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The Researcher as "Offender" and "Victim"— Comparative Observations as to Freedom and Responsibility of Science and Technology

*Albin Eser**

Modern research has taken on a dangerous complexion—for the research scientist himself as well as for his subject. Yet modern research is not facing a completely new phenomenon. If in the year 1600 Giordano Bruno had to mount a pyre for his new world system based on natural philosophy, it was not because his scientific views were understood by the *zeitgeist* of that age as posing a threat to the political system. One could easily chart the course of "dangerous research" from Bruno to the present day and support it with impressive examples. At most, the areas of conflict have changed with the passage of time: while in the past it was usually the speculative thinker coming from the humanities who ran the risk of conflict with the law and morality of his time, today it is primarily the empirical scholar of the natural and social sciences whose research activity may either be threatened or pose a threat.¹ Thus, in terms of the criminal law, a research scientist may become both an "offender" and a "victim." He may become an offender insofar as his research is detrimental to the interests of others. He may become a "victim" through the impairment of his research by other persons or institutions, or where his activities are impeded by statutes, guidelines or other limitations.

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1. Cf. M. BRUSTEN, W. EBERWEIN, C. FELTES, G. GOLLNER & K. SCHUMANN, FREIHEIT DER WISSENSCHAFT—MYTHOS ODER REALITÄT? EINE EMPIRISCHE ANALYSE VON FORSCHUNGSKONFLIKTEN UND DER RECHTLICHEN REGULIERUNG DER FORSCHUNGSABWEHR AUS DER SICHT DER SOZIALWISSENSCHAFTLER (1981). See generally FORSCHUNG IM KONFLIKT MIT RECHT UND ETHIK (A. Eser & K. Schumann eds. 1986) [hereinafter FORSCHUNG IM KONFLIKT]. The American contributions in this book are also, though some of them only partially, published in SOCIAL RESEARCH IN CONFLICT WITH LAW AND ETHICS (P. Nejelski ed. 1976) [hereinafter SOCIAL RESEARCH IN CONFLICT].

I. THE RESEARCH SCIENTIST AS A POTENTIAL "OFFENDER"

A. *Human Experimentation*

The first topic that comes to mind when considering the research scientist as a potential offender is the question of biomedical "human experimentation."² Doctors, above all, may infringe upon the law in this field of research. For example, a doctor may expose the subject of a drug test to a disproportionate risk to life or health, or may fail to furnish a patient with adequate information concerning his inclusion in a therapeutic procedure that has not previously been tested and thereby showing little regard for his right to self-determination. Two outrageous cases from the United States and Canada illustrate the fact that such conduct not only occurred in the human experiments of Nazi concentration camps, as exposed by the Nuremberg medical trial, but also may clearly become a latent temptation for any research scientist irrespective of political conditions. The American case was brought against a chronic disease hospital in New York where a group of seriously ill patients who had declared themselves willing to undergo a supposedly beneficial test of their immune reactions were in fact injected with virulent cancer cells.³ The Canadian case was brought against the University of Saskatchewan where, for a small fee, a student agreed to the insertion of a catheter into his brachial vein for a supposedly harmless drug test. Actually, a new narcotic was to be tested, and moreover, the catheter was inserted into his heart causing a temporary cardiac arrest.⁴

2. Cf. E. DEUTSCH, *DAS RECHT DER KLINISCHEN FORSCHUNG AM MENSCHEN* (1979); G. FISCHER, *MEDIZINISCHE VERSUCHE AM MENSCHEN* (1979). See generally W. EBERBACH, *DIE ZIVILRECHTLICHE BEURTEILUNG DER HUMANFORSCHUNG* (1982) (from the viewpoint of civil law); Eser, *Das Humanexperiment*, in *GEDÄCHTNISSCHRIFT FÜR HORST SCHRÖDER* 191-215 (W. Stree, T. Lenckner, P. Cramer & A. Eser eds. 1978) (from the viewpoint of criminal law).

3. *Hyman v. Jewish Chronic Disease Hosp.*, 15 N.Y.2d 317, 206 N.E.2d 338, 258 N.Y.S.2d 397 (1965); see J. KATZ, *EXPERIMENTATION WITH HUMAN BEINGS* 9-65 (1972).

4. *Halushka v. University of Saskatchewan*, 52 W.W.R. 608 (Sask. Ct. App. 1965). These and similar cases are discussed in Beecher, *Ethics and Clinical Research*, in *BIOMEDICAL ETHICS AND THE LAW* 215-27 (J. Humber & R. Almeder eds. 1976). See also E. DEUTSCH, *MEDIZIN UND FORSCHUNG VOR GERICHT* 35-51 (1978); cf. Cripps, *A New Frontier in International Law*, 29 INT'L & COMP. L.Q. 1 (1980); J. KATZ, *EXPERIMENTATION WITH HUMAN BEINGS* 284-321 (1972). See generally Y. CRIPPS, *CONTROLLING TECHNOLOGY, GENETIC ENGINEERING AND THE LAW* (1980).

B. Social Scientific Experimentation

Not only biomedical research, but also certain psychological, sociological, or other social scientific experiments can subject the test person to disregard of his right to self-determination and possible risk of injury to life or limb.⁵ For example, in one case test persons were placed in a dark room supposedly so that their behavior in protracted isolation conditions could be tested. In fact, the test's purpose was to observe their reactions in a situation of sudden stress, and to this end, a fire was simulated from which no rescue appeared possible, with the result that subjects were shocked into a state of mortal fear.⁶

Scarcely less problematic are those cases where test persons are incited to criminal conduct. Milgram's notorious obedience study is one example. In that case, research subjects were given the role of "teacher" and were instructed to punish "pupils" for every incorrect answer by administering electric shocks of increasing severity. In the course of the experiment, some subjects administered shocks which appeared to be fatal. Nothing actually happened to the punished pupils because both the electric shocks and the screams of the supposed victims were simulated. However, because the test persons knew nothing of this simulation, they had been led to commit attempted manslaughter, under German law.⁷ According to German law, the director of the experiment could be saved from a charge of criminal incitement only by recourse to the problematic figure of the "agent provocateur."⁸

C. Data Protection

Data protection is another field where research work, partic-

5. See FORSCHUNG IM KONFLIKT, *supra* note 1, at 183-219, 285-95, 353-69; Deutsch, *Rechtliche Grenzen des sozialpsychologischen Experiments*, in PRIVATAUTONOMIE, EIGENTUM UND VERANTWORTUNG—FESTGABE FÜR HERRMANN WEITNAUER 297-313 (H. Ehmann, W. Hefermehl & A. Laufs eds. 1980); Freidson, *The Legal Protection of Social Research*, in SOCIAL RESEARCH IN CONFLICT, *supra* note 1, at 123-37. See generally PSYCHOLOGISCHE GRUNDLAGENFORSCHUNG: ETHIK UND RECHT (L. Kruse & M. Kumpf eds. 1981).

6. H. SCHULER, *ETHISCHE PROBLEME PSYCHOLOGISCHER FORSCHUNG* 94 (1980) (citing Cook, *Ethical Issues in the Conduct of Research in Social Relations* in RESEARCH METHODS IN SOCIAL RELATIONS, 199, 222 (L. Selltitz, L. Wrightsman & S. Cook eds. 1976)).

7. StGB §§ 22, 212. (German Penal Code).

8. See generally P. Cramer, § 26, Marginal No. 16-17, in A. SCHÖNKE & H. SCHRÖDER, STRAFGESETZBUCH: KOMMENTAR (Th. Lenckner, P. Cramer, W. Stree & A. Eser 22nd ed. 1985) [hereinafter A. SCHÖNKE & H. SCHRÖDER].

ularly of biomedical and social scientists, may run into conflict with the law.⁹ The annual reports of the German Data Protection Commissioners include material illustrative of the wide extent to which respect for the personality of individual citizens seems to be lacking where personal data is to be processed for research purposes.¹⁰ Research scientists are faced with the dilemma of, on the one hand, not wanting to place the modern instrument of data processing beyond the reach of their fraternity and, on the other hand, of being private individuals who do not want to see themselves in the victim's role.

D. Human Genetics

Another equally complex problem area is the field of research commonly known today as "human genetics," where biologists, in addition to doctors, play a prominent role.¹¹ As far as human fetus research is concerned, the embryo is clearly a definable legal interest.¹² Yet even with regard to the question of

9. Cf. Müller, *Datenschutz und Sicherung der Individualdaten der empirischen Sozialforschung*, in *FORSCHUNG IM KONFLIKT*, *supra* note 1, at 437-55. See generally W. KILIAN, *RECHTSFRAGEN DER MEDIZINISCHEN FORSCHUNG MIT PATIENTENDATEN: DATENSCHUTZ UND FORSCHUNGSFREIHEIT IM KONFLIKT* (1983); F. MEILINGER, *DATENSCHUTZ IM BEREICH VON INFORMATION UND DOCUMENTATION* (1984). See also *infra* note 29.

10. Cf., e.g., *Sechster Tätigkeitsbericht des Landesbeauftragten für den Datenschutz*, in *LANDTAG VON BADEN-WÜRTTEMBERG*, Drucksache 9/2540 of 31.12.1985 at 91-106. Obviously this lack of "awareness of unlawfulness" is understandable up to a certain point since there was practically free access to personal data until the data protection legislation came into force.

11. See generally Eser, *Humangenetik: rechtliche und sozialpolitische Aspekte*, in *GENETIK UND MORAL BEITRÄGE ZU EINER ETHIK DES UNGEBORENEN* 130-45 (J. Reiter & U. Theile eds. 1985)[hereinafter *GENETIK UND MORAL*]; *MÖGLICHKEITEN UND GRENZEN DER HUMANGENETIK* (W. Schloot ed. 1984) (with contributions from the fields of medicine, biology, theology, science and politics); THE JAPAN FOUNDATION, *CONFERENCE ON LIFE SCIENCES AND MANKIND* (1984) (conference held March 19-22, 1984).

12. At least from the time of nidation (implantation) on. Cf. A. Eser, in A. SCHÖNKE & H. SCHRÖDER, *supra* note 8, at 5-6, 26-218. Prior to nidation—and even more clearly if implantation does not occur after in-vitro fertilization outside of the mother's womb—the embryo is defenseless as a practical matter, at least under current German law. Cf. Eser, *supra* note 11, at 137-38. The demand for intensified reflection about the "moral status" and protection of non-implanted embryos is thus all the stronger. Cf. Recommendations of the Réunion Internationale de Bioéthique, at Rambouillet, April 1985, reprinted in 1 *BIO-ENGINEERING* 39-44 (1985). See also Eser, *Strafrechtliche Schutzaspekte im Bereich der Humangenetik*, in *ETHISCHE UND RECHTLICHE FRAGEN DER GENTECHNOLOGIE UND DER REPRODUKTIONSMEDIZIN* 120, 137-43 (V. Braun, D. Mieth & K. Steigleder eds. 1987); Giesen, *Probleme künstlicher Befruchtungsmethoden beim Menschen*, in 40 *JURISTENZEITUNG* 652-61 (1985) (concerning state of discussion in Great Britain and Australia). From a medical perspective, see Schleiermacher, *Der Beginn des Lebens*, in *supra* note 11, at 69-85.

whether and to what extent unborn human life may be the subject of experimentation, an awareness of the problems involved obviously lags far behind actual practice. Today one no longer jumps so unabashedly to the conclusion that a fetus which could have been aborted might also be used for experimentation, as was the case a few years ago when a group of research scientists in Massachusetts, having prematurely removed a placenta for research purposes, causing death by suffocation of a viable fetus, suddenly found themselves faced with a manslaughter charge.¹³ People in West Germany are also unaware of the consequences of the prohibition of abortion. For example, infertility research circles take the view that the risk of deformity arising during the testing of fertility drugs could, if necessary, be met through abortion so that it is not necessary to inform test persons of this risk—as if the performance of an abortion were simply a matter of course in cases where deformity of a child is considered possible.

Considering this blindness to the interests of unborn life, it is hardly surprising that with regard to the so-called “test-tube baby” apparently only the happiness of the parents is considered.¹⁴ Not that there is anything fundamental to be said against such in-vitro fertilization; nevertheless, people are not yet fully aware of the conflicts of interests that result therefrom. Thus, not only does a pregnancy induced in this manner presuppose numerous prior fertilization attempts, but surplus eggs, although already fertilized, also have to be destroyed to avoid a multiple birth. In other words, the child that is finally born owes its existence to the selective abandonment of other fertilized eggs.¹⁵

E. Gene Technology

The temptation of eugenic selection, for which these developments have paved the way, becomes even more threatening in

13. See Wilson, *A Report on Legal Issues Involved in Research on the Fetus*, reprinted in NATIONAL COMMISSION, *RESEARCH ON THE FETUS*, DHEW Publication No. OS 7-5, App. 76-127, 76-128, Part 14 at 4.

14. For an interdisciplinary view of this question, see *IN-VITRO-FERTILISATION UND EMBRYOTRANSFER (RETORTENBABY)* (U. Jüdes ed. 1983). See also *supra* note 11.

15. See Eser, *Forschung mit Embryonen in rechtsvergleichender und rechtspolitischer Sicht*, in *FORTPFLANZUNGSMEDIZIN UND HUMANGENETIK—STRAFRECHTLICHE SCHRANKEN?* 261-89 (H. Günther & R. Keller eds. 1987); Ostendorf, *Experimente mit dem “Retortenbaby” auf dem rechtlichen Prüfstand*, 39 *JURISTENZEITUNG* 595-600 (1984).

the field of gene technology.¹⁶ Even if humanity can be spared a little longer the cloning which is already possible with mice, and even if we gladly continue to dispense with proof that something like an asexual "virgin birth" could actually take place (whereby the child becomes its mother's genetically identical twin), nevertheless, the experimental technology of DNA is now so far advanced that intervention in genomes and changes in hereditary factors are possible. As long as these possibilities are only used for the purpose of eliminating diseased genotypes, both the individual and social utility thereof seem evident. But what is the position when we are no longer dealing with therapeutic eugenics but rather with the intended selection of high-grade factors or other desired attributes so that gene technology becomes a question of eugenic selection? What interests should properly determine superiority or inferiority? And who should act as judge in these matters? Although it would be possible to establish a criterion, guided by "normality," for the identification of genetic damage, a positive "superiority catalogue" would hardly be free from subjective arbitrariness. This would mean, however, that eugenics constitutes more than a mere natural scientific method of treatment. As soon as human genetic selection is oriented towards socially relevant superiority and inferiority criteria, it embodies evaluations regarding human life that are not reached on an empirico-descriptive basis but are normatively fixed, even if on an unconscious level only. As socially relevant evaluations, they must, however, be legitimated and accounted for vis-à-vis the "polis" as a whole. Those who do not wish to accept this ought to consider the probability that a particular inferior species could be completely eliminated through appropriate human genetic selection. The idea that the decision regarding such a form of "genocide" cannot be a private matter

16. See generally BUNDESMINISTERIUM FÜR FORSCHUNG UND TECHNOLOGIE, *ETHISCHE UND RECHTLICHE PROBLEME DER ANWENDUNG ZELLBIOLOGISCHER UND GENTECHNISCHER METHODEN AM MENSCHEN* (1984) [hereinafter *FORSCHUNG UND TECHNOLOGIE*]; FRIEDRICH-NAUMANN-STIFTUNG, *GENTECHNOLOGIE: CHANCEN UND RISIKEN* (1985); *GENFORSCHUNG IM WIDERSTREIT* (W. Klingmüller ed. 1980). For American literature on the topic, see Chalfant, Hartmann & Blakeboro, *Recombinant DNA: A Case Study in Regulation of Scientific Research*, 8 *ECOLOGY L.Q.* 55-129 (1979); Fletcher, *Moral Problems and Ethical Issues in Prospective Human Gene Therapy*, 96 *VA. L. REV.* 515 (1983); McGarity & Bayer, *Federal Regulation of Emerging Genetic Technologies*, 36 *VAND. L. REV.* 461 (1983). For an East German viewpoint, see generally R. PIECHOCKI, *GENMANIPULATION: FREVEL ODER FORTSCHRITT?* (1983).

ought to be comprehensible to every research scientist who glances over the top of his test tube.¹⁷

F. Indirect Research Risks

Thus far, this article has discussed predetermined or accepted conflicts of interests arising from the activities of research scientists. Also of concern is an indirect research risk, namely, the danger of unintentional harm or side effects. An example of such an indirect risk becomes apparent in the case where gene-technological or other molecular biological experiments with pathogenic donor material could lead to uncontrollable infections or even to the development of carcinogenic organisms or other toxic agents. Furthermore, there is already discussion of the possibility of a dangerous increase in resistance to antibiotics. Certainly these apprehensions, which have found expression in the safeguards embodied in the guidelines of Asilomar, may have been exaggerated at times.¹⁸ Nevertheless, the fact remains that there have already been a number of research accidents, sometimes with fatal consequences, particularly in the United States, New Zealand, and England.¹⁹ For instance, there was the case of the escape of smallpox viruses from microbiological laboratories in London and Birmingham in 1973 and again in 1978. As these incidents illustrate, research may expose not only test subjects but also research personnel and completely uninvolved third parties to serious illness or death. These indirect risks may arise as unintended side effects emanating from unforeseen risks, which are all the more difficult to control.

17. See Eser, *Recht und Humangenetik: Juristische Überlegungen zum Umgang mit menschlichen Erbgut*, in *MÖGLICHKEITEN UND GRENZEN DER HUMANGENETIK* 185-209, 217-18 (W. Schloot ed. 1984); see also Klingmüller, *Genetik und Gentechnologie*, 38 *NATURWISSENSCHAFTLICHE RUNDschau* 83, 89 (1985).

18. See Binder, *Gentechnologie zwischen Forschungsfreiheit und Gefahrenschutz*, in *GENETIK UND MORAL* *supra* note 11, at 116-29; Deutsch, *Rechtspolitische Probleme der Gentechnologie*, 7 *MEDIZIN MENSCH GESELLSCHAFT* 88-90 (1982); Zentrale Kommission für Biologische Sicherheit, *Risiko-Diskussion in der Gentechnologie*, in *FORSCHUNG UND TECHNOLOGIE*, *supra* note 16, at 171-73.

19. See Y. CRIPPS, *supra* note 4, at 12, 16, 44; McGarity, *Contending Approaches to Regulating Laboratory Safety*, 28 *U. KAN. L. REV.* 183, 194 (1980).

II. THE RESEARCH SCIENTIST AS POTENTIAL "VICTIM"

The picture presented of the research scientist thus far has admittedly not been very flattering and would be vastly one-sided if one failed to also view the scientist as a potential victim. Four aspects of the obstacles and dangers which threaten the research scientist's work are discussed below.

A. *Insufficient Constitutional Protection for Freedom of Research*

For the research scientist, the absence of constitutional protection of science and research may give rise to basic uncertainty.²⁰ As long as freedom of research remains at the mercy of ordinary legislative procedure, it is subject not only to limitation at pleasure but also to a continued need for legitimation. This can easily lead to a situation where social utility rather than freedom becomes the yardstick of all research—as is usually postulated in socialist constitutions.²¹ Thus, if this criterion were to apply, only research that superficially appears advantageous would be protected. Pure basic research, on the other hand, if unable to render plausible its possible practical usefulness, would be put in as difficult a position as the theoretical humanities which because of its continual social criticism also must resist society's suspicion of subversion. Surprisingly, only a minority of countries in Western Europe can point to a constitutional guarantee of freedom of research. Perhaps this is actually not so surprising after all, when one considers the recent history of these countries—of the Federal Republic of Germany, Austria, Italy, and of Spain and Portugal. A country seems to have to undergo first-hand experience of the subjugation of research before the guarantee of its freedom can be properly valued. For this reason one can only hope that research guarantees in the remaining countries, derived in some cases from freedom of ex-

20. See CONSEIL DE L'EUROPE, AFFAIRES JURIDIQUES, ACTES DU 10 IEME COLLOQUE DE DROIT EUROPEEN, LA RECHERCHE SCIENTIFIQUE ET LE DROIT 82-97 (1981) (P. Harmel, on the one hand, stresses the necessity of freedom of research, while M. Melchoir, on the other hand, rejects freedom of research as an absolute right); see also Schmitt Glaeser, *Die Freiheit der Forschung*, in FORSCHUNG IM KONFLIKT, *supra* note 1, at 77-99.

21. See Joirysch, *Die rechtliche Regelung des wissenschaftlichen Fortschritts*, 30 STAAT UND RECHT 161-69 (1981); see also Gecik, *Human Experimentation in Medicine from the Viewpoint of the Czechoslovak Legal Provisions*, in R. DIERKENS, *JUS MEDICUM* 265-68 (1984) (6th World Congress on Medical Law).

pression²² and in other cases from ordinary legislation,²³ will suffice to safeguard research against open or concealed intrusions.

B. Restrictions on Access

Today a research scientist is exposed to many different legal obstacles—even in those cases where he finds himself, as in the Federal Republic of Germany, on safe constitutional ground—so that restriction rather than freedom would require special justification.²⁴ In regard to this threat of restriction, scientists are primarily faced with a problem of ever-increasing magnitude: restrictions placed on access to essential research sources.²⁵ If, for instance, a historian or a political scientist does not enjoy a right of access to state archives but is only granted such access as a "favor," which may have to be earned through assurances of good behavior, then in practical terms freedom of research may only be worth the paper on which it is written.

Overdue as data protection legislation was in the protection of the private sphere against uncontrolled accumulation, retention, and communication of personal data, such protection has at times proved to be a factor restricting access. Thus, the compilation or registers of epidemiological diseases had to be abandoned, and the acquisition of criminological data in penal institutions has become almost impossible.²⁶ Moreover, there is the suspicion that bureaucratic appeals to data protection may serve as a welcome pretext for blocking unwanted research into power structures.²⁷ The fact that the state parliament in Baden-Wurt-

22. As in the *Benelux-Constitutions*, for example, as well as in France, Great Britain, and the United States. To the latter see generally Blasi, *Das Journalistenprivileg und das Forscherprivileg: Ein Vergleich*, in *FORSCHUNG IM KONFLIKT*, *supra* note 1, at 100-12 (see also his abridged English version: *The Newsman's Privilege and the Researcher's Privilege: Some Comparisons*, in *SOCIAL RESEARCH IN CONFLICT*, *supra* note 1, at 155-61). See also Note, *First Amendment Protection for Biomedical Research*, 19 ARIZ. L. REV. 893 (1977).

23. As in the *University Acts* from Denmark, Finland and Sweden.

24. See Eser, *supra* note 17, at 190-95; see also Dreier, *Forschungsbegrenzung als verfassungsrechtliches Problem*, in *DEUTSCHES VERWALTUNGSBLATT* 1980, at 471-75; Schmitt Glaeser, *Die Freiheit der Forschung*, in *FORSCHUNG IM KONFLIKT*, *supra* note 1, at 77-99.

25. See Oldenhave, *Überlegungen zu rechtlichen Problemen der Nutzung von Archiven in der Bundesrepublik Deutschland*, in *WISSENSCHAFTSFREIHEIT UND IHRE RECHTLICHEN SCHRANKEN* 27, 29 (Justitist für Zeitgeschichte ed. 1978).

26. See, e.g., Haferkamp, *Kriminalsoziologische Forschung im Konflikt mit Strafverfolgung*, in *FORSCHUNG IM KONFLIKT*, *supra* note 1, at 157-82.

27. Concerning this tension between data protection and research, see *supra* note 9. See also E. MOCHMANN & P. MÜLLER, *DATA PROTECTION AND SOCIAL SCIENCE RESEARCH*

temberg was contemplating the removal of such obstacles through the insertion of a new section of research in the Data Protection Act must be welcomed on principle; nevertheless, this step could only have been considered laudable if new imbalances had not been thereby created. However, the 1982 version of the new draft made provisions for a one-sided "medical privilege" with such radical terms that patients were left virtually defenseless in their right to self-determination through the extensive suppression of both the prior requirement of consent and the subsequent right to information.²⁸

What is perhaps more questionable about these differences in accessibility to confidential spheres is the tendency towards a dysfunctional reversal of emphasis. One would think that in the light of human dignity the personal sphere ought to be more effectively shielded against and thus less easily accessible to the encroachment of research than the inner workings of a public institution accountable to the community at large. However, exactly the reverse is true. While bureaucracies are always more adept at warding off the research scientist,²⁹ the individual is always less immune to the investigation of his person, especially where he has become a patient or social outsider or otherwise finds himself in a particularly vulnerable position, such that protection of confidentiality would be all the more necessary.

(1979) (an international overview); Blohmke & Kniep, *Epidemiologische Forschung und Datenschutz*, in 35 NEUE JURISTISCHE WOCHENSCHRIFT 1324-25 (1982); Kilian, *Rechtsgrundlagen der medizinischen Forschung mit Patientendaten in den USA*, in 37 NEUE JURISTISCHE WOCHENSCHRIFT 1792-98 (1984); Scherer, *Verfassungsrechtliche Probleme des "Musters für ein Krebsregistergesetz"*, in ZEITSCHRIFT FÜR RECHTSPOLITIK 291-93 (1982).

28. See Gola, *Zur Entwicklung des Datenschutzrechts im Jahre 1982*, in 36 NEUE JURISTISCHE WOCHENSCHRIFT 915, 917 (1983). After this draft had found a lot of public criticism, a federal draft by the majority coalition of CDU/CSU and FDP tried to avoid discrimination through proposing a general "research clause," thereby, however, only opening access to personal data whereas access to public bureaucracies still is left unregulated: see section 3a des Entwurfs eines Gesetzes zur Änderung des Bundesdatenschutzgesetzes etc (Draft of an Amendment of the Federal Data Protection Act) in DEUTSCHER BUNDESTAG-DRUCKSACHE 10/4737 of 28.1.1986.

29. Concerning such investigations of institutions, bureaucracies and other power structures, see Barker, *Invading the Government's Privacy: Problems of Research on National Security Issues*, in SOCIAL RESEARCH IN CONFLICT, *supra* note 1, at 51-66; Schumann, *Ethische und rechtliche Probleme bei Erforschung von Macht*, in FORSCHUNG IM KONFLIKT, *supra* note 1, at 285-95; Sjöberg, *Ethics, the "Hidden Side" of Bureaucracy, and Social Research*, in SOCIAL RESEARCH IN CONFLICT, *supra* note 1, at 35-50.

C. *Protection of Confidentiality*

Protection of confidentiality may not only restrict a research scientist's access to sources and thus function as an obstacle to particular research projects, but it may still raise problems even after the attainment of confidentiality. For example, there is the problem of securing confidentiality against the intrusion of third parties, that is to say, against public prosecutors. We are here faced with an issue that—as far as I can see—has not yet been resolved anywhere in the world, namely, the question whether research scientists should be granted a right to refuse to give testimony together with corresponding freedom from search and seizure with regard to information or other materials gathered during the course of research on the basis of an express or tacit assurance of confidential treatment.³⁰ For instance, as long as a criminologist has to fear that he may either be compelled to testify of the criminal conduct of a test person who has given him information or whom he has had under observation, or be compelled to hand over written records, he is left with the choice of either exposing his informer and inevitably losing one of his sources or heroically enduring a coercive penalty.³¹ Journalists, on the other hand, have long been accorded certain privileges of confidentiality in this connection, at least under German law.³² Consequently, the question arises whether one ought to regard what is proper for the freedom of the press as also being right for the freedom of research.

D. *Threats to Freedom of Research Through the Researcher Himself*

Finally, in addition to these external dangers confronting freedom of research, certain internal threats emanating from the

30. Concerning such problems of refusal to give testimony and of immunity for the researcher, see *FORSCHUNG IM KONFLIKT*, *supra* note 1, with the contributions by Freidson, *Rechtsschutz für Sozialforschung—Kriterien zur Definition*, at 183-99; Gollner, *Aussageverweigerungsrecht und Immunität*, at 241-66; Haferkamp, *Kriminalsoziologische Forschung im Konflikt mit Strafverfolgung*, at 157-82; Quensel, *Einige sozialwissenschaftliche Probleme der juristischen Regelung sozialwissenschaftlicher Forschung*, at 220-40; see also Schreiber, *Das Strafrecht als Mittel der Forschungskontrolle*, in *GRENZEN DER FORSCHUNG* 141-49 (R. Kurzrock ed. 1980).

31. See *United States v. Doe*, 460 F.2d 328, 332 (1st Cir.), *stay denied*, 409 U.S. 1002 (1972), *cert. denied*, 411 U.S. 909 (1973); see also Freidson, *supra* note 5.

32. StPO §§ 53 sect. 1 no. 5, 97 sect. 5 (German Criminal Procedure Code). Cf. *Branzburg v. Hayes*, 408 U.S. 665 (1972) (under American law journalists must respond to a grand jury subpoena and answer questions relevant to a criminal investigation).

research scientist himself may be observed. We may observe a propensity, especially in gene technology, towards marketing expected research results as soon as possible. This is not to say that the integrity of research is sacrificed every time profit motives are superimposed on the search for truth. However, the whole matter does become problematic when even university researchers enter into legal commitments whereby the right to exploit their research results is from the very outset reserved to a single enterprise.³³ This threat to an open exchange of information and to potential disinterested criticism, which is essential for true freedom of research, is already regarded as so alarming in the United States that leading American universities have agreed that their research contracts with industrial enterprises must be disclosed, that their own patents should on principle be relinquished on a non-exclusive basis only, and that the acceptance of an appointment in the management of a business enterprise must be declared to be incompatible with the tenure of a university chair.³⁴

Another instance where research actually abets its own "surrender" is when the permissibility of research is also interpreted as an absence of an obligation to inquire. When the University statute of the State of Hesse imposed an obligation on research scientists "to bear in mind the social consequences of scientific knowledge,"³⁵ some university professors felt compelled to object because non-consideration of consequences also forms part of freedom of research.³⁶ There is nothing to be said against the formal logic of such a concept of freedom, although it is a pity that the totality of truth and the essential *telos* of science should be abandoned in this manner.

33. See, e.g., Ryan, *A Statement of Concern for Biotechnology*, 6 QUEEN'S L.J. 408-13 (1981).

34. International Herald Tribune, Oct. 23-24, 1982. See also Blum & Kaufmann, *Ziele, Grenzen und praktische Wege einer technologischen Zusammenarbeit zwischen Hochschule und Industrie*, in 18 WISSENSCHAFTSRECHT, WISSENSCHAFTSVERWALTUNG, WISSENSCHAFTSFÖRDERUNG 1 (1985).

35. HESSISCHES UNIVERSITÄTSGESETZ § 6 ("die gesellschaftlichen Folgen wissenschaftlicher Erkenntnis mitzubedenken").

36. Cf. Judgment of Bundesverfassungsgericht of March 1, 1978, in 47 BVerfGE 327-419; 31 NEUE JURISTISCHE WOCHENSCHRIFT 1621-24 (1978) (containing a reprint of the previously indicated objections to the demands of the Hessisches Universitätsgesetz).

III. MORE EFFICIENT SELF-CONTROL PRIOR TO LEGAL SANCTIONS

After considering the situations where a research scientist may become both an "offender" and a "victim," we are faced with the question of needs to be done. In view of the ambivalence inherent in this subject, care must be taken with one-track ideal solutions, for the degree of freedom accorded a research scientist on the one hand may lead to loss of protection for the subject of his research on the other—and vice versa. Thus, simple affirmations of the "responsibility" borne by research scientists, as heard everywhere today, are not of much assistance. As long as it is not clear whether "responsibility" is to be understood in terms of a mere individual ethic or, possibly, a professional ethic, or whether we are actually dealing with legally sanctionable responsibility, much will remain uncertain. To compound the problem, any ethic code of responsibility would have to spell out the required criteria in order to be taken seriously.

A. A Multi-Track System of Sanctions

While this article does not attempt to articulate a finely balanced multi-track program of protection and responsibility, it might be said that protective measures of undoubted importance can be taken in the form of preventive administrative action. Possible forms of preventive action, for example, are intervention by ethical commissions or withdrawal of assistance where experiments of an indefensible nature have been performed. Also, in those instances where a research accident actually occurs, provision for compensation should be made under civil law. Moreover, prohibition of certain kinds of research under the criminal law cannot be rejected out of hand, as is already the case with regard to fetus research in several jurisdictions in the United States.³⁷

Attention should also be given to the international law dimension.³⁸ Bearing in mind the phenomenon of tax evasion in foreign oasis, research scientists who find themselves subject to severe restrictions in their own countries may be tempted to

37. Two such jurisdictions are California and Illinois. See Note, *supra* note 22.

38. See Riis, *Überationale Richtlinien zur Regelung der Forschung*, 76-83 (R. Kurzrock ed. 1980); Note, *The Potential for Genetic Engineering: A Proposal for International Legal Control*, 16 VA. J. INT'L L. 403 (1976).

carry out their experiments in countries with more lenient legislation and practice. There are already disquieting examples of this. In order to prevent an exodus to such lawless "réfuges génétiques"—at least with regard to gene technology—the Council of Europe passed a resolution in January 1982 recommending the inclusion of the inviolability of the genotype in the catalogue of human rights, to be safeguarded through the harmonization of national protection provisions.³⁹ What could be more opportune than a corresponding decision to include the protection of test subjects in the catalogue of so-called "international crimes?" This would allow unlawful experiments to be the subject of a criminal prosecution regardless of the country where they were carried out.

B. More Efficient Self-Control Before Legal Regulation

Clearly, before such far-reaching steps towards legal sanctioning are undertaken, the possibilities of more efficient self-control on the part of the research community itself should first be exhausted. This approach would, however, presuppose at least two things. First, that researchers—including those conducting so-called basic research—should appreciate their responsibility for their own actions and should not attempt to shift this responsibility to those involved in the practical application of their research results. Even if the conceptual differentiation between science and technology continues to be upheld, it seems that in many fields the time has long since passed when people believed they could proclaim an unlimited freedom for basic research so as to make politicians alone responsible for its technological application.⁴⁰ This is, above all, the case in nuclear

39. Empfehlung des Europarats of Jan 26, 1982, No. 934, reprinted in BUNDESTAGS, Drucksache 9/1373, at 11-13.

40. For a sarcastic but pertinent comment on this view, which is still widespread among researchers, see Marten, *Die Gegenwart des Fortschritts*, in FORTSCHRITT UND SCHÖPfungSGLAUBE 11, 14 (Blümle ed. 1984):

Knowledge is considered a value-free good. . . . The knowing and the moral person are separated. That is the hour of the new Sophists: scientists release themselves from responsibility for the goods that they make available. The "others" will make certain that things are set right. Scientifically, they work day and night, but morally only every four years when they go to the polls and mark their secret ballots. *Sapere aude*, dare to know—an attractive saying, but one that has become untrue. "Our" scientists themselves don't dare anything. The danger that they conjure up they pass blindly on. (English translation)

In this connection, compare the discussions at the May 1984 symposium of the Max-Planck-Gesellschaft on "Responsibility and Ethics in Science" ("*Verantwortung und*

and gene research.⁴¹ It is not only that natural conditions are already being changed and sources of danger being created through basic research as such, but also that, particularly in gene technology, progress has become so rapid that new discoveries pass almost without interval into the realm of application and exploitation.

Second, a serious attempt on the part of research scientists to practice self-control would presuppose that they accept responsibility not only for the realization but also for the control of the products of their knowledge. A sorcerer's apprentice may be able to start things moving, but only the sorcerer himself will be able to steer and, where necessary, apply the brakes. Research scientists of this breed are the kind we need in operation at crucial points. If we could be confident that the aspirations of research scientists to see the results of their research implemented were curbed by an equally distinct awareness of the need for control, perhaps science and technology would then again appear more as a sign of hope than as a menace.

Ethik in der Wissenschaft"), in MAX-PLANCK-GESELLSCHAFT, BERICHTE UND MITTEILUNGEN 194-203 (1984).

41. See, e.g., Ferguson, *Scientific Inquiry and the First Amendment*, 64 CORNELL L. REV. 639 (1979); Goldberg, *Controlling Basic Science: The Case of Nuclear Fusion*, 68 GEO. L.J. 683 (1980); Lederberg, *The Freedoms and the Control of Science: Notes from the Ivory Tower*, 45 S. CAL. L. REV. 596 (1972); Comment, *Law vs. Science: Legal Control of Genetic Research*, 65 KY. L.J. 880 (1977).