from the person for activities such as bathing, swimming, and sleeping. Thus far, all research has involved

only the voluntary wearing of the equipment and the wearer has been free to turn off or remove the equipment whenever he wished.

A recent study has been completed by the author involving sixteen subjects who were continuously monitored using either location monitoring equipment or a modified remote paging device or by being accompanied by a research staff member. The subjects ranged from an offender with over one hundred arrests and eight years of imprisonment to a young businessman with no criminal record. The subjects were free to terminate participation at any time they wished and no incentives for participation were given.

Using length of participation as a measure of adaptation, 7 subjects continued for 5 days, 4 subjects continued for 10 days, and 2 subjects continued for over 35 days—one of them continuing for 167 days. In summary, most of the subjects did not readily adapt to the system. However, a few subjects did apparently adapt to the system within the first few days and then chose to participate for a considerable time. This tentatively suggests that with the addition of incentives or legal constraints the system might be used with cooperative subjects for fairly lengthy periods of time.

POTENTIAL APPLICATIONS

Reduction of Criminal Offenses

An electronic rehabilitation system might be particularly helpful in working with chronic recidivists. This group presents some difficult correctional problems because an increase in the frequency or length of their incarceration seldom increases the likelihood of their successful adjustment in the community, when one takes into account the effects of aging.⁴ Frequent or lengthy incarceration may in fact increase the likelihood of subsequent offenses, especially among juveniles.⁵

Nevertheless, public safety must be maintained. In the past, two options have generally been exercised regarding these chronic, ego-defective offenders: they have been either removed from the community

4. E. H. SUTHERLAND & D. R. CRESSEY, *PRINCIPLES OF CRIMINOLOGY* (1960); D. GLASER, *THE EFFECTIVENESS OF A PRISON AND PAROLE SYSTEM* (1964); N. D. WALKER, *CRIME AND PUNISHMENT IN BRITAIN* (Edinburgh University Press 1965).

5. G. K. Stuerup, *The Treatment of Chronic Criminals*, 28 *BULL. MENNINGER CLINIC* 229-43 (1964); H. W. Matick (ed.), *The Future of Imprisonment in a Free Society*, 2 *KEY ISSUES* 4-102 (1965).

for long periods of time under special recidivism laws or released with psychiatric treatment as a condition of parole. The therapeutic effectiveness and the manpower-cost feasibility of both of these procedures have been questioned.

Another option regarding the treatment of recidivists now being increasingly considered is that of making the recidivist's release from prison contingent upon his improved behavior and attitude in the institution. This is a promising approach, but it is often based upon the assumption that increased ego functioning in prison will be generalized to the community. Often such generalization is very tenuous and, if it occurs, requires much support from external controls.

In regard to the use of external controls with ego-defective offenders, Block offers a relevant, developmental approach.⁶ To summarize briefly, a young child cannot initially control himself and so his parents use external constraint. Later during the normal course of development, the child keeps in mind the injunctions of his parents and their physical presence is no longer necessary to constrain certain of his activities. The constraint becomes one of remembered prohibition. If the child feels secure and loved, he then moves toward an identification with the attitudes and ideals of his parents and thus the controls over his behavior become internalized. He now obeys the former rules because failure to do so would damage his own self-concept. Based upon this developmental approach, Chwast has suggested a principle of graded external control:

In action, this principle simply means that a parent does not resort to threats and physical punishment if explanations will do, a teacher does not send a pupil to the principal if she can caution him herself, a policeman does not arrest a boy when an admonition will serve, a judge does not commit a defendant if probation is feasible, and confinement in an institution is reduced if the prisoner can be paroled.

By this means, the intrusion of superior power, invariably experienced by the weaker person as a very real threat to his integrity with quite frequent traumatic repercussions, either flagrant or subtle, is delimited. The concept of authority used as a means of setting limits to deviant behavior seems perfectly consistent with this thesis.⁷

Two points implicit in this discussion are worthy of further attention. The first is that external control must be kept at a minimum not only

6. H. A. BLOCK, *CRIME IN AMERICA* (1961).

7. J. Chwast, *The Significance of Control in the Treatment of the Antisocial Person*, in *CRIME IN AMERICA: CONTROVERSIAL ISSUES IN TWENTIETH CENTURY CRIMINOLOGY* 74 (H. A. Block ed. 1961).

for ethical and legal reasons but for therapeutic reasons as well. Excessive or inappropriate external control is likely to produce hostility leading to further deviant behavior and to prevent the development of internal control. It might even be argued that the amount of external constraint should not be so much as to prevent all errors or mistakes. Learning very often involves the possibility of error. A child does not learn to walk (and thus become more free) without occasionally falling, but the parent sees that the child falls safely and that he does not begin walking at the top of a flight of stairs. The child is controlled not punitively but protectively. So also external control with the offender should perhaps provide some opportunity for him to "fall" but not to do serious damage to himself or others. The potential threat to civil liberties through the misuse of electronic monitoring equipment is extremely great and must not be hidden under the guise of the "protection" of the parolee when in fact the conditions are only restrictive or punitive.

The second point is that the normal process of the internalization of controls occurs best in a context of love or personal regard. The therapeutic benefit that an offender derives from a close, positive relationship with a person who is not an offender has frequently been pointed out.⁸ Without this context of positive regard, close supervision may become only an expedient method for providing temporary deterrence at the expense of long-term adjustment. The opportunity, and indeed the ethical privilege, of the close observation of an offender's behavior may well entail the responsibility of forming a positive relationship with him.

Protection of Both the Public and the Parolee

Monitoring of the location of a parolee, with its consequent deterrent and intervention possibilities, may enhance considerably the security of persons and property. While the public could be more surely protected than under present parole procedures, parolees could also be protected from false accusations—not an uncommon occurrence. Records kept at their homes or at the base station could indicate that they were not present at the time or place of an offense.

8. Cf. 13 K. R. Eissler, *Notes on Problems of Technique in the Psychoanalytic Treatment of Adolescents: With Some Remarks on Perversions*, in *THE PSYCHOANALYTIC STUDY OF THE CHILD* 223-54 (1958); P. Blos, *Delinquency*, in *ADOLESCENTS: PSYCHOANALYTIC APPROACH TO PROBLEMS AND THERAPY* 132-51 (S. Lorand & H. I. Schneer eds. 1965).

As electronic capabilities increase, it may be possible to limit monitoring to data directly related to a specific prior type of offense. For example, if the prior offense were the illegal use of a motor vehicle, an offender's speed of travel might be the only thing monitored rather than his location. Information about his location would be necessary only in the event of an imminent new offense. In some ways, this might be fairer than the far-reaching observation now used in close personal supervision.

An electronic rehabilitation system might also assist those recidivists who wished to separate themselves from prior gang affiliations. While participating in the system, they would not be of much value to the gang in criminal activities and therefore might be less subject to coercion by the gang. In addition, parolees who found themselves in situations of danger could send emergency signals for help. This decreased usefulness in organized crime might assist the parolee in making a successful transition to new group memberships and new patterns of living.

Facilitation of Therapy

As suggested above, a possible application of the electronic rehabilitation system might be its use as an aid to therapy. Very often parole officers wish that communication with their parolees could be more frequent and less difficult. With an electronic rehabilitation system, a parole officer could easily send a tone signal to the parolee asking him to call in. Tone signals could also be used to reward or warn the parolee regarding certain behavior. Thus, for example, if a parolee who had previously been very inconsistent in his work patterns was at work on time he might be sent a signal from the parole officer that meant, "You're doing well," or that he would receive a bonus. On the other hand, if it appeared that the parolee was in a high crime-rate area at 2 o'clock in the morning, he might be sent a signal reminding him to return home. The proposed system provides the possibility of rapid and strategic intervention within the parolee's natural environment—a procedure not previously possible but vitally important in the application of many learning theory and community mental health principles.⁹ This might also assist in the conduct and extension of present home visitation, half-way house, and work-release programs.

9. S. A. Shah, *Treatment of Offenders: Some Behavioral Concepts: Principles and Approach*, 30 FED. PROB. 29-38 (1966); R. Schwitzgebel & D. A. Kolb, *Inducing Behavior Change in Adolescent Delinquents*, 1 BEHAV. RES. AND THERAPY 297-304 (1964).

Reluctantly, one must face the unpleasant social reality that in some cases of chronic recidivism, particularly those involving impulsive disorders, the only practical alternatives are long-term imprisonment or close, compulsory supervision in the community. In the case of narcotic addicts, this supervision may include periodic tests to see that they have not used drugs.¹⁰ For such addicts, compulsory supervision does not seem to serve only as a temporary "crutch." The relapse rate following such supervision is no higher and sometimes lower than among those offenders who voluntarily seek to give up drug use while on parole.¹¹

The concept of "trust" as an essential precondition to the treatment of recidivists rather than a result of treatment, particularly in those cases of impulsive disorder where such a relationship has previously failed, is open to serious question. Clearly, it is possible to have a positive relationship without trust in regard to a specific offending behavior when there is general positive regard and mutual concern. In the case of severely disturbed mental patients, it would be impossible to treat them if, as a condition of treatment, one had to trust them not to act strangely again. In fact, if such a condition could be set up, further treatment would probably not even be necessary. Trust, in gradually increasing degrees, may be considered the result of treatment rather than its precondition.¹² At the termination of treatment trust should be involved when one allows the parolee to be in the community completely on his own. It is then a logical consequence of treatment, a natural outgrowth of a positive relationship, and probably an important aspect of one's ethical responsibility to protect others from harm. Therefore, as it is generally recognized, trust is involved in the treatment of offenders, but as with children it is not a prerequisite to a positive relationship, but develops with the person's increasing competence in the management of his behavior.

With an electronic rehabilitation system, the amount of constraint on the parolee in the community could be carefully regulated. It would also be possible for the therapist to send the parolee signals indicating his general interest and support and thus perhaps enhance standard

10. STATE OF CALIFORNIA, CORRECTIONS DEPARTMENT, CALIFORNIA ATTACKS NARCOTIC ADDICTION (1965).

11. G. E. Vaillant & R. W. Rasor, *The Role of Compulsory Supervision in the Treatment of Addiction*, 30 FED. PROB. 53-59 (1966).

12. E. Weigert, *Loneliness and Trust: Basic Factors of Human Existence*, 23 PSYCHIATRY 121-31 (1960).

therapeutic effects. A parolee just learning new modes of behavior may feel confused or ambivalent, and at such times he could send a signal to the therapist asking for encouragement.

The ease of communication and the wide range of meaning that can be assigned to the signals exchanged between the recidivist and the therapist provide a highly flexible method by which the therapist can directly extend his influence in a carefully controlled manner into the natural environment of the parolee. The therapist might therefore serve an auxiliary ego function, and as the recidivist demonstrated increasing capability to control his illegal behavior, the amount of supervision could gradually be reduced.¹³

It is now possible, for the first time in history, to maintain a relationship 24 hours a day and beyond the usual geographical barriers. The therapeutic potential and the general psychological benefits or hazards of such a relationship are not yet known. However, as previously noted, the avoidance of excessive control and the establishment of a positive relationship with the recidivist are probably necessary to avoid harm and maximize benefit. It would probably be wise, therefore, to prohibit all use of the equipment under discussion without clear evidence of long-term therapeutic efficacy even when the equipment was no longer being worn. In this way, some assurance could be provided that at least no more harm was being done than is usually done during successful treatment.¹⁴

Humanitarian Advantages

Even if, for reasons not yet realized, an electronic rehabilitation system could not therapeutically reduce recidivism below present parole levels (though this seems somewhat unlikely), the humanitarian aspects of the use of the system with certain offenders as an alternative to

13. Cf. P. W. TAPPAN, *CRIME, JUSTICE AND CORRECTION* chs. 2, 10 (1960).

14. The problem here, one common to all successful therapy, is that the philosophical or ethical values of the offender may be changed so that they more nearly conform to those of society. But the values of society may not ultimately be "correct" or "better" than those of the offender and, even if they are, the right to hold alternative values may be essential for the maintenance of a pluralistic or democratic society. Thus, harm is possible even in successful therapy. This problem has been avoided inasmuch as therapy has been only moderately successful. With its increasing effectiveness, the problem becomes more obvious. Some thoughtful discussions of this issue may be found in F. Barron, *Freedom as Feeling*, 1 *J. HUMANISTIC PSYCHOLOGY* 91-100 (1961); *CONTROL OF THE MIND* (S. M. Farber & R. H. L. Wilson eds. 1961); *THE QUEST FOR SELF-CONTROL* (S. Z. Klausner ed. 1965); C. R. Rogers & B. F. Skinner, *Some Issues Concerning the Control of Human Behavior*, 124 *SCI.* 1057-66 (1956).

incarceration could be considerable. An offender would not have to be incarcerated merely because he had repeatedly been found guilty in the past or held values conflicting with those of society, because society could be adequately protected. At the same time, the offender could be allowed much more freedom than he would have in prison. The opportunity to live and work in the community, even in a narrowly restricted geographical area, to make phone calls, and to visit one's friends and family would extend the rights of offenders far beyond those now permitted in even the most liberal institutions.¹⁵ Admittedly, such freedom would involve many constraints, inconveniences, and annoyances not necessary for those who were not parolees. Nevertheless, this would probably be better than incarceration. Certainly this has been the consistent opinion of inmates and parolees interviewed about the matter.

Given the choice between "harassed freedom" in the community and tranquil deprivation in prison, inmates are likely to choose freedom. They should at least be given the choice. For unlike Thoreau's common man who leads a life of quiet desperation, many recidivists tend not to be so quiet about their desires. If they did find the conditions of the electronic system too burdensome, they could choose to return to prison to serve their remaining time until they were regularly released. That an offender is unlikely to elect this option suggests that, in general, the system extends rather than curtails his rights within present correctional practice.

POTENTIAL HAZARDS

In contrast to the possible humane and therapeutic advantages of an electronic rehabilitation system used with recidivists there are some readily apparent dangers in its misuse. One issue which immediately comes to mind is that of the invasion of privacy.

The issue of privacy needs to be considered within the context of the offender's social reality. For the offender, the greatest invasion of privacy is incarceration. An electronic system that permits parole rather than incarceration actually increases greatly the privacy available to an offender. To protect the privacy of the offender as well as third parties

15. For example, over a period of about one year, approximately 41% of the inmates in the New Jersey State Prison received no visits from the outside world. See G. S. SYKES, *THE SOCIETY OF CAPTIVES: A STUDY OF MAXIMUM SECURITY PRISON* (1965).

as much as possible, tone signals, rather than verbal communication can be used. Also, as discussed above, perhaps the only behaviors that should be monitored are those directly related to the prior offense. In addition, a parolee should be allowed to return to prison without any added penalty if he chooses to do so. In this way, the electronic rehabilitation system would serve as an additional option for the inmate, one that could be considerably less severe than regular incarceration.

The severity of the system immediately raises the issue of the suitability or practicality of the conditions of parole. Conditions of parole such as weekly church attendance; abstinence from alcohol, gambling, and sexual relationships; and elimination of "vicious habits" may be desirable goals, but they are clearly unrealistic behavioral prescriptions for the recidivist, considering his prior experience and deprivation. The parole officer or therapist himself is likely to fall short of such standards. The unrealistic conditions of parole are now frequently made tolerable either because the parole officer is too busy to discover the violations or because they are "overlooked" by tacit agreement between the parolee and his officer. A monitoring system used to enforce these conditions would be unnecessarily punitive. Ideally, these conditions of parole should be changed, but as a secondary measure, previously suggested, the monitoring system could be used to determine only the occurrence of behaviors related specifically to the offense for which the parolee had been incarcerated. It might be desirable—even necessary—to permit occasional minor relapses or indiscretions (if the danger to society was not great) to allow for the learning essential to long-term therapeutic gain. Whether parole departments could operate in such cases with the necessary restraint, charity, and therapeutic acumen should be a matter of much concern.

There is the clear danger of a tendency to use an electronic rehabilitation system merely for surveillance rather than for rehabilitation purposes. For example, Michael has described the possibility of a monitoring system for parolees and mentally ill persons that is far more extreme than the one discussed here. He comments:

It is not impossible to imagine that parolees will check in and be monitored by transmitters embedded in their flesh, reporting their whereabouts in code and automatically as they pass receiving stations (perhaps like fireboxes) systematically deployed over the country as part of one computer-monitored network. We may well reach the point where it will be permissible to allow some emotionally ill people the freedom of the streets, providing they are effectively "defused" through chemical agents. The task, then, for the computer-linked sensors would be to telem-

eter, not their emotional states, but simply the sufficiency of concentration of the chemical agent to insure an acceptable emotional state. . . . I am not prepared to speculate whether such a situation would increase or decrease the personal freedom of the emotionally ill person.¹⁶

Putting aside technological difficulties, one of several social dangers involved in such a system is the emphasis upon surveillance. The therapist is missing, and the possibility of using the system to enhance personal and social relationships is neglected. It is appropriate, therefore, that Michael refrains from making a judgment as to whether the system he describes would increase or decrease personal freedom.

Another major hazard of telemetry systems is that of the extension of involuntary surveillance to groups not generally incarcerated. Some administrators may wish, for example, to monitor certain behaviors of high-risk probationers, suspects in gang war activity, Communist Party members, or government employees. This poses a significant threat to civil liberties. However, if monitoring systems are used only with volunteering participants (such as inmates seeking release from an institution), one of the basic requirements for the protection of rights is met. Even so, a serious problem still remains. Members of groups that are not generally incarcerated might be committed on minor violations for the purpose of later releasing them under surveillance. Some safeguards might be developed here by setting quotas on the number and type of parolees allowed to use the equipment and by selection of parolees by mutual agreement of two or more independent organizations. Of course, it would be essential to prevent situations involving subtle coercion, "volunteering" under duress, and the presumption of guilt if a person justifiably refused to wear the equipment.

POLICY CONSIDERATIONS

Concern about the long-range social effects of technology is clearly justified. Examples of the introduction of technological developments into the public domain without a careful consideration of possible consequences, both intended and unintended, are not difficult to find. Nuclear fission, automobiles (over one million people have been killed by automobiles since their widespread use), and computers illustrate the need for more thoughtful planning and regulation.

16. MICHAEL, *supra* note 3.

But planning and regulation without information about the actual effects of the equipment are likely to be haphazard or misdirected. Speculation about effects is not a trustworthy guide. On the other hand, several carefully controlled experiments could probably increase considerably the accuracy and effectiveness of such planning. This research should be done before the equipment becomes publicly available; thus it would be a type of "preventive" research.¹⁷ The procedures used might be somewhat similar to those used in medical device or drug research. The focus would be on the determination of safety and efficacy prior to public availability of the equipment.

Toward this objective, some very preliminary research has been conducted with the electronic rehabilitation system, using volunteers who participate from only a few hours one day up to 24 hours a day for several days. In addition, some effort has been made to obtain interdisciplinary consideration of the major issues that might arise from the future use of such a system. A recent discussion in the *Harvard Law Review* has pointed out some of the issues involved in defining constitutional limits and developing federal and local regulation. Concepts such as privacy, due process, "unreasonable" search, self-incrimination, and the limitation of the waiver of rights may be useful in shaping appropriate regulation. In discussing location monitoring as a condition of probation and parole, the *Law Review* comments:

Assuming that the necessities of prison administration justify large incursions on privacy, it does not follow that equal leeway should be granted in the treatment of parolees and probationers. The aim of most prison regulations is not to help treatment but to prevent supposedly dangerous convicts from escaping. Since most parolees do not pose an immediate danger to their neighbors, only milder surveillance should be allowed. But it might be proper to track more intensively those who could not otherwise be safely paroled. Also, a parolee or probationer is exposed to a complex environment unknown in detail to his parole or probation officer. To understand, help, and direct him, much information is needed, and the courts may well uphold tracking systems which furnish data reasonably related to rehabilitation.¹⁸

This discussion, appropriately conservative, nevertheless indicates somewhat broader possibilities for the legal use of location monitoring

17. R. Schwitzgebel, *Electronic Innovation in the Behavioral Sciences: A Call to Responsibility*, 22 AM. PSYCHOLOGIST 364-70 (1967).

18. Note, *Anthropotelemetry: Dr. Schwitzgebel's Machine*, 80 HARV. L. REV. 418 (1966).

than have been suggested in the previous sections of this paper. It was suggested above that an electronic rehabilitation system be used only with confirmed recidivists on parole (not probation), that information be limited as much as possible to that specifically related to the prior offense, and that demonstrated, long-term therapeutic effectiveness be a prerequisite for use of the system. It was further recommended that the system be used only in the context of a positive, therapeutic relationship (as opposed to mere surveillance), that unrealistic conditions of parole be revised, and that occasional minor relapses or indiscretions be permitted. To achieve this, more adequate legislative and judicial safeguards will need to be established.¹⁹

In summarizing an informal conference on science policy held at the University of Sussex, England, Bolt observed that the role of science in society is an expanding and crucial one and that the formation of policy affecting the applications of science is of prime importance.²⁰ It was suggested, therefore, that more effort be aimed at gaining a better understanding of how we arrive at such policy decisions. Toward this end, the electronic rehabilitation system may serve as a case study within the broader area of science policy.

Telemetry equipment will probably be used increasingly for the rescue and rehabilitation of medical patients. Its possible application in the area of corrections is already a matter of considerable discussion. What is now known and possible in electronic technology cannot be unknown or readily denied. Although it may be unwillingly that we find ourselves in this situation, there is no ready escape, and the luxury of complaint without effective action is no longer justifiable. The past failure to regulate effectively the social consequences of technology suggests that the time lag presently existing between the laboratory development of behavioral telemetry systems and their public availability may be a most appropriate interval for planning and the formation of regulatory policy.²¹

19. In A. S. Miller, *Technology, Social Change, and the Constitution*, 33 GEO. WASH. L. REV. 17-46 (1964) the author has suggested that previously the law and lawyers have responded to or been acted upon by technological change. But now that technological change is a constant in American society, the management of this change should come within the province of the law to preserve a democratic political and social order. See also D. B. King, *Electronic Surveillance and Constitutional Rights: Some Recent Developments and Observations*, 33 GEO. WASH. L. REV. 240-69 (1964).

20. R. H. Bolt, *Science Policy*, SCI., May 22, 1964, at 1047.

21. G. F. Axtelle, *Technology and Social Change*, THE EDUC. F., Jan. 1961, at 133-40.

The victims of imprisonment are not only the inmates but also those innocent persons who, because of the therapeutic ineffectiveness of prison, will inevitably become the victims of these inmates after their release. Electronic rehabilitation systems may reduce the need for imprisonment and at the same time protect the public from future offenses more surely than present procedures. The humane quality of urban life in the future may, indeed, depend heavily upon the extent to which citizens can be free from harm by others. Technology may make it possible to regain some measure of freedom to walk the streets and enjoy the parks in safety, and to greet the stranger as a friend rather than as one to be feared. On the other hand, the misuse of behavioral telemetry equipment in crime prevention presents a most serious threat to the essential civil liberties of the general public. Nothing will have been gained, and much will have been lost, if in our enthusiasm to reduce crime and eliminate prisons we turn the world itself into a prison.

This paper has attempted to chart, in very rough outline, a course that could maximize the freedom of both the chronic recidivist and the general public. The issues inherent in the use of technology to prevent crime must be considered now, if we ourselves are not to become the victims of our own efforts in crime prevention.

COMMENTARY

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PROFESSOR SCHWITZGEBEL'S PAPER attempts several different projects. He has been involved in the extension of a technical invention into the area of penology. Here he is clearly serving notice of its availability and advocating its adoption. He is careful not to overstate the case and not to ignore possible objections. Nevertheless the consideration of objections (the "Issues" of the title) is in aid of countering or vitiating those objections. In this purpose he has shown as much ingenuity and subtlety as he did in the program of electronic monitoring itself. Conceivably, Schwitzgebel has not anticipated all doubts of a civil libertarian or humane perspective. But he has posed enough of them and discussed them sufficiently well to give us the confidence that he would do a thor-