# First Amendment Protection For Biomedical Research

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Recently, several types of biomedical research[1] have been subjected to a wide range of government controls and restrictions.[2] Federal regulations now provide guidelines applicable to all federal grants which support research activities involving human subjects,[3] and the relatively new technique of DNA recombinance.[4] Fetal research, research involving human

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1. As used in this Note, biomedical research includes research in the biological sciences such as genetics and embryology directed toward, or with the potential for the solution of problems concerning human health.

2. For discussions of various state and federal legislative enactments and proposals, see Waltz & Thigpen, *Genetic Screening and Counseling: The Legal and Ethical Issues*, 68 NEV. U.L. REV. 696, 704-06 (1973); Note, *Beyond the "Cuckoo's Nest": A Proposal for Federal Regulation of Psychosurgery*, 12 HARV. J. LEGIS. 610, 624-25 (1975); Note, *Fetal Experimentation: Moral, Legal, and Medical Implications*, 26 STAN. L. REV. 1191, 1197-203 (1974); Gumpert, *Progress or Peril? Gene Transplants Stir Communities' Fears; Scientists are Split*, Wall St. J., Sept. 28, 1976, at 1, col. 1.

Legislative regulation of biomedical research has generally been commended by the commentators. *See* Katz, *The Legal Control of Psychosurgery*, 1975 MED. TRIAL TECH. Q. 407-08; Kennedy, *Introduction to Symposium—Medical Experimentation on Human Subjects*, 25 CASE W. RES. L. REV. 431, 432 (1975); Lowe & Mishkin, *Science Fiction or Non-Fiction*, TRIAL Nov.-Dec., 1975, at 22. Reilly, *Genetic Counseling and the Law*, 12 HOUS. L. REV. 640, 657 (1975); Comment, *Behavior Modification and Other Legal Imbroglios of Human Experimentation*, 52 J. URBAN L. 155, 173 (1974).

3. *See* 45 C.F.R. § 46.101-.301 (1976); Toulmin, *Ethical Safeguards in Research*, CENTER MAGAZINE, July/Aug. 1976, at 23.

In the area of fetal research, the federal regulations permit experimentation involving nonviable fetuses under specified conditions. 45 C.F.R. § 46.209 (1976), states in part:

> (b) No nonviable fetus may be involved as a subject in an activity covered by this subpart unless: (1) Vital functions of the fetus will not be artificially maintained except where the purpose of the activity is to develop new methods for enabling fetuses to survive to the point of viability, (2) experimental activities which of themselves would terminate the heartbeat or respiration of the fetus will not be employed, and (3) the purpose of the activity is the development of important biomedical knowledge which cannot be obtained by other means.
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> (d) An activity permitted under paragraph . . . (b) of this section may be conducted only if the mother and father are legally competent and have given their informed consent . . . .

However, experimentation on a dead fetus is authorized only if permitted by state or local law. *Id.* § 46.210.

4. Recombinant DNA research involves the transfer of DNA molecules, the genetic information carriers in all life forms, from one species of organism to another, in an attempt to produce new traits. *See* Schmeck, *Scientists Fear Bid to Regulate Genetic Studies*, N.Y. Times, Feb. 20, 1977, § 1, at 30, col. 1; Young, *Tinkering With Genes: Extreme Hopes, Fears*, Nat'l

subjects, and recombinant DNA studies, have also become the object of congressional concern.[5] Moreover, it seems likely that new guidelines and restrictions on several areas of federally funded biomedical research, including fetal experimentation and psychosurgery, will emerge.[6] In at least two states, criminal statutes now forbid experimentation on either dead fetuses or fetal tissue.[7] Statutes in several other states also prohibit fetal research to varying degrees.[8] These instances of regulation raise significant first amendment issues which may limit the government's ability to impose them.

The ability of individuals to converse freely about matters of mutual concern has long been recognized as indispensable to a democratic system of government.[9] The right to communicate with others necessarily entails a right to acquire as well as convey information.[10] The right of access to information and the right to communicate are guaranteed by the first amendment[11] so that individuals can explore alternatives in their exercise of the

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Observer, Mar. 19, 1977, at 4, col. 1. Federally funded research in this area must comply with the guidelines established by the National Institutes of Health of the Department of Health, Education, and Welfare. 41 Fed. Reg. 27,902 (1976). For a comprehensive presentation of this field of research, see NATIONAL ACADEMY OF SCIENCES, RESEARCH WITH RECOMBINANT DNA (1977).

5. National Research Service Award Act of 1974, Pub. L. No. 93-348, §§ 201-205, 88 Stat. 348-51, *reprinted following* 42 U.S.C. § 289*l*-1 (Supp. IV 1974). The 1974 Act established the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, and charged it with the task of developing guidelines for the conduct of "biomedical and behavioral research involving human subjects," funded by the Department of Health, Education, and Welfare. *Id.* § 202(a)(1)(A).

Several pieces of legislation concerning recombinant DNA research have been introduced in the United States Senate and House of Representatives. S.621, 95th Cong., 1st Sess. (1977); H.R.3191, 3591, 3592, 95th Cong., 1st Sess. (1977).

6. The 1974 Act specifically empowered the Commission to investigate and recommend policies regarding research on living fetuses, National Research Service Award Act of 1974, Pub. L. No. 93-348, § 202(b), 88 Stat. 350, *reprinted following* 42 U.S.C. § 289*l*-1 (Supp. IV 1974), and psychosurgery, *id.* § 202(c).

7. ILL. ANN. STAT. ch. 38, § 81-32 (Smith-Hurd Supp. 1977) ("All tissue removed at the time of abortion shall be submitted for analysis and tissue report . . . . There shall be no exploitation of or experimentation with the aborted tissue."); IND. CODE ANN. § 35-1-58.5-6 (Burns 1975) ("No experiments except pathological examinations shall be conducted on any fetus aborted under this chapter . . . .").

8. CAL. HEALTH & SAFETY CODE § 25956 (West Supp. 1977) (no research may be done on a live fetus except to preserve its life); LA. REV. STAT. ANN. § 14-87.2 (West 1974) (no experimentation except to protect the life of the fetus); ME. REV. STAT. tit. 22, § 1574 (Supp. 1975) (no experimentation on any live-born fetus); MINN. STAT. ANN. §§ 145.421-.422 (West Supp. 1977) (no research using a live conceptus unless shown to be harmless to, or for preservation of life of the conceptus); S.D. COMPILED LAWS ANN. § 34-23A-17 (Supp. 1976) (no experimentation on live fetus without written consent of the mother); UTAH CRIM. CODE ANN. § 76-7-310 (Smith 1977) (no experimentation on viable unborn fetuses).

9. *See* Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 765 (1976); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964); Associated Press v. United States, 326 U.S. 1, 20 (1945); Z. CHAFEE, FREE SPEECH IN THE UNITED STATES 31 (1964); II T. COOLEY, A TREATISE ON THE CONSTITUTIONAL LIMITATIONS WHICH REST UPON THE LEGISLATIVE POWERS OF THE STATES OF THE AMERICAN UNION 885-86 (8th ed. 1927); P. MURPHY, THE MEANING OF FREEDOM OF SPEECH 11-12 (1972); I B. SCHWARTZ, A COMMENTARY ON THE CONSTITUTION OF THE UNITED STATES, RIGHTS OF THE PERSON 264 (1968).

10. *See* Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 757 (1976); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); Comment, *Newsgathering: Second-Class Right Among First Amendment Freedoms*, 53 TEX. L. REV. 1440, 1463-67 (1975).

11. U.S. CONST. amend. I, provides: "Congress shall make no law . . . abridging the freedom of speech or of the press . . . ." The proscription against laws abridging free speech or press is made applicable to the states by the due process clause of the fourteenth amend-

right to make decisions affecting themselves and their government.[12] In the context of biomedical science,[13] access to information is furnished by empirical research,[14] without which there could be no expression by researchers. Thus, in many cases research should be viewed as a form of conduct protected by the first amendment.[15] This does not mean that the conduct of biomedical research should never come under reasonable regulation;[16] however, the first amendment should be recognized as affording researchers protection when the government has failed to show a substantial public interest in favor of particular regulations.[17]

This Note first will examine the propriety of according first amendment protection to research, and the appropriate standard of review for legislation which abridges that right. This analysis will show that characteristics of research are similar to those of already protected expressive conduct, and that research accordingly deserves first amendment safeguards. The Note then will focus upon governmental interference with the free exercise of that right. It will suggest that on review of regulations challenged as abridging researchers' rights, the government must demonstrate a compelling interest in support of the regulation.

## RESEARCH AS EXPRESSION

The essential question is whether biomedical research, as one of the "new and ingenious forms of expression" constantly being proliferated "in

ment. Gitlow v. New York, 268 U.S. 652 (1925); *see, e.g.*, Procunier v. Martinez, 416 U.S. 396, 408-09 (1974); Branzburg v. Hayes, 408 U.S. 665, 681 (1972); Griswold v. Connecticut, 381 U.S. 479, 482 (1965); Lewis v. Baxley, 368 F. Supp. 768, 775 (M.D. Ala. 1973); Houston Chronicle Publishing Co. v. Kleindienst, 364 F. Supp. 719, 725 (S.D. Tex. 1973); Note, *The Public's Right of Access to Government Information Under the First Amendment*, 51 CHI.-KENT L. REV. 164, 177 (1974); Note, *The Rights of the Public and the Press to Gather Information*, 87 HARV. L. REV. 1505, 1506 (1974).

12. *See, e.g.*, Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 765 (1976); Kleindienst v. Mandel, 408 U.S. 753, 762-63 (1972); Stanley v. Georgia, 394 U.S. 557, 564 (1969); Marsh v. Alabama, 326 U.S. 501, 505 (1946). See text & notes 89-93 *infra*.

13. For discussion of the scope of biomedical science, see Burger, *Reflections on Law and Experimental Medicine*, 15 U.C.L.A. L. REV. 436 (1968); Jonas, *Freedom of Scientific Inquiry and the Public Interest*, 6 HASTINGS CENTER REP. 15 (1976).

14. *See* Chalmers & MacDonald, *Worlds Apart*, TRIAL, Nov.-Dec., 1975, at 27; Hiatt, *The Use of Basic Research*, Ariz. Daily Star, Sept. 17, 1976, § A, at 15, col. 1.

The subject of this Note is biomedical research. That is, research into aspects of health and disease prevention and cure. Although several arguments made in this Note may be equally applicable to research in other areas, such as social science, each discipline involves its own unique problems in application. Therefore, many of the conclusions advanced herein may not be presumed applicable to all other forms of research.

15. *See* Note, *Governmental Control of Research in Positive Eugenics*, 7 U. MICH. J.L. REF. 615, 632 (1974).

16. See text & notes 139-67 *infra*. First amendment rights may come into conflict with legitimate societal interests. When such a conflict occurs, first amendment rights are not absolute and must, on occasion, yield to a sufficiently important state interest, provided the means employed scrupulously avoid unnecessary abridgement of the first amendment freedoms. *See, e.g.*, Elrod v. Burns, 427 U.S. 347, 360, 362, (1976); Buckley v. Valeo, 424 U.S. 1, 25 (1976); Cousins v. Wigoda, 419 U.S. 477, 488-89 (1975); NAACP v. Button, 371 U.S. 415, 438-39 (1963).

17. *See* Chalmers & MacDonald, *supra* note 14, at 27-28. *See generally* Note, *The Legal Implications of Ectogenetic Research*, 10 TULSA L.J. 243, 255 (1974).

our pluralistic society,"[18] warrants first amendment protection. Two approaches may be taken to define research as expression. Recognition of research as expression may find its logical antecedent either in analogy to prior case law or in the philosophical bases for protection of expression. Basic to either approach, however, is the distinction between expressive and nonexpressive conduct.[19] Only that conduct which is considered "speech" for first amendment purposes is eligible for protection under the guarantee of freedom of expression.[20] This principle has played a key role in Supreme Court decisions, but has never been adequately defined in the decided cases.

In *United States v. O'Brien*,[21] a selective service registrant who had publicly burned his draft card in opposition to the draft and the Vietnam war[22] was tried and convicted under a federal law which prohibited the knowing destruction of registration certificates.[23] The Supreme Court upheld the statute and conviction,[24] rejecting the idea that "an apparently limitless variety of conduct can be labeled 'speech' whenever the person engaging in the conduct intends thereby to express an idea."[25] The Court affirmed the validity of this regulation, directed at nonspeech aspects of the conduct, but offered no analysis as to why those aspects were deemed to be nonspeech.[26]

In the more recent case of *Buckley v. Valeo*,[27] the Court found the *O'Brien* approach inappropriate and held that expenditures by candidates for political offices are protected expression devoid of nonspeech elements.[28] Although *O'Brien* failed to explain why the burning of a draft card constituted nonspeech conduct, the Court in *Buckley* expressly distinguished draft card destruction from the expenditure of money.[29] The conclu-

18. *See* Erznoznik v. City of Jacksonville, 422 U.S. 205, 210 (1975).

19. The distinction between speech and action is a critical one, for it will determine the permissible scope of governmental regulation, since speech, but not action, is protected by the first amendment. T. EMERSON, TOWARD A GENERAL THEORY OF THE FIRST AMENDMENT 6 (1966) [hereinafter cited as T. EMERSON, GENERAL THEORY]. Making the distinction is, however, often very difficult, because all speech contains some element of action. *See* T. EMERSON, THE SYSTEM OF FREEDOM OF EXPRESSION 17-18 (1970) [hereinafter cited as T. EMERSON, FREEDOM OF EXPRESSION]; H. KALVEN, THE NEGRO AND THE FIRST AMENDMENT 201 (1965); Note, *Of Shadows and Substance: Freedom of Speech, Expression, and Action*, 1971 WIS. L. REV. 1209, 1214. The Supreme Court has yet to articulate clear guidelines to aid this task. *See* Henkin, *The Supreme Court, 1967 Term—Foreword: "On Drawing Lines"*, 82 HARV. L. REV. 63, 77 (1968); Note, *Symbolic Conduct*, 68 COLUM. L. REV. 1091, 1092 (1968).

20. *See* Southeastern Promotions, Ltd. v. Conrad, 420 U.S. 546, 557-58 (1975); Spence v. Washington, 418 U.S. 405, 409-11 (1974).

21. 391 U.S. 367 (1968).

22. *Id.* at 369.

23. *Id.* at 369-70.

24. *Id.* at 372.

25. *Id.* at 376.

26. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 83-84; Note, *Draft Card Burning Not a Constitutionally Protected Form of Expression*, 18 AM. U.L. REV. 232, 234 (1968).

27. 424 U.S. 1 (1976).

28. *Id.* at 16-18.

29. *Id.* at 16. The Court said that the conduct of draft card burning was simply not comparable to the expenditure of money supporting a communication. *Id.*

sion was based on the finding that political expenditures are a "pure form of expression."[30]

Symbolic speech is another area which reflects the dichotomy between expression and action.[31] The Court has recognized that symbolism is a form of communication,[32] and has attempted to characterize conduct constituting symbolic speech.[33] The closest the Court has come to identifying the criteria for differentiating between expression and nonexpressive conduct was in *Spence v. Washington*.[34] In *Spence*, the Court considered a criminal conviction for the public display of an American flag to which a peace symbol had been attached.[35] The Supreme Court reversed the conviction, which had been based upon a state "improper use" statute.[36] Concluding that appellant had engaged in expressive activity,[37] the Court looked at "the nature of appellant's activity, combined with the factual context and environment in which it was undertaken."[38] Specifically, it noted that "[a]n intent to convey a particularized message was present, and in the surrounding circumstances the likelihood was great that the message would be understood by those who viewed it."[39] It has been suggested that by undertaking this type of analysis, the Supreme Court has enunciated a test which can be used to determine what acts are protectible as symbolic speech.[40] The flag has a considerable history as a symbol and is therefore inherently communicative;

30. *Id.* at 16-17. *See generally* Wright, *Politics and the Constitution: Is Money Speech?*, 85 YALE L.J. 1001, 1007-08 (1976).

31. Symbolic speech is nonverbal conduct which utilizes objects recognized as having certain meanings to express political ideas. The symbolic means of communication serves as "a short cut from mind to mind." Spence v. Washington, 418 U.S. 405, 410 (1974) (quoting West Virginia State Bd. of Educ. v. Barnette, 319 U.S. 624, 632 (1943)).

32. Symbolic speech most commonly has been considered in cases involving flags or banners. In Stromberg v. California, 283 U.S. 359 (1931), the Court overturned the conviction of an individual who had displayed a red flag in opposition to organized government, holding that the statute was unconstitutionally overbroad. *Id.* at 369. Implicit in the reasoning of *Stromberg* was the assumption that symbolism is communication. Later, in West Virginia State Bd. of Educ. v. Barnette, 319 U.S. 624 (1943), this assumption was solidified when the Court held that a statute requiring school children to salute the flag and recite the pledge of allegiance abridged freedoms of speech and religion. *Id.* at 632-34. In Tinker v. Des Moines Independent School Dist., 393 U.S. 503 (1969), the symbolic conduct involved was the wearing of armbands by school children protesting the Vietnam war. The Supreme Court characterized the students' conduct, where not disruptive, as "closely akin to 'pure speech.'" *Id.* at 505-06.

33. *See* Buckley v. Valeo, 424 U.S. 1, 16 (1976); Spence v. Washington, 418 U.S. 405, 410 (1974); Royal v. Superior Court, 397 F. Supp. 260, 262-63 (D.N.H. 1975); United States *ex rel.* Radich v. Criminal Court, 385 F. Supp. 165, 173-75 (S.D.N.Y. 1974); Note, *Spence v. Washington; Smith v. Goguen: Symbolic Speech and Flag Desecration*, 6 COLUM. HUMAN RIGHTS L. REV. 535, 536 (1974).

34. 418 U.S. 405 (1974).

35. *Id.* at 405.

36. *Id.* at 406-07.

37. *Id.* at 411.

38. *Id.* at 409-10. The Court reaffirmed that symbolism is a form of communication and that flags are a form of symbolism. *Id.* Further, the Court noted that the activity took place contemporaneously with the 1970 Cambodian incursion and the Kent State shootings. The context of the activity, therefore, made the conduct meaningful or symbolic. *Id. See also* Buckley v. Valeo, 424 U.S. 1, 23-24 (1976) (campaign contributions are symbolic expression).

39. 418 U.S. at 410-11.

40. *See* Royal v. Superior Court, 397 F. Supp. 260, 262-63 (D.N.H. 1975); United States *ex rel.* Radich v. Criminal Court, 385 F. Supp. 165, 173 (S.D.N.Y. 1974); Note, *supra* note 33, at 539.

but the principles underlying this test could also work to characterize as speech activity which is not so obviously communicative.[41] Regarding motion pictures[42] and the theatre,[43] which contain significant elements of nonverbal action, the Court has recognized that the conduct is expression.

Perhaps the most lucid theory of expression, encompassing the *Spence* standards, is that of Professor Thomas I. Emerson.[44] Emerson recognizes that the definition of expression entails the initial distinction between "expression" and "action."[45] Communicative conduct may involve an element of action, but if it is predominantly expressive, the conduct as a whole should be considered expression.[46] Important factors in determining whether expression dominates the activity include the intent of the individual to express an idea,[47] and the recognition of the conduct as expression by those observing the conduct.[48] Applying this model to scientific research, it will be seen that the researcher's conduct is predominantly expressive, and is therefore "speech" for first amendment purposes.

It is beyond question that when a scientist communicates the results of his work to the public through publication or lecture, he is engaging in protected expression.[49] Ultimately, the goal of any researcher is to communicate his findings so that his conclusions will be widely accepted.[50]

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41. *But see* Note, *Flag Misuse and the First Amendment*, 50 WASH. L. REV. 169, 186-87 (1974).

42. Joseph Burstyn, Inc. v. Wilson, 343 U.S. 495 (1952); *accord*, United States v. Roeder, 526 F.2d 736, 739 (10th Cir. 1975); City of Fitchburg v. 707 Main Corp., — Mass. —, 343 N.E.2d 149 (1976). Faced with the question whether motion pictures are expression, the *Wilson* Court considered that they are responsible for the communication of ideas which may affect the public, 343 U.S. at 501, and concluded that they are protected expression, subject only to reasonable time and place regulation. *Id.* at 502-03.

43. *See* Southeastern Promotions, Ltd. v. Conrad, 420 U.S. 546 (1975). Applying the same standard as was used in Joseph Burstyn, Inc. v. Wilson, 343 U.S. 495, 501-02 (1952), in regard to motion pictures, the Court ruled that even though it mixed speech with action, the live dramatic production "Hair" was protected expression. 420 U.S. at 557-58. Dancing may also be considered protected expression. In Salem Inn, Inc. v. Frank, 501 F.2d 18, 20 (2d Cir. 1974), an injunction against enforcement of a statute which forbade topless dancing in any public place was affirmed. The statute was subsequently amended to be more specific, and the same parties clashed once again with the same result. Salem Inn, Inc. v. Frank, 381 F. Supp. 859, 863 (E.D.N.Y. 1974).

44. Thomas I. Emerson is Lines Professor of Law at the Yale School of Law, where he has taught since 1946.

45. While practically all expression is manifested through some form of action, the problem in each case is to decide whether expression or action is the dominant element. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 18. For example, the conduct of draft card burning in United States v. O'Brien, 391 U.S. 367 (1968), might have been classified as expression, since the dominant motivation was the expression of aversion to the draft, not merely the action of burning a piece of paper. T. EMERSON, FREEDOM OF EXPRESSION, *supra* at 84. See text & notes 154-60 *infra*.

46. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 18.

47. *Id.* at 84. It is clear that merely the intent to express an idea will not qualify conduct as speech. *See* United States v. O'Brien, 391 U.S. 367, 376-77 (1968). However, the intent to communicate is a significant part of a speech activity. *See* Spence v. Washington, 418 U.S. 405, 409-11 (1974).

48. T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 18; *see* Spence v. Washington, 418 U.S. 405, 410-11 (1974).

49. *See, e.g.*, Keyishian v. Board of Regents, 385 U.S. 589, 603 (1967); Griswold v. Connecticut, 381 U.S. 479, 482-83 (1965); Barenblatt v. United States, 360 U.S. 109, 112 (1959).

50. *See* H. BEECHER, RESEARCH AND THE INDIVIDUAL 86 (1970); S. LACHMAN, THE FOUNDA-

With the possible exception of industrial research,[51] this usually means publication in a scientific journal or other periodical.[52] The researcher's work is thus brought to the attention of his peers and the public. Those who read of the researcher's work will doubtlessly recognize the article as expressing the researcher's ideas and opinions. However, the right of the researcher to communicate in the biomedical sciences would be emasculated if the ability to do research is significantly impaired. The right to know of and make public scientific advancements and discoveries depends upon the right to do research, just as newsgathering is an activity without which the right to a free press would be ineffectual.[53]

The Supreme Court has consistently held that the first amendment guarantees of free speech and press necessarily embody some right to acquire information.[54] In *Branzburg v. Hayes*,[55] the Court applied this principle to the press. The Court denied that the press has a right of "special access to information not available to the public generally,"[56] and ordered the petitioner, a newspaper reporter, to respond to a criminal grand jury subpoena. However, in emphatic dictum, the Court recognized that newsgathering qualifies for first amendment protection.[57] Cases relying on

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TIONS OF SCIENCE 18-20 (1956); Shimkin, *Scientific Investigations on Man*, in BIOMEDICAL ETHICS AND THE LAW 214 (J. Humber & R. Almeder eds. 1976).

51. For a consideration of the particular problems raised by commercial research, see text & notes 131-37 *infra*.

52. *See* D. WOLFE, THE HOME OF SCIENCE 9 (1972). *See also* Mainx, *Foundations of Biology*, in 1 FOUNDATIONS OF THE UNITY OF SCIENCE 574 (O. Neurath, R. Carnap, & C. Morris eds. 1969). Publication in a journal or other means of disseminating the results obtained satisfies a basic goal of research—communication of ideas. *See* 42 U.S.C. § 241(a) (1970) (*quoted in* note 122 *infra*); H. BEECHER, *supra* note 50, at 31-32. *See generally* G. TAYLOR, THE BIOLOGICAL TIME BOMB 19 (1968).

53. "No less important to the news dissemination process is the gathering of information. News must not be unnecessarily cut off at its source, for without freedom to acquire information the right to publish would be impermissibly compromised." Branzburg v. Hayes, 408 U.S. 665, 728 (1972) (Stewart, J., dissenting). Although the statement just quoted was made in a dissenting opinion, it actually met with the approval of at least four other justices. Justice Stewart was joined in his dissent by Justices Brennan and Marshall. Justice Douglas filed a separate dissent which makes an even stronger protest than that of the other dissenters. *Id.* at 711 (Douglas, J., dissenting). In addition, Justice Powell wrote a concurring opinion, in which he stated: "I add this brief statement to emphasize what seems to me to be the limited nature of the Court's holding. The Court does not hold that newsmen . . . are without constitutional rights with respect to the gathering of news . . . ." *Id.* at 709 (Powell, J., concurring).

54. The right to be informed has usually been enunciated in situations wherein the individual seeks information, beliefs, or ideas provided by other sources than by his own independent investigation. *See, e.g.*, Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 757 (1976); Procunier v. Martinez, 416 U.S. 396, 408-09 (1974); Kleindienst v. Mandel, 408 U.S. 753, 762-63 (1972); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); Stanley v. Georgia, 394 U.S. 557, 564 (1969); Griswold v. Connecticut, 381 U.S. 479, 482 (1965); Marsh v. Alabama, 326 U.S. 501, 505 (1946); Asociacion de Trabajadores v. Green Giant Co., 518 F.2d 130, 135 (3rd Cir. 1975).

55. 408 U.S. 665 (1972).

56. *Id.* at 684.

57. *Id.* at 681. *But see* Pell v. Procunier, 417 U.S. 817 (1974), denying members of the press the right to interview prison inmates of their own choosing. The Court noted that the press had broader access to inmates than did the public generally, *id.* at 833, but held that this was a matter of privilege, not right. *Id.* at 833-34. Although newsmen do have a right to seek out information, the government has no duty to make sources available to the press which are not available to the public. *Id.*

*Pell* would not control the research issue since scientists are not asking to be provided with

*Branzburg* have assured constitutional security for the procurement of information required for the exercise of first amendment rights.[58] Research is essential to the scientist's exercise of free speech for another reason; it provides the data against which he tests his hypotheses and formulates theories.[59] The essence of a scientist's communication is his theories, revealed to his peers and others. In biomedical science, research accounts for the overwhelming majority of advances and discoveries.[60] Progress and communication is fully dependent on the performance of research.[61] Those who engage in scientific research do more than just collect information; they create knowledge.[62] Thus, without experimentation and research, there can be no progress and communication in the sciences. The research process is therefore absolutely vital to a researcher's right to express himself and, correspondingly, many restrictions placed on research may significantly infringe the right of expression. The Supreme Court has historically been solicitous of activities which are critical to the ability to communicate.[63] Because research is so intimately connected with the researcher's goal of disseminating new information, this activity should be considered predominantly expressive in nature and held to constitute protected speech. Once research is designated as speech, however, the question becomes the extent to which first amendment protections will apply in each case.

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special access to information. They merely seek freedom from barriers to their ability to develop new information—a process available to any member of the public.

58. Newsgathering is the first stage in making information available to the public. Subsequent lower courts have read *Branzburg* as recognizing the first amendment right of newsgathering. *See, e.g.*, CBS, Inc. v. Young, 522 F.2d 234, 238 (6th Cir. 1975); Lewis v. Baxley, 368 F. Supp. 768, 775 (M.D. Ala. 1973); Houston Chronicle Publishing Co. v. Kleindienst, 364 F. Supp. 719, 725 (S.D. Tex. 1973).

59. *See* J. FEIBLEMAN, SCIENTIFIC METHOD 113-15 (1972); I THE SEARCH FOR EXPLANATION: STUDIES IN NATURAL SCIENCE 18-24 (J. Goatley ed. 1967). *See also* Mainx, *supra* note 52, at 574.

60. *See* H. BEECHER, *supra* note 50, at 1; J. FLETCHER, THE ETHICS OF GENETIC CONTROL 14 (1974); G. TAYLOR, *supra* note 52, at 13-15; Chalmers & MacDonald, *supra* note 14, at 27; Jonas, *supra* note 13, at 16-17; Shimkin, *supra* note 50, at 207.

61. *See* Reilly v. Pinkus, 338 U.S. 269 (1949), in which the Court stated: "[I]n the science of medicine, as in other sciences, experimentation is the spur of progress. It would amount to condemnation of new ideas without a trial to give the . . . power to condemn new ideas as fraudulent solely because some cling to traditional opinions with unquestioning tenacity." *Id.* at 274.

62. In this regard, researchers differ from journalists. Newsmen gather information and report it, but add relatively little to the body of human knowledge. Researchers, however, are creating new information which becomes part of man's culture and heritage, and is essential to the advancement of science. "Modern natural science arose with the decision to wrest knowledge from nature by actively operating on it, that is, by intervening in the objects of knowledge. The name for this intervention is 'experiment,' vital to all modern science." Jonas, *supra* note 13, at 16-17; *see* J. LACHMAN, *supra* note 50, at 104-05. Since research is therefore a more fundamental source of information than is newsgathering, the protection afforded the latter must logically be preceded by protection of the former.

63. *See* Buckley v. Valeo, 424 U.S. 1 (1976); United States v. O'Brien, 391 U.S. 367, 388 (1968) (Harlan, J., concurring). The Court's most complete statement in this regard came in *Buckley*: "[V]irtually every means of communicating ideas in today's mass society requires the expenditure of money. . . . The electorate's increasing dependence on television, radio, and other mass media for news and information has made these expensive modes of communication indispensable instruments of effective political speech." 424 U.S. at 19. *See also* Martin v. Struthers, 319 U.S. 141, 146 (1943) ("Door to door distribution of circulars is essential to the poorly financed causes of little people."); Milk Wagon Drivers, Local 753 v. Meadowmoor Dairies, Inc., 312 U.S. 287, 293 (1941) ("Peaceful picketing is the workingman's means of communication.").

PROTECTION OF BIOMEDICAL RESEARCH

Despite the first amendment's language forbidding any law which abridges freedom of speech,[64] the Supreme Court has consistently held that under certain circumstances, either speech itself is unprotected, or content-neutral regulations which incidentally curtail protected speech are permissible.[65] If regulation of time, place, or manner of exercise furthers a "significant governmental interest," it may be imposed on otherwise protected expression.[66] In other words, the degree of protection afforded particular speech is a function of the presence or absence of a subordinating state interest in regulating the incidental effects of the speech.[67] This necessarily involves weighing the governmental interest.[68] If vindication of the state interest outweighs the free speech interest in the particular context, the speech will not be protected against a reasonable regulation which is not directed at the content of the speech.[69] In determining whether the state interest is weightier than the interest in free speech in any case, consideration should be given to the extent to which the speech and its incidental effects fulfill the values of a system of freedom of expression.[70]

Professor Emerson has identified four values served by the system of freedom of expression in a democratic society:

> Maintenance of a system of free expression is necessary (1) as a method of assuring individual self-fulfillment, (2) as a means of attaining the truth, (3) as a method of securing participation by the members of the society in social . . . decision-making, and (4) as a

64. U.S. CONST. amend. I.

65. Although the first amendment forbids government regulation of expression as opposed to action, certain types of speech are not protected. Regulation of action may also incidentally restrict expression in certain circumstances. In Konigsberg v. State Bar, 366 U.S. 36 (1961), the Court asserted:

> Throughout its history this Court has consistently recognized at least two ways in which constitutionally protected freedom of speech is narrower than an unlimited license to talk. On the one hand, certain forms of speech, or speech in certain contexts, has been considered outside the scope of constitutional protection. . . . On the other hand, general regulatory statutes, not intended to control the content of speech but incidentally limiting its unfettered exercise, have not been regarded as the type of law the First or Fourteenth Amendment forbade Congress or the States to pass, when they have been found justified by subordinating valid governmental interests, a prerequisite to constitutionality which has necessarily involved a weighing of the governmental interest involved.

*Id.* at 49-51. For examples of types of speech which are not protected, see Gertz v. Robert Welch, Inc., 418 U.S. 323, 340 (1974) (libel); Brandenburg v. Ohio, 395 U.S. 444, 447 (1968) (incitement to lawless action); Roth v. United States, 354 U.S. 476, 483 (1957) (obscenity); Chaplinsky v. New Hampshire, 315 U.S. 568, 572 (1941) ("fighting words"). *See also* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 8-9.

66. *See, e.g.*, Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, 425 U.S. 748, 771 (1976); Erznoznik v. City of Jacksonville, 422 U.S. 205, 209 (1975); Grayned v. City of Rockford, 408 U.S. 104, 116 (1972); United States v. O'Brien, 391 U.S. 367, 377 (1968).

67. *See, e.g.*, Elrod v. Burns, 427 U.S. 347, 362 (1976); Buckley v. Valeo, 424 U.S. 1, 25 (1976); Cousins v. Wigoda, 419 U.S. 477, 488-89 (1975); NAACP v. Button, 371 U.S. 415, 438-39 (1963).

68. Konigsberg v. State Bar, 366 U.S. 36, 51 (1961); *see* Bates v. State Bar of Arizona, 433 U.S. 350, 365 (1977).

69. *See* cases cited note 66 *supra*.

70. T. EMERSON FREEDOM OF EXPRESSION, *supra* note 19, at 18.

> means of maintaining the balance between stability and change in the society.[71]

These values have been used implicitly by the Supreme Court as the basis for protection of expression in a variety of first amendment cases.[72] If particular speech and its incidental effects satisfy all or many of the values of a system of free expression, the governmental interest may be insufficient to displace the interest in protecting the expression.[73] Conversely, if few of the values are satisfied, the state interest in regulation would appear to be more substantial than the interest in protecting free exercise of expression. It will be argued here that biomedical research advances all four interests to a significant extent.

Self-fulfillment, the first value of expression, means in part the right of the individual, as a thinking, feeling, sentient being, to recognize his potential by molding his own beliefs and opinions and by expressing them to others.[74] The right to formulate ideas is inherent in communication.[75] A constitutional and representative form of government requires that individual members of the society enjoy a right to free expression.[76] The privilege and, indeed, the responsibility of citizenship entails the right of the individual to express himself on matters in which he has a participating interest.[77] A stable government depends on the ability of citizens to voice their frustra-

71. T. EMERSON, GENERAL THEORY, *supra* note 19, at 3; *see* Karst, *Equality as a Central Principle in the First Amendment*, 43 U. CHI. L. REV. 20-23 (1975).

72. *See generally* text & notes 74-97 *infra*.

73. T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 18.

74. T. EMERSON, GENERAL THEORY, *supra* note 19, at 4-5; *see* Griswold v. Connecticut, 381 U.S. 479, 482-83 (1965); Zemel v. Rusk, 381 U.S. 1, 24 (1965) (Douglas, J., dissenting); N. CAPALDI, CLEAR AND PRESENT DANGER xi (1969); Z. CHAFEE, *supra* note 9, at 33; *cf.* Wooley v. Maynard, 430 U.S. 705, 715 (1977) (an individual may not be forced to express the ideology of the state in the form of an auto license plate message).

75. "[I]f the First Amendment protects the freedom to express ideas, it necessarily follows that it must protect the freedom to generate ideas. Without the latter protection, the former is meaningless." Kaimowitz v. Michigan Dep't of Mental Health, 42 U.S.L.W. 2063, 2064 (C.A. 73-19434-AW Cir. Ct. Wayne County, Mich., July 10, 1973), *noted in* 54 B.U.L. REV. 301 (1974). *See also* Shapiro, *Legislating the Control of Behavior Control: Autonomy and the Coercive Use of Organic Therapies*, 47 S. CAL. L. REV. 237, 258-60 (1974); Note, *Beyond the "Cuckoo's Nest": A Proposal for Federal Regulation of Psychosurgery*, *supra* note 2, at 629.

76. Buckley v. Valeo, 424 U.S. 1, 14-15 (1976); Tinker v. Des Moines Independent Community School Dist., 393 U.S. 503, 508-09 (1969); New York Times Co. v. Sullivan, 376 U.S. 254, 269 (1964); T. EMERSON, GENERAL THEORY, *supra* note 19, at 5; *see* N. CAPALDI, *supra* note 74, at xiii; T. COOLEY, *supra* note 9.

77. Those who won our independence believed . . . that public discussion is a political duty; and that this should be a fundamental principle of the American government. They recognized the risks to which all human institutions are subject. But they knew that order cannot be secured merely through fear of punishment for its infraction; that it is hazardous to discourage thought, hope and imagination; that fear breeds repression; that repression breeds hate; that hate menaces stable government; that the path of safety lies in the opportunity to discuss freely supposed grievances and proposed remedies; and that the fitting remedy for evil counsels is good ones. Believing in the power of reason as applied through public discussion, they eschewed silence coerced by law—the argument of force in its worst form. Recognizing the occasional tyrannies of governing majorities, they amended the Constitution so that free speech and assembly should be guaranteed.

Whitney v. California, 274 U.S. 357, 375-76 (1927) (Brandeis, J., concurring), *quoted in* New York Times Co. v. Sullivan, 376 U.S. 254, 269-70 (1964).

tions and hopes.[78] It follows then that the individual has a right of access to the information necessary for intelligent decisionmaking.[79] This principle has been recognized by the Supreme Court in a long line of cases upholding the first amendment right of citizens to hear the speech of others.[80] Accessibility of knowledge by the individual is necessary for the formulation and expression of ideas.[81] Because the ability to formulate and express ideas is the heart of individual self-fulfillment, conduct which provides information furthers that value of a system of free expression. Making relevant information available to the individual, thereby enabling him to compose his thoughts and communicate those thoughts to others, permits him to realize his full potential as an individual.

The second value of expressive conduct is the attainment of truth.[82] It is in the interest of society, as well as that of the individual, that the truth of any relevant opinion be ascertained.[83] Just as each individual has a right to formulate his own judgment, society must weigh the judgments of its members against each other so as to arrive at the best collective judgment.[84] Free expression permits all opinions to be considered, and from full consideration of the arguments on either side of a proposition, the best judgment, it is hoped, will result.[85] From its inception, our government has depended on this evaluative process.[86] Justice Holmes stated this principle,

78. Whitney v. California, 274 U.S. 357, 375-76 (1927) (Brandeis, J., concurring) *quoted in* New York Times Co. v. Sullivan, 376 U.S. 254, 269-70 (1964).

79. *See, e.g.*, Branzburg v. Hayes, 408 U.S. 665, 681 (1972); CBS, Inc. v. Young, 522 F.2d 234, 238 (6th Cir. 1975); Lewis v. Baxley, 368 F. Supp. 768, 775 (M.D. Ala. 1973); Houston Chronicle Publishing Co. v. Kleindienst, 364 F. Supp. 719, 725 (S.D. Tex. 1973). While the significance of these cases might arguably be undermined because the first amendment expressly guarantees a free press, the press exists primarily as an informative device for the people, and the constitutional protection under which a free press flourishes was intended to satisfy the need of the citizenry for an independent, unrestrained source of information. *See* Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); Garrison v. Louisiana, 379 U.S. 64, 74-75 (1964); New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964); Associated Press v. United States, 326 U.S. 1, 20 (1945). It is because the press operates as a fundamental method of satisfying each individual's right to know that it is accorded first amendment protection. Grosjean v. American Press Co., 297 U.S. 233, 249-50 (1936) (*quoting* T. COOLEY, *supra* note 9); CBS, Inc. v. Young, 522 F.2d 234, 238 (6th Cir. 1975); Bursey v. United States, 466 F.2d 1059, 1083-84 (9th Cir. 1972). *See generally* A. MEIKLEJOHN, FREE SPEECH AND ITS RELATION TO SELF-GOVERNMENT (1948); Note, *supra* note 41, at 170 n.6. *But cf.* San Antonio Independent School Dist. v. Rodriguez, 411 U.S. 1 (1973), holding that education is not a guaranteed right. *Id.* at 35. The case is distinguishable from that being considered here since it dealt with a service provided by the state, and by the fact that the state was making an effort to increase educational opportunities. *See id.* at 37-39.

80. *See, e.g.*, Bates v. State Bar of Arizona, 433 U.S. 350, 358, 364 (1977); Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 757 (1976); Procunier v. Martinez, 416 U.S. 396, 408-09 (1974); Kleindienst v. Mandel, 408 U.S. 753, 762-63 (1972); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); Marsh v. Alabama, 326 U.S. 501, 505 (1946).

81. T. EMERSON, GENERAL THEORY, *supra* note 19, at 5.

82. *Id.* at 7-8; Karst, *supra* note 71.

83. Z. CHAFEE, *supra* note 9, at 31; T. EMERSON, GENERAL THEORY, *supra* note 19, at 8; *see* Karst, *supra* note 71.

84. Keyishian v. Board of Regents, 385 U.S. 589, 603 (1967); New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964); *see* Associated Press v. United States, 326 U.S. 1, 20 (1945).

85. Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964); Associated Press v. United States, 326 U.S. 1, 20 (1945); T. EMERSON, GENERAL THEORY, *supra* note 19, at 8; Karst, *supra* note 71, at 25.

86. The pre-constitutional American Statesmen recognized the search for truth as a basic

applicable to both press and speech, in his famous "marketplace of ideas" dissent in *Abrams v. United States*.[87] Justice Holmes' concept has since served as the basis for many cases interpreting the first amendment.[88] Ascertaining the truth of virtually any proposition by allowing it to compete freely in the market is a freedom assured by the first amendment.

Emerson's third value—participation in decisionmaking by the members of society—is a logical extension of self-fulfillment and the attainment of truth.[89] This value encompasses all types of social decisions, including political, artistic, and scientific ones.[90] In a democratic system it is essential that citizens enjoy a free dialogue regarding matters of self-government.[91] Prudent policymaking in such a society depends on the availability of information relevant to the decisions.[92] With the adoption of the first

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right inherent in the freedom of the press. This recognition was expressed in an early letter sent to the inhabitants of Quebec by the Continental Congress, referring to the "five great rights": "The last right we shall mention, regards the freedom of the press. The importance of this consists, besides the advancement of truth, science, morality, and arts in general, in its diffusion of liberal sentiments on the administration of Government. . . ." I Journal of the Continental Congress (ed. 1904) 104, 108, *quoted in* Near v. Minnesota *ex rel.* Olson, 283 U.S. 697, 717 (1931).

87. 250 U.S. 616 (1919) (Holmes, J., dissenting) The "marketplace of ideas" concept originated in the following passage:

> Persecution for the expression of opinions seems to me perfectly logical. If you have no doubt of your premises or your power and want a certain result with all your heart you naturally express your wishes in law and sweep away all opposition. To allow opposition by speech seems to indicate that you think the speech impotent, as when a man says that he has squared the circle, or that you do not care whole-heartedly for the result, or that you doubt either your power or your premises. But when men have realized that time has upset many fighting faiths, they may come to believe even more than they believe the very foundations of their own conduct that the ultimate good desired is better reached by free trade in ideas—that the best test of truth is the power of the thought to get itself accepted in the competition of the market, and that truth is the only ground upon which their wishes safely can be carried out. That at any rate is the theory of our Constitution. It is an experiment, as all life is an experiment. Every year if not every day we have to wager our salvation upon some prophecy based upon imperfect knowledge. While that experiment is part of our system I think that we should be eternally vigilant against attempts to check the expressions of opinions that we loathe and believe to be fraught with death, unless they so imminently threaten immediate interference with the lawful and pressing purposes of the law that an immediate check is required to save the country . . . . Only the emergency that makes it immediately dangerous to leave the correction of evil counsels to time warrants making any exception to the sweeping command, "Congress shall make no law . . . abridging the freedom of speech."

*Id.* at 630-31.

88. *See, e.g.*, Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964); Associated Press v. United States, 326 U.S. 1, 20 (1945).

89. T. EMERSON, GENERAL THEORY, *supra* note 19, at 8-11.

90. *See* Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 762 (1976); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); United Mine Workers of Am., Dist. 12, v. Illinois State Bar Ass'n, 389 U.S. 217, 223 (1967); Roth v. United States, 354 U.S. 476, 484 (1957); T. EMERSON, GENERAL THEORY, *supra* note 19, at 9.

91. Elrod v. Burns, 427 U.S. 347, 356-57 (1976); Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 765 (1976); N. CAPALDI, *supra* note 74, at xiii; T. EMERSON, GENERAL THEORY, *supra* note 19, at 10; Karst, *supra* note 71.

92. A popular Government, without popular information or the means of acquiring it is but a Prologue to a Farce or a Trajedy; or perhaps both. Knowledge will forever govern ignorance: and a people who mean to be their own Governors must arm themselves with the power which knowledge gives.

9 WRITINGS OF JAMES MADISON 103 (Hunt ed. 1909), *quoted in* Note, *The Public's Right of Access to Government Information Under the First Amendment*, 51 CHI.-KENT L. REV. 164, 176 (1974); *see* N. CAPALDI, *supra* note 74, at xiii; A. MEIKLEJOHN, *supra* note 79, at 11, 25.

amendment, it became a basic principle of constitutional law that citizens have a right to receive a free flow of information to illuminate public decisionmaking.[93]

The fourth value served by a system of free expression is the maintenance of balance between stability and change in society.[94] In the long run, the success of any society will be determined by its ability to meet the needs and demands of its members.[95] A society must be prepared to accept changes in the status quo. If it is not, the result will be a tendency toward rigidity and the attempted application of old principles to problems requiring new solutions.[96] One of the strengths of a democratic society is its potential for unrestricted improvement produced by a vocal citizenry. Freedom to question the existing ways and to propose new alternatives is the key to a vital society.[97]

*The Social Values of Biomedical Research*

Biomedical research satisfies all four of the values of a system of free expression underlying the first amendment. Initially, the scientist himself is a beneficiary in that he has the opportunity to realize self-fulfillment.[98] Scientists generally find research work rewarding because it provides the opportunity to contribute to man's knowledge and welfare.[99] The scientist's hopes can reach fruition only if research can be carried out without unnecessary inhibition. The opportunity to realize one's visions is part of the value of self-fulfillment embraced by a system of free expression.[100] A scientist also has a right to fulfill himself in his role as a citizen who participates in societal policy formulation. In his own decisionmaking capacity, the biomedical researcher should be accorded a right to pursue the research which would provide him with the knowledge required to formulate and articulate beliefs and ideas, which may then be evaluated in the marketplace of ideas.[101]

93. *See, e.g.*, Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 765 (1976); Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 390 (1969); Garrison v. Louisiana, 379 U.S. 64, 74-75 (1964); New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964); Associated Press v. United States, 326 U.S. 1, 20 (1945); Grosjean v. American Press Co., 297 U.S. 233, 249 (1936); Asociacion de Trabajadores v. Green Giant Co., 518 F.2d 130, 135 (3rd Cir. 1975); T. COOLEY, *supra* note 9.

94. T. EMERSON, GENERAL THEORY, *supra* note 19, at 11-14.

95. *See* New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964) (quoting Whitney v. California, 274 U.S. 357, 375-76 (1927) (Brandeis, J., concurring)).

96. *See* T. EMERSON, GENERAL THEORY, *supra* note 19, at 11; J. MILL, ON LIBERTY 55-74 (A. Castell ed. 1947).

97. *See* Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748-765 (1976); Buckley v. Valeo, 424 U.S. 1, 14-15 (1976); New York Times Co. v. Sullivan, 376 U.S. 254, 269 (1964); Roth v. United States, 354 U.S. 476, 484 (1957); T. EMERSON, GENERAL THEORY, *supra* note 19, at 14.

98. See text & notes 74-81 *supra*.

99. *See* J. LACHMAN, *supra* note 50, at 18-20.

100. See text & notes 74-75 *supra*.

101. See text & notes 87-88 *supra*.

By definition, research is essentially the search for truth.[102] Research enables constant advancement of our understanding of natural science, thereby providing citizens with a continuing supply of information. Free inquiry in biomedical science must be promoted to ensure that the best possible information will be available in planning for the well-being of society.[103] In the natural sciences, inquiry is synonymous with research and experimentation.[104] For all scientists, except possibly those in private industry, the vehicle for dissemination is publication in a journal. Whenever a researcher publishes the results of his work, along with his conclusions, he subjects his hypotheses to the stringent and often brutal scrutiny of his peers.[105] Thus, the interaction between members of the scientific community guarantees that research serves the underlying value of the first amendment in furthering truth.

The products of biomedical research are also of critical interest to society because of their great potential for facilitating social reform.[106] Members of society have a vital interest in being apprised of the results of research in order to make choices and decisions regarding the proper implementation of discoveries and techniques.[107] In the future, discoveries

102. Research is a "critical and exhaustive investigation or experimentation having for its aim the discovery of new facts and their correct interpretation, the revision of accepted conclusions, theories, or laws in the light of newly discovered facts, or the practical application of such new or revised conclusions, [theories, or laws]." WEBSTER'S, SECOND NEW INTERNATIONAL DICTIONARY 2118 (1954). *See* Hiatt, *supra* note 14.

103. *See* Sweezy v. New Hampshire, 354 U.S. 234 (1957) (Frankfurter, J., concurring):

> Progress in the natural sciences is not remotely confined to findings made in the laboratory. Insights into the mysteries of nature are born of hypothesis and speculation. . . . For society's good—if understanding be an essential need of society—inquiries into these problems, speculations about them, stimulation in others of reflection upon them, must be left as unfettered as possible. Political power must abstain from intrusion into this activity of freedom, pursued in the interest of wise government and the people's well-being, except for reasons that are exigent and obviously compelling.

*Id.* at 261-62; *see* Hiatt, *supra* note 14.

104. "Freedom to reason and freedom for disputation on the basis of observation and experiment are the necessary conditions for the advancement of scientific knowledge." Sweezy v. New Hampshire, 354 U.S. 234, 263 (1957) (Frankfurter, J., concurring).

105. *See* J. WATSON, THE DOUBLE HELIX 47, 66, 101-03 (1968). If his work withstands the attacks of other researchers, the scientist and society may reasonably conclude that the opinions expressed are sound, or at least plausible under the contemporary state of knowledge. *See* Mainx, *supra* note 52. If, on the other hand, a researcher has neglected any important factors in his research, or has arrived at what may be an erroneous conclusion, he will certainly be informed of his error by the criticisms of other workers. *See* J. WATSON, *supra* at 55-56, 101-03.

106. Richards of Rockford v. Pacific Gas & Elec. Co., 71 F.R.D. 388, 390 (N.D. Cal., memorandum of opinion filed May 21, 1976). The possibilities for social change as a result of scientific discovery and advancement are unquestionable, and have prompted many prominent commentators to advocate the continued vitality of research programs. *See* Burger, *supra* note 13, at 436; Kennedy, *supra* note 2; Note, *supra* note 17. *See generally* D. PRICE, GOVERNMENT AND SCIENCE (1962); A. ROSENFELD, THE SECOND GENESIS—THE COMING CONTROL OF LIFE (1969); Caplan & Nelson, *On Being Useful: The Nature and Consequences of Psychological Research on Social Problems*, 28 AM. PSYCH. 199 (1973).

107. See Sullivan, *To the Rescue*, Ariz. Daily Star, Oct. 15, 1976, § A, at 15, col. 3. There is a fundamental difference between the doing of research and the implementation of its results. *See* G. TAYLOR, *supra* note 52, at 20-21. The former represents expression of the researcher, while the latter may be characterized as action. As will be seen, expression cannot be subjected to the same scope of governmental regulation as action may be. See text & notes 139-67 *infra*.

resulting from biomedical research could pave the way for phenomenal advances in man's capability to control the conditions of his physical existence.[108] For example, new techniques in psychosurgery make possible the alleviation of intractable pain, depression, or anxiety, and may also provide relief for other incapacitating psychological disorders.[109] Discoveries made in fetal research may allow predictions of congenital infections and defects; may lead to an understanding of the effect of drugs and vaccines on the health of the fetus and mother; and will assist in the study of immunological processes as applied to tissue and organ transplants.[110] There is a good reason for the encouragement of genetic research as well, since genetics ultimately determines the very essence of all life forms.[111] Such encouragement thus facilitates the achievement of progress in social health and welfare.

With these possibilities in the near future, it is in society's interests to be aware of such advancements in order that its members may prudently make decisions regarding the practical application of the newly discovered knowledge. Progress in these areas will contribute to beneficial changes in society, allowing it to improve itself by bettering the physical well-being of its members. Biomedical research, therefore, satisfies that value of free expression which is an advantageous change in society.[112] Research can provide the means for alleviation of pain and suffering, the eradication of disease, and can offer direction to the physical development of mankind. Thus, biomedical research satisfies all four of the values of free expression embodied in the first amendment. This being so, biomedical research should be afforded protection against unjustified governmental regulation.[113]

An area of case law clearly supportive of first amendment protection for biomedical research is that dealing with academic freedom. The factors

108. *See* H. BEECHER, *supra* note 50, at 1, 86; G. TAYLOR, *supra* note 52, at 11-13; HUMAN ASPECTS OF BIOMEDICAL INNOVATION 16-22, 25-33 (E. Mendelsohn, J. Swazey, & I. Taviss eds. 1971); Chalmers & MacDonald, *supra* note 14, at 27; Jonas, *supra* note 13, at 16-17; Note, *supra* note 17, at 245, 255.

109. *See* Katz, *supra* note 2, at 415-16; Templer, *The Efficacy of Psychosurgery*, 9 BIOLOGICAL PSYCH. 205 (1974); Note, *Beyond the "Cuckoo's Nest": A Proposal for Federal Regulation of Psychosurgery*, 12 HARV. J. LEGIS. 610, 624-25 (1975).

110. *See* Martin, *Ethical Standards for Fetal Experimentation*, 43 FORDHAM L. REV. 547, 550-51 (1975); Altman, *Curbs on Fetal Research Impede Fight on Disease*, N.Y. Times, Apr. 20, 1974, at 1, col. 2.

111. *See generally* Gorney, *The New Biology and the Future of Man*, 15 U.C.L.A. L. REV. 273 (1968); Reilly, *Genetic Counseling and the Law*, 12 HOUS. L. REV. 640 (1975); Waltz & Thigpen, *Genetic Screening and Counselling: The Legal and Ethical Issues*, 68 NEV. U.L. REV. 696 (1973); Note, *The Legal Implications of Ectogenetic Research*, 10 TULSA L.J. 243 (1974).

The need for greater understanding of genetic mechanisms is demonstrated by the fact that more than four percent of all human births exhibit genetic defects. *See* Reilly, *supra* at 641. Genetic study will also make it possible for man to direct his own evolution through a program of eugenics, which operates by bringing in to "play those forces which will cause the hereditary endowment of each future generation to be an improvement over the generation which preceded it; in short, to see to it that there is biological race progress instead of race deterioration." H. LAUGHLIN, THE LEGAL STATUS OF EUGENICAL STERILIZATION 60 (1930), *quoted in* Note, *supra* note 15, at 615.

112. See text & notes 94-97 *supra*.

113. See text & notes 64-73 *supra*.

which have prompted the Supreme Court to give deference to academic freedom as a first amendment concern are equally applicable to biomedical research and, therefore, at least in the academic community, research should be similarly protected.

*Academic Freedom*

The Supreme Court on several occasions has expressed its concern for freedom of learning and teaching in the academic community.[114] In essence, academic freedom ensures the right of the educator to teach, engage in research, and publish without unnecessary governmental interference.[115] These are the activities which traditionally have been recognized as the

114. The concept of academic freedom arose judicially in response to teacher loyalty programs. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 600. The first case dealing with the problem was Adler v. Board of Educ., 342 U.S. 485 (1952), where the Supreme Court upheld statutes prescribing loyalty requirements for teachers in New York. Two of the dissenting justices, however, argued that the first amendment guaranteed freedom of thought and expression in public schools. *Id.* at 508 (Douglas & Black, JJ., dissenting). In the same year, Justice Douglas joined with Justice Frankfurter in a concurring opinion in Wieman v. Updegraff, 344 U.S. 183 (1952), also involving loyalty oaths for teachers. In *Wieman*, the oath was struck down as being violative of due process because it made no distinction between innocent and knowing membership in a subversive organization. *Id.* at 191. The concurrence however, emphasized principles of academic freedom. *Id.* at 195 (Frankfurter, J., concurring).

Academic freedom first influenced a majority of the justices in Sweezy v. New Hampshire, 354 U.S. 234 (1957). The Court reversed Sweezy's contempt conviction which had been based on his refusal to answer questions about a lecture on socialism he had given at the University of New Hampshire. *Id.* at 251. Speaking for himself and three other Justices, Chief Justice Warren said:

> The essentiality of freedom in the community of American universities is almost self-evident. No one should underestimate the vital role in a democracy that is played by those who guide and train our youth. To impose any strait jacket upon the intellectual leaders in our colleges and universities would imperil the future of our Nation. . . . Teachers and students must always remain free to inquire, to study and evaluate, to gain new maturity and understanding; otherwise our civilization will stagnate and die.

*Id.* at 250. Justices Frankfurter and Harlan concurred on first amendment grounds. *Id.* at 261-62 (Frankfurter & Harlan, JJ., concurring).

Two years later, in Barenblatt v. United States, 360 U.S. 109 (1959), appellant refused to answer questions asked by the House Committee on Un-American activities regarding Communist Party membership. *Id.* at 113. The contempt conviction was affirmed by the Supreme Court, but it was clear that all nine justices recognized that academic freedom is protected by the first amendment. The majority opinion noted:

> Of course, broadly viewed, inquiries cannot be made into the teaching that is pursued in any of our educational institutions. When academic teaching-freedom and its corollary learning-freedom, so essential to the well-being of the Nation, are claimed, this Court will always be on the alert against intrusion by Congress into this constitutionally protected domain.

*Id.* at 112.

In Keyishian v. Board of Regents, 385 U.S. 589 (1967), a majority of the Court firmly placed academic freedom within the purview of the first amendment, *id.* at 603, while striking down the same loyalty oath it had upheld in *Adler*. Subsequent cases have continued to recognize that academic freedom is safeguarded by the first amendment. *See, e.g.*, Healy v. James, 408 U.S. 169, 180-81 (1972); Kaprelian v. Texas Women's Univ., 509 F.2d 133, 139 (5th Cir. 1975); Clark v. Holmes, 474 F.2d 928, 931 (7th Cir.), *cert. denied*, 411 U.S. 972 (1973). One prominent commentator has even suggested that academic freedom might be established as an independent constitutional right. T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 611-13.

115. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 594.

Even if the university is a state institution, or the research engaged in is being funded by the government, Emerson urges that academic freedom should be zealously safeguarded. "It is just as vital to the system of freedom of expression that the government take no action 'abridging' expression when it operates a closed sector of the community or is the dominant figure there as when it is attempting to regulate private expression." *Id.*

function of university instructors.[116] In one recent case, a federal district court specifically recognized the research functions of a professor.[117] It can therefore be concluded that research is protected as a part of academic freedom. A consideration of academic freedom, including research freedom, in light of the values of free expression,[118] indicates why it has received such deference from the Supreme Court.[119] However, although it should now be clear that academic research is within the ambit of first amendment values, it remains to be considered whether nonacademic research equally serves those values.

Three groups perform the bulk of the research done in this country. Although the federal government now dominates research activity,[120] a sizeable portion of the research is funded or performed by private institutions and industry.[121] There is no logical basis for distinguishing between research done in an academic setting and that performed in a nonacademic, but noncommercial laboratory. Biomedical research done at a National Research Center,[122] for example, is no less expressive than that performed

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116. *See* Fellman, *Academic Freedom in American Law*, 1961 WIS. L. REV. 3, 4; Murphy, *Academic Freedom—An Emerging Constitutional Right*, 28 L. & CONTEMP. PROB. 447, 447-49 (1963).

117. *See* Richards of Rockford v. Pacific Gas & Elec. Co., 71 F.R.D. 388 (N.D. Cal., memorandum of opinion filed May 21, 1976). Professor Marc Roberts, as part of a research project, interviewed employees of defendant corporation. Plaintiff sought production of information obtained by Professor Roberts, who was not a party to the action. The court denied plaintiff's motion and the case was subsequently settled on the eve of trial. However, because of the importance of the case and the questions it raised, the court filed a Memorandum of Opinion, in which it stated that since confidentiality was essential to facilitate research studies, the interest in non-disclosure outweighed the asserted need for the information in this case. *Id.* at 6. In weighing the interests at stake, the court took notice of society's "profound interest in the research of its scholars." *Id.* at 3-4. Research was seen as a fundamental function of university instructors.

118. *See* text accompanying note 71 *supra*.

119. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 613. Emerson states:

> The basic concepts of freedom of expression embodied in the First Amendment are readily applicable to many aspects of academic freedom. Those principles can easily be extended to protect the faculty member in his academic rights to direct expression, that is, in his right to be free of interference in his teaching, research and publication.

*Id.*

120. *See* D. WOLFLE, THE HOME OF SCIENCE (1972). In 1971, universities, private institutes, and industry spent more than $28 billion on research and development. In that year, the federal government expended 56% of the $9.95 billion spent on research, excluding development costs. By 1971, 74% of all federal research funds were being disbursed as grants and contracts to universities, institutes and industry. The life sciences were the most heavily supported, receiving 46% of the federal research funds. *Id.* at 111-16. In 1975, the National Science Foundation awarded 436 grants, 313 of which went to universities. NATIONAL SCIENCE FOUNDATION, ANN. REP. (1975). *See also* T. MURPHY, SCIENCE, GEOPOLITICS, AND FEDERAL SPENDING (1971); Burger, *supra* note 13, at 436.

121. *See* Gumpert, *supra* note 2; discussion note 120 *supra*. Illustrative of the scope of activities pursued by these groups are H. ORLANS, THE NONPROFIT RESEARCH INSTITUTE (1972); S. STRICKLAND, SPONSORED RESEARCH IN AMERICAN UNIVERSITIES AND COLLEGES (1967).

122. National Research Centers are administered under, and research is supported by the United States Public Health Service. The statutory authority for these facilities is found in 42 U.S.C. § 241 (Supp. V. 1975), which states:

> The Surgeon General shall conduct in the Service, and encourage, cooperate with, and render assistance to other appropriate public authorites, scientific institutions, and scientists in the conduct of, and promote the coordination of, research, investigations, experiments, demonstrations, and studies relating to the causes, diagnosis, treatment,

in a university laboratory. In either case, the dominant element of the conduct is expression. A researcher will realize self-fulfillment in a successful project, both as a human being[123] and as a citizen,[124] whether his laboratory is on university grounds or not. Any discovery which he makes will enter into the competition of the market and vie for acceptance as a valid scientific fact regardless of the situs of the experiment.[125] In any event, society benefits in its search for truth.

Researchers working outside universities, such as those employed by National Research Centers or private research institutes,[126] provide the public with new information helpful to prudent decisionmaking. Nonacademic sources of information are an important supplement to the pool of innovations supplied by university researchers whom society has increasingly relied on as leaders in the intellectual community.[127] The result is that both academicians and other researchers serve a first amendment purpose by educating and informing those already functioning as decisionmakers in society.[128] Those decisions, whether facilitated by academic or nonacademic research, make change possible in society, one of the foremost values of a system of free expression.[129] No rational, general distinction between university and nonacademic research can be drawn; equal first amendment protection for either type of research is therefore justified. Courts have not yet had the opportunity to consider nonacademic research, but when the issue arises, such research should be recognized as protected expression.[130]

The problem is, however, somewhat more complicated in the case of commercial research. The Supreme Court at one time held that commercial

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control, and prevention of physical and mental diseases and impairments of man . . . . In carrying out the foregoing the Surgeon General is authorized to—
(a) Collect and make available through publications and other appropriate means, information as to, and the practical application of, such research and other activities . . . .

123. See text & notes 74-75 *supra*.
124. See text & notes 76-79 *supra*.
125. See text & notes 50-52, 105 *supra*.
126. See text & note 122 *supra*.
127. *See* Richards of Rockford v. Pacific Gas & Elec. Co., 71 F.R.D. 388, 390 (N.D. Cal., memorandum of opinion filed May 21, 1976); Smith, *How Our Science Bank Could Go Bust*, NEW YORK, July 5, 1976, at 88.
128. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 617. While the education of youth is unquestionably of great importance, to say that academic research is protected only because students are being educated would relegate the public's right to know to a position inferior to that of the student. Certainly, in light of the need for an informed populace in the decisionmaking process, it would be erroneous to conclude that those already functioning as decisionmakers in society are any less deserving of a free flow of information.
129. See text & notes 94-97 *supra*.
130. Research freedom itself has never been squarely presented as the central issue in a reported case, but rather has been mentioned in passing in opinions and commentaries dealing with the academic community. *See, e.g.*, Griswold v. Connecticut, 381 U.S. 479, 482-83 (1965); Sweezy v. New Hampshire, 354 U.S. 234, 261-62 (1957) (Frankfurter, J., concurring); Richards of Rockford v. Pacific Gas & Elec. Co., 71 F.R.D. 388 (N.D. Cal., memorandum of opinion filed May 21, 1976). For this reason, research may arguably be protected only insofar as it is conducted in an academic setting. It could be protected not as research but as academia.

speech was not protected under the first amendment.[131] In three recent cases, however, the commercial speech doctrine has been dealt a crushing blow.[132] Commercial speech is no longer without constitutional protection.[133] Thus, the commercial purpose of some research will not deprive it of protection.[134] Biomedical research done commercially may, however, fall short of the criteria used for defining expression for reasons other than the commercial involvement. As mentioned earlier, the most fundamental characteristic of expression is that the conduct must be predominantly expressive.[135] In many cases of commercial research, the conduct is motivated by a desire to produce a product rather than to express an idea, and those viewing the conduct will probably not perceive it as being expressive.[136] It must therefore be conceded that much commercial research is not expressive in nature and does not merit protection as expression.[137]

From the foregoing analysis, it should be concluded that, with the exception of some commercial research, there is no valid distinction between purely academic research and research conducted out of the university sphere. The academic freedom cases appear to protect research which is part of the functioning of the academic community.[138] Although research not done at a university would not come under the protection traditionally afforded the academic community, it is arguable that the basis for protecting

131. This doctrine was enunciated in Valentine v. Chrestensen, 316 U.S. 52, 54 (1942), in which the Court upheld a New York City ordinance which banned the distribution of commercial leaflets in public places. *See* Breard v. Alexandria, 341 U.S. 622, 642-43 (1951).

132. In Bigelow v. Virginia, 421 U.S. 809 (1975), the Court reversed a conviction under a statute forbidding the advertising of abortions and specifically questioned the continued validity of Valentine v. Chrestensen, 316 U.S. 52 (1942). 421 U.S. at 819. The final blow to the commercial speech doctrine was struck in Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748 (1976), where the commercial nature of prescription drug advertising was declared to be insufficient support for their statutory proscription. *Id.* at 764-65; *see The Supreme Court, 1975 Term,* 90 HARV. L. REV. 56, 142-52 (1976).

Shortly after *Virginia Pharmacy*, the New York Court of Appeals declared unconstitutional the ordinance which had been upheld in *Chrestensen*. People v. Remeny, 40 N.Y.2d 527, 355 N.E.2d 375, 387 N.Y.S.2d 415 (1976).

In its most recent commercial speech case, Bates v. State Bar of Arizona, 433 U.S. 350, 384 (1977), the Court stated that Arizona's disciplinary rule forbidding lawyer price advertising violated the first amendment, and that its conclusion flowed a fortiori from the *Virginia Pharmacy* opinion. *Id.* at 365.

133. *See* Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 762 (1976); *accord*, Bates v. State Bar of Arizona, 433 U.S. 350, 363 (1977).

134. 425 U.S. at 762.

135. See text & notes 45-46 *supra*.

136. See text & notes 47-48 *supra*.

137. In some cases, however, it might be argued that commercial research is expressive. The basic discovery may quite often be of such a highly technical or abstract nature that it is only the embodiment of the discovery in a product which is useful to the public. *See* 42 U.S.C. § 241(a) (Supp. V 1975); Hiatt, *supra* note 14; Smith, *supra* note 127. The average person would be ill-equipped to understand or use a biochemical report prepared in connection with the development of a new drug. The knowledge contained in the report is of value to the layman only after it had been applied and developed. Thus, the commercial research which led to the development of the drug may be the vehicle for dissemination of information newly acquired by researchers.

138. *See* Griswold v. Connecticut, 381 U.S. 479, 482-83 (1965); Sweezy v. New Hampshire, 354 U.S. 234, 261-62 (1957) (Frankfurter, J., concurring); Richards of Rockford v. Pacific Gas & Elec. Co., 71 F.R.D. 388 (N.D. Cal. Memorandum of opinion filed May 21, 1976).

academic research is matched by the value of much nonacademic research, thus militating in favor of similar first amendment protection.

It has now been demonstrated that, either by analogy to academic freedom or by analysis of the values of a system of free speech, biomedical research should be recognized as protected expression. This does not mean, however, that it may never be subject to state or federal regulation. The question thus becomes the permissible scope of regulation under the first amendment.

## FIRST AMENDMENT STANDARDS OF REVIEW

The first amendment rights of biomedical researchers have been increasingly jeopardized by prohibitive and restrictive legislation.[139] Governmental regulation is particularly a problem for fetal research, genetic research, and procedural studies in psychosurgery.[140] Several states have already enacted legislation which either restricts or completely forbids fetal research.[141] Congress[142] and the Department of Health, Education, and Welfare[143] have also limited or are considering limitations on fetal research, studies involving human subjects, and recombinant DNA research. Accordingly, it is important at this time to consider the limits of governmental regulation consonant with first amendment protection of the right to research.[144]

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139. The restrictions imposed on biomedical research have for the most part arisen within the past few years. *See* text & notes 3-8 *supra*.

140. The recent increase in legislative regulation of research is attributable, in part, to public pressures. *See* Delahunt, *Biomedical Research: A View from the State Legislature*, 6 HASTINGS CENTER REP., April 1976, at 25. These pressures have arisen because the development of new techniques and research capabilities in many areas of biomedical science has spawned a plethora of complex moral, ethical, and religious issues. *Id.* It has been observed that such public reactions often accompany great scientific changes or discoveries:

> An attack upon cherished premises tends to create anxiety, especially in those who have a strong inner need for certainty. The deviant opinion is felt as a threat to personal security. And the response tends to be fear, hatred or a similar emotion, from which springs a compulsion to eliminate the source of the danger. In such circumstances it is natural to turn to the state for protection against the supposed evil. Such factors play a prominent part in the formulation of restrictions upon expression and, equally important, in their administration.

T. EMERSON, GENERAL THEORY, *supra* note 19, at 17.

141. *See* statutes cited in notes 7, 8 *supra*.

142. *See* statutes cited in notes 5, 6 *supra*.

143. *See* text & notes 3-4 *supra*.

144. This Note does not address the difficult collateral issue of the power of the state or federal government to condition the receipt of governmental research grants on what would otherwise be unconstitutional limitations of the researcher's rights. This question is highly complex, and requires separate treatment. However, it should be noted that the power of the federal government to restrain certain types of research may not be inextricably bound to the pursestring. For example, the country's two largest environmental law firms, the Environmental Defense Fund and the Natural Resources Defense Council, recently petitioned the Department of Health, Education, and Welfare to extend federal safety regulations, heretofore applicable only to federally funded research, to private and industrial research. *See* Rensberger, *Lawyers Seek Broader Curbs on DNA Study*, N.Y. Times, Nov. 11, 1976, § C, at 18, col. 5. The federal guidelines limit research in the area of recombinant DNA. They may be made binding on non-federally supported research through the Public Health Service Act, 42 U.S.C. § 264 (1970), which provides for the promulgation of regulations to prevent the introduction or spread of communicable diseases from foreign countries or from one state to another. *See* Rensberger, *supra*.

Earlier, to define research as expression, it was shown that there is a fundamental difference between expression and action.[145] The validity of governmental regulation hinges on the difference; government has powers to regulate the latter, but must abstain from interfering with the former unless there exists a compelling state interest justifying the regulation.[146] This Note has demonstrated that biomedical research can be the expression of the researcher.[147] The following discussion examines the limits of regulation and the standard of review which should be used in judging the constitutional validity of legislation[148] which interferes with the freedom of expression of a biomedical researcher.

First amendment problems related to the suppression of free expression arise from two types of regulations. The first type of regulation is directed at the content of the speech. The second is a content-neutral control placed on the time, place, or manner of the expression, or on some form of action incidental to the speech. The basic difference between the two was succinctly set out by the Supreme Court in *Erznoznik v. City of Jacksonville*:[149] Reasonable time, place, and manner regulations are permitted when necessary to promote significant governmental interests, but "when the government, acting as a censor, undertakes selectively to shield the public from some kinds of speech on the ground that they are more offensive than others,

145. *See, e.g.*, Spence v. Washington, 418 U.S. 405, 409-10 (1974); Brandenburg v. Ohio, 395 U.S. 444, 447-48 (1969); Tinker v. Des Moines Independent Community School Dist., 393 U.S. 503, 508 (1969). See text & notes 19-53 *supra*.

146. *See* text & notes 65-69 *supra*.

147. See text & notes 49-63 *supra*. It may be argued that research contains so much of a physical action element that it should not be treated with the same deference as is accorded "freedom of inquiry" when it takes the form of pure theorization, as in mathematics. *See* Jonas, *supra* note 13, at 16-17. This argument fails to consider that research is predominantly expressive in nature. The presence of an action element does not change the characterization of research as expression, although it does determine the permissible scope of regulation. See text & notes 152-53 *infra*.

148. Because the subject matter of various areas of biomedical research will be unfamiliar to most legislators, it is likely that prior to the enactment of any laws, there will be legislative investigations. Such an investigation must, itself, refrain from abridging the exercise of free speech.

> Clearly, an investigation is subject to the command that the Congress shall make no law abridging freedom of speech or press or assembly. While it is true that there is no statute to be reviewed, and that an investigation is not a law, nevertheless an investigation is part of law-making. It is justified solely as an adjunct to the legislative process. The First Amendment may be invoked against infringement of the protected freedoms by law or by law-making.

Watkins v. United States, 354 U.S. 178, 197 (1957); *accord*, De Gregory v. Attorney Gen., 383 U.S. 825, 829 (1966); Gibson v. Florida Legislative Investigation Comm., 372 U.S. 539, 546 (1963).

The Supreme Court has held that in order to safeguard first amendment rights, an investigation must demonstrate a nexus between the particular information sought and a compelling state interest which would override any private rights affected. *See* DeGregory v. Attorney Gen. 383 U.S. 825, 829 (1966); Gibson v. Florida Legislative Investigation Comm., 372 U.S. 539, 546 (1963). *See also* Kilbourn v. Thompson, 103 U.S. 168, 194-95 (1881). Therefore, when Congress or a state legislature investigates in the area of scientific research, it may not do so in a manner which infringes the free exercise of the constitutional right to free speech, except upon a showing of the requisite need. Compulsory process must be "carefully circumscribed . . . particularly in the academic community." Sweezy v. New Hampshire, 354 U.S. 234, 245 (1957).

149. 422 U.S. 205 (1975).

the First Amendment strictly limits its power."[150] An examination of the tests employed by the Supreme Court in different circumstances will guide the establishment of the level of scrutiny applicable to legislation which restricts the right to do various types of biomedical research.

Several first amendment tests have been developed, enjoying varying degrees of popularity and longevity.[151] Determination of the appropriate

150. *Id.* at 209; *see, e.g.*, Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 771 (1976); Grayned v. City of Rockford, 408 U.S. 104, 115-16 (1972); Police Dep't v. Mosley, 408 U.S. 92, 95-98 (1972); Adderly v. Florida, 385 U.S. 39, 46-48 (1966); Cox v. Louisiana, 379 U.S. 536, 554 (1965); Kovacs v. Cooper, 336 U.S. 77, 85-87 (1949). If, for example, fetal research were limited or prohibited on moral or religious grounds, the first amendment would probably require that the legislation be struck down. However, if the research threatens the rights or welfare of others, the government may act to restrict the offensive aspects of the work. For instance, a municipality would be justified in demanding safeguards in the construction and operation of a facility studying the recombinance of DNA in disease-producing organisms. *See* Gumpert, *supra* note 2. This does not mean, however, that the municipality may ban the research completely. The Supreme Court has stated that any regulation in this area must be reasonable, *see* Erznoznik v. City of Jacksonville, 422 U.S. 205, 209 (1975), and in reasonable contemplation, a complete ban on research would be defensible only if no safeguards would be adequate or feasible to protect affected people. *See* text & notes 166-67 *infra*.

151. The least demanding of the tests applied in first amendment cases is that of balancing the asserted interests of the individual in free expression against the interests of the state. *See* T. EMERSON, GENERAL THEORY *supra* note 19, at 53-56; Frantz, *The First Amendment in the Balance*, 71 YALE L.J. 1424, 1449 (1962). The balancing test has been used in cases where a statute regulates conduct, and where the impact on speech is relatively minor and incidental to the regulation of conduct. Frantz, supra, at 1429. The balancing test for determining the constitutionality of legislation which infringes the freedom of expression was born in American Communications Ass'n v. Douds, 339 U.S. 382 (1950). Writing for the Court, Chief Justice Vinson upheld the provision of the Taft-Hartley Act barring from the National Labor Relations Board any labor unions whose officers failed to file a non-Communist affidavit. In reaching its conclusion, the Court applied the following test: "When particular conduct is regulated in the interest of public order, and the regulation results in an indirect, conditional, partial abridgement of speech, the duty of the courts is to determine which of these two conflicting interests demands the greater protection under the particular circumstances presented." *Id.* at 399; *accord*, Dennis v. United States, 341 U.S. 494, 517 (1951) (Frankfurter, J., concurring) (although the case was not decided by a balancing analysis, Justice Frankfurter's concurring opinion is one of the leading statements favoring balancing). A majority of the Court again employed the balancing test in Konigsberg v. State Bar, 366 U.S. 36 (1961), to disqualify a bar applicant who refused to answer questions pertaining to Communist Party membership put to him by the Committee of Bar Examiners under California law. However, in United States v. Robel, 389 U.S. 258 (1967), the balancing test came under severe attack. In a footnote, the majority stated in part:

> It has been suggested that this case should be decided by 'balancing' the governmental interests . . . against the First Amendment rights asserted by the appellee. This we decline to do. We recognize that both interests are substantial, but we deem it inappropriate for this Court to label one as being more important or more substantial than the other. Our inquiry is more circumscribed.

*Id.* at 268 n.20. For excellent discussions of key cases in the rise and decline of the balancing test, see T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 164-68, 178-82, 185-89; Frantz, *supra* at 1426-32.

Implicit in the *Douds* formulation of the balancing test was the idea that it was not intended to apply to direct or substantial regulations of speech. As applied to research, then, any statute which totally bans, or substantially interferes with, research in a specific area would demand scrutiny under a test stricter than a balancing of the interests. This is true because such a statute would be substantially affecting the researcher's expression as well as any incidental nonspeech elements of the activity. In Brandenburg v. Ohio, 395 U.S. 444 (1969), the Supreme Court combined elements of the "clear and present danger" test, and Learned Hand's "incitement test" to form what has been identified as the contemporary first amendment standard. *See* Gunther, *Learned Hand and the Origins of Modern First Amendment Doctrine: Some Frag-*

standard of review depends on the characterization of particular research as either pure speech or as conduct which combines speech and nonspeech elements. The task is complicated by the fact that no one standard can be established which would have uniform applicability to all research contexts. Because research situations vary, so must the standard of review. Some types of research have little, if any, effect upon the rights or interests of others, while other types may pose serious threats to health and welfare in their incidental effects. In the latter case, the standard of review should be less stringent so as to allow reasonable regulation for the protection of citizens. If the particular research is seen as pure speech, then the proper test would be as exacting as the test for advocacy: No regulation is permissible unless the speech incites others to a present danger of imminent lawless action.[152] If research is seen as a combination of speech and conduct, a different test—applicable to "speech-plus"—would be employed.[153] The most definitive statement of that test, utilized when speech and nonspeech elements are combined in a course of conduct, was made in *United States v. O'Brien*,[154] wherein the Court ruled that "a sufficiently important governmental interest in regulating the nonspeech element can justify incidental limitations on First Amendment freedoms."[155] The governmental interest

*ments of History*, 27 STAN. L. REV. 719, 722 (1975). The "clear and present danger" test was first presented by Justice Holmes in Schenck v. United States, 249 U.S. 47 (1919): "The question in every case is whether the words used are used in such circumstances and are of such a nature as to create a clear and present danger that they will bring about the substantive evils that Congress has a right to prevent." *Id.* at 52. The test was employed in cases stretching from Thornhill v. Alabama, 310 U.S. 88 (1940), to Dennis v. United States, 341 U.S. 494 (1951), but it is questionable whether it has survived after *Dennis*. *See* T. EMERSON, FREEDOM OF EXPRESSION, *supra* note 19, at 717; Linde, *"Clear and Present Danger" Reexamined: Dissonance in the Brandenburg Concerto*, 22 STAN. L. REV. 1163, 1166-67, 1183-86 (1970). *Brandenburg* added to "clear and present danger" Learned Hand's concept of a test which hinged on whether speech would incite others to lawless action. *See* Masses Publishing Co. v. Patten, 244 F. 535, 540 (S.D.N.Y. 1917). The test which emerged from *Brandenburg* is that, in the case of pure speech, advocacy may not be prevented unless it incites others in such a way as to create a present danger of imminent lawless action. *See* Brandenburg v. Ohio, 395 U.S. 444, 447 (1969). In Communist Party v. Whitcomb, 414 U.S. 441 (1974), the Communist Party had been excluded from the ballot because its candidates refused to take a loyalty oath. Justice Brennan, writing for the majority, found the oath unconstitutional and rejected the idea that a more lenient standard than *Brandenburg* was acceptable in a non-criminal case. *Id.* at 448-50. For discussions of the *Brandenburg* test, see Note, *Clear and Present Danger—Full Circle*, 26 BAYLOR L. REV. 385, 395-400 (1974); Comment, *Brandenburg v. Ohio: A Speech Test for All Seasons?*, 43 U. CHI. L. REV. 151, 159-64 (1975). *See also* Leary v. United States, 431 F.2d 85, 89 (5th Cir. 1970); Holodnak v. Avco Corp., 381 F. Supp. 191, 195, 203 (D. Conn. 1974), *aff'd*, 514 F.2d 285 (2d Cir. 1975); State v. Tages, 10 Ariz. App. 127, 130, 457 P.2d 289, 292 (1969).

Unfortunately, while this is the strictest test which has evolved thus far, it has limited application to the present problem because although it is expression, biomedical research is not pure speech. See text & note 157 *supra*.

152. For a discussion of the test which was used for advocacy in Brandenburg v. Ohio, 395 U.S. 444 (1969), see note 151 *supra*.

153. The term "speech-plus" was coined by Mr. Justice Douglas in his concurrence in Amalgamated Food Employees, Local 590 v. Logan Valley Plaza, Inc., 391 U.S. 308, 326 (1968), *overruled on other gounds*, Hudgens v. NLRB, 424 U.S. 507, 518 (1976).

154. 391 U.S. 367 (1968) (upholding a conviction for burning a draft card). See discussion at notes 21-26 *supra*. Most of the cases concerned with "speech-plus" have centered around the activity of picketing. *See, e.g.*, Adderly v. Florida, 385 U.S. 39 (1966); Cox v. Louisiana, 379 U.S. 536 (1965); Kovacs v. Cooper, 336 U.S. 77 (1949). These latter cases were decided before the activity was termed "speech-plus". *See* text & note 153 *supra*.

155. 391 U.S. at 376. Applying these criteria to the facts of the *O'Brien* case, it may be

must be compelling, directed at the nonexpressive aspect of the activity, and the least intrusive restriction available must be used.[156]

The majority of biomedical research should be viewed as "speech-plus," because it is partly composed of action elements which could affect the interests of others.[157] However, if a statute or regulation has the effect of preventing particular research, it will operate to eliminate the researcher's only method of expression.[158] Such a regulation should be judged by a higher standard than that provided by the Court in *O'Brien*. The *O'Brien* criteria were applied to an individual who sought to express his displeasure with the selective service system by destroying his draft registration card.[159] Clearly, the defendant in *O'Brien* could have chosen any number of other means of expressing the same idea.[160] The *O'Brien* standard would also be too lenient when a governmental regulation restricts research which does not have a "plus" element affecting the rights of others, since the test applies only where there is a nonspeech element to regulate.

In many cases, biomedical research may not create a "plus" result which the state could regulate. Research done on dead fetuses with the permission of the parents, for example, would not adversely affect the rights of anyone. In such a case, there is no discernable state interest to be vindicated. Other forms of research, however, such as that involving recombinant DNA, do present the possibility of danger to others, although the "plus" element in this type of research is speculative at best, there being a wide divergence of opinion on this subject among experts.[161] The government may not abridge free speech where the danger is hypothetical or speculative.[162] Thus, the validity of any regulation will depend on the state's

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argued that the Court failed to characterize the speech and nonspeech elements properly. The legislation challenged in that case added no new penalties to those which already existed under statute for failure to possess a draft card. *Id.* at 374-75. It can therefore be argued that the government satisfied no compelling interest in amending the statute to forbid draft card burning. The only added effect of the regulation was to impinge on the speech aspect of draft card burning. *See* T. EMERSON, FREEDOM OF SPEECH, *supra* note 19, at 84-85; Note, *supra* note 33, at 541.

156. *Id.* at 391 U.S. at 377. The requirement of least restrictive means has had a considerable history in constitutional adjudication. For comprehensive discussion of the development of this doctrine, see Torke, *The Future of First Amendment Overbreadth*, 27 VAND. L. REV. 289 (1974); Wormuth & Mirkin, *The Doctrine of the Reasonable Alternative*, 9 UTAH L. REV. 254 (1964); Note, *The Less Restrictive Alternative in Constitutional Adjudication: An Analysis, a Justification, and Some Criteria*, 27 VAND. L. REV. 971 (1974); Note, *Less Drastic Means and the First Amendment*, 78 YALE, L.J. 464 (1969).

157. In the case of recombinant DNA research, for example, there is great fear among lay people, as well as among some geneticists, that experiments will spawn new varieties of uncontrollable microorganisms. *See* Gumpert, *supra* note 2; Eisendrath, *DNA*, Ariz. Daily Star, June 10, 1977, § C, at 1, col. 1. Additionally, when research involves experimentation with human subjects, there is an obvious interest of those involved in their own health and safety.

158. *See* text & notes 60-63 *supra*. *See also* Shapiro, *supra* note 75, at 237.

159. 391 U.S. at 376. *Cf.* Buckley v. Valeo, 424 U.S. 1, 16 (1976) (expenditure of money for political communication is not susceptible to an *O'Brien* analysis because it has no nonspeech element).

160. *Cf.* Buckley v. Valeo, 424 U.S. 1, 19 (1976) (a political spending limit "necessarily reduces the quantity of expression"). See text & note 63 *supra*.

161. *See* Gumpert, *supra* note 2; Young, *supra* note 4; Ariz. Daily Star, Mar. 31, 1977, § A, at 13, col. 6.

162. Tinker v. Des Moines Independent Community School Dist., 393 U.S. 503, 509 (1969).

ability to show the existence of a real danger to society. Without such a showing, the state cannot sustain its claim of interest.[163] In those cases where the research does materially affect interests of other individuals or the state, there is a "plus" element which can be subject to reasonable regulation under *O'Brien*. By way of contrast, this type of regulable "plus" activity is well illustrated by the expressive conduct of picketing. Picketing presents a situation wherein the behavior is likely to materially affect persons other than the picketers,[164] since it is capable of creating disruption in the immediate vicinity of the picketing and possibly violent reactions from those wishing to cross the picket line.[165] The prevention of that "plus" result is certainly a legitimate state concern.

In sum, the *O'Brien* criteria are probably applicable to the bulk of biomedical research. To comply with *O'Brien*, the state must demonstrate an interest which justifies regulation of the nonspeech activity. If a substantial interest is proven, the regulation enacted must operate in a manner which is least inhibitive of the research.[166] This means that if a legislative body is validly acting to protect the health and welfare of its citizens by requiring controls on biomedical research, the extent of those controls must not exceed the degree of restriction necessary to accomplish the valid legislative goal.[167] If, for example, reasonable guidelines can be established regarding the safe conduct of research, a complete ban on that research would be an unconstitutionally broad regulation.

Because the problem of restrictions on biomedical research has not yet been adjudicated, and because the Supreme Court's approach to first amendment issues seems to vary from case to case,[168] it is impossible to draw

163. Assuming arguendo that the state's interest in protecting the public against genetic accidents is a compelling one, it is nonetheless necessary that there be a showing of substantial likelihood of the occurrence of such accidents.

164. *See* Amalgamated Food Employees, Local 590 v. Logan Valley Plaza, Inc., 391 U.S. 308, 326 (1968) (Douglas, J., concurring), *overruled on other grounds*, Hudgens v. NLRB, 424 U.S. 507, 518 (1976); Note, *First Amendment Analysis of Peaceful Picketing*, 28 ME. L. REV. 203, 206-08 (1976).

165. Prevention of this type of disruption through reasonable regulation of the "plus" element of picketing, is allowable under the Supreme Court's holdings:

> But since picketing is more than speech and establishes a *locus in quo* that has far more potential for inducing action or nonaction than the message the pickets convey, this Court has not hesitated to uphold a state's restraint of acts and conduct which are an abuse of the right to picket rather than a means of peaceful and truthful publicity.

Building Serv. Employees, Local 262 v. Gazzam, 339 U.S. 532, 537 (1950); *see* Hughes v. Superior Court, 339 U.S. 460, 464-65 (1950); Note, *supra* note 164.

166. *See, e.g.*, Elrod v. Burns, 427 U.S. 347, 362-63 (1976); Buckley v. Valeo, 424 U.S. 1, 25 (1976); Kusper v. Pontikes, 414 U.S. 51, 59 (1973).

167. In Kusper v. Pontikes, 414 U.S. 51 (1973), the court stated:

> [A] State may not choose means that unnecessarily restrict constitutionally protected liberty. . . . 'Precision of regulation must be the touchstone in an area so closely touching our most precious freedoms.' If the State has open to it a less drastic way of satisfying its legitimate interests, it may not choose a legislative scheme that broadly stifles the exercise of fundamental personal liberties.

*Id.* at 59; *accord*, Elrod v. Burns, 427 U.S. 347, 363 (1976).

168. *See* Linde, *supra* note 151, at 1163, 1169.

absolute conclusions pertaining to the proper standard of review for legislation which allegedly abridges researcher's rights. The problem is compounded by the need to apply a variable standard to the different types of research depending on the extent to which they entail nonexpressive actions.[169] However, the purpose of this Note is not to propose a concrete formula for the resolution of conflicts between legislatures and biomedical researchers. Rather, it is intended to call attention to the fact that a large amount of such research is entitled to first amendment protection, including the right to be free of regulation absent some significant governmental interest. When legislation abridges that right, courts must recognize that the government bears the burden of proving regulatory necessity.[170]

From what has been said, it is apparent that with the exception of much purely commercial research,[171] legislative restrictions on the right to do research should be permitted only if, at the least, they satisfy the *O'Brien* requisites. Many types of research, however, may require the placing of a weightier burden on the government. There is no one standard of review which can be used for all cases of biomedical research. It will be the courts' responsibility to find an appropriate standard in each case, depending on the type of research being conducted and the nature of the governmental interest asserted.

## CONCLUSION

By analogizing to the established case law in the area of academic freedom, and by analysis of the values and criteria of a system of free expression, it has been shown that most biomedical research is speech, protectible under the doctrine of the first amendment. Because constitutional protection obtains, legislation which abridges the rights of researchers by regulating research should be subjected to a standard of review which requires that the government demonstrate a compelling interest justifying the regulation. In practical terms, this means that the government will have to shoulder a heavy burden when researchers leave their laboratories and come to court. Scientists will thus be protected in their exercise of free speech and society will be immeasurably benefited by the free flow of new knowledge.

169. *See* text & notes 161-67 *supra*.
170. *See, e.g.*, Elrod v. Burns, 427 U.S. 347, 362-63 (1976); Healy v. James, 408 U.S. 169, 183-85 (1972); Williams v. Rhodes, 393 U.S. 23, 31-33 (1968); NAACP v. Button, 371 U.S. 415, 438 (1963).
171. See text & notes 131-37 *supra*.