The Public Purpose Doctrine and University of California Farm Mechanization Research

The publicly funded research activities of the University of California historically have been exempt from regulation by either the legislative or executive branches of state government. In a few cases, special interest groups have challenged the propriety of public support for some University research. This article suggests that judicial regulation of University research under the principles of the public purpose doctrine is a proper and expedient means to resolve research controversies.

On July 7, 1976, the City Council of Cambridge, Massachusetts, decided that university research was too important to be left to the unrestricted discretion of researchers themselves.[1] The council passed an ordinance imposing a three-month moratorium on genetic research within the city limits.[2] The ordinance also provided for the formation of a city review board to investigate potentially dangerous university research. According to the *New York Times*, this action was probably "the first time elected officials have attempted to regulate scientific research conducted by university laboratories."[3]

For the past fourteen years, a group of California residents has argued for similar regulation of the farm mechanization research[4] programs of the University of California. This group is comprised chiefly of members of the United Farm Workers Union (UFW)[5] and their supporters.[6] They have argued from a position of self interest: farm work-

1. N.Y. Times, July 8, 1976, at 12, col 6.

2. The ordinance was directed at research conducted on the campus of Harvard University which is within the Cambridge city limits.

3. N.Y. Times, *supra* note 1.

4. "Mechanization" refers to the development of machines to perform tasks previously done by people. "Farm mechanization" refers to the development of such machines for agricultural field use, primarily havesters.

5. *See* S.F. Chronicle, Sept. 20, 1977, at 19, col. 1. *See generally* M. DAY, FORTY ACRES (1971) for history of the United Farm Workers Union.

6. Significant organizations are the California Agrarian Action Project, 1007 Chestnut Ln., Davis, CA 95616 and the Farm Workers Service Center, Woodland, CA 95695.

ers have watched the University's mechanization projects literally eliminate their jobs in the fields.[7] Displacement of farmworkers has not been the only objection to California's state-supported agricultural research programs. Almost ten years ago, the *Wall Street Journal* suggested that public funding of farm mechanization research was inappropriate.[8] The *Journal* reported that most of the economic benefits of this research accrue to the private agricultural industry. Despite these objections, the agricultural research policies of the University of California have remained essentially unchanged.[9] Attempts to regulate the research or ameliorate its effects have been unsuccessful to date.[10]

Objection to specific academic research programs is not a new phenomenon.[11] In the past, however, objections generally were based on ideological or social grounds.[12] Objection to publicly funded research on economic grounds appears to be unprecedented. Though novel, such objection may have legal validity.

The public purpose doctrine[13] restricts the use of public funds to expenditures generating a corresponding public benefit. By judicial definition, funds expended for a private purpose lack this requisite public benefit.[14] According to UFW claims, the products of University of California mechanization research, developed for private use,[15] have not contributed to the general public welfare.[16] If these claims are accu-

7. In 1973, a Univeristy of California professor used a University designed harvester to assist in the harvest of melons during a Fresno County farm worker strike; CAL. AGRARIAN ACTION PROJECT, NO HANDS TOUCH THE LAND 7 (July 1977). Farm worker employment during the California tomato harvest has declined by 64% since the introduction of mechanized harvesting; W. FRIEDLAND & A. BARTON, DESTALKING THE WILY TOMATO 41 (1975).

8. *"A Farm Subsidy You Don't Hear About"*, Wall Street Journal, Sept. 9, 1968, at 16, col. 4; the article focused on University of California agricultural research.

9. Although the University has not terminated any on-going research in mechanization, it has stepped up research in the areas of farm working conditions, safety and minimization of pesticide hazards; Agric. Engineering Dep't, Univ. of Cal., Davis, Modified Academic Plan (Nov. 1977) (unpublished).

10. California Assemblyman Arthur Torres (D-Los Angeles) introduced two "pro-farmworker" bills in 1977. Both bills failed. The first would have required the University of California to prepare social impact statements before initiating some agricultural research projects. The second would have established a surtax on the sale of farm equipment with the consequent revenue used to assist persons displaced by farm mechanization. AB 1192 and AB 1537, 1977-78 Regular Session of the Cal. Legis. (1977).

11. The suppression of the astronomical theories of Copernicus and the persecution of his followers in the 17th Century is an extreme example. Protest over the atomic weapons research activities at the University of California's Lawrence Livermore Laboratory has been common since the 1950's.

12. For example, the Cambridge ordinance discussed in text accompanying notes 1-3 *supra*, was directed at the social and biological hazards of recombinant DNA research.

13. *See* CAL. CONST. art. XVI, § 6 and discussion in text accompanying notes 19-75 *infra*.

14. County of Alameda v. Janssen, 16 Cal. 2d 276, 281, 106 P.2d 11, 14 (1940).

15. It is possible that, since the *purpose* of mechanization research is to aid *private* business, proof of the actual effect (i.e. the benefit) of that research is unnecessary to establish a violation of the public purpose doctrine. *See* text accompanying note 194 *infra*.

16. The UFW not only claims that mechanization has resulted in no public benefit, but

rate, public support[17] of the underlying research would be unlawful.

This article analyzes the evolution of the public purpose doctrine and examines the force of the doctrine on University of California expenditures with reference to the University's constitutional autonomy.[18] The article defines a class of University research with commercial objectives as "applied research" and considers the purpose and effect of that research in terms of the public purpose doctrine. The article concludes with a brief discussion of the evidentiary and procedural aspects of a legal challenge to the University's applied research programs based on the public purpose doctrine.

I. THE PUBLIC PURPOSE DOCTRINE

The essence of the public purpose doctrine is that the state may not expend money[19] raised by its general taxing power[20] for matters that do not substantially benefit the public interest.[21] The California Constitution incorporates the doctrine in article XVI, section 6, which provides that the legislature may neither "give nor authorize" any political subdivision of the state to give "any money or thing of value to any individual . . . or . . . corporation."[22] A related constitutional provision forbids the appropriation of state funds to any "institution not under the exclusive management and control of the State."[23]

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that it has actually caused public harm in higher consumer prices, lowered food quality and higher unemployment. For comprehensive discussion of the Union's position, *see* CAL. AGRARIAN ACTION PROJECT, NO HANDS TOUCH THE LAND (July 1977). *See generally* W. FRIEDLAND & A. BARTON, DESTALKING THE WILY TOMATO (1975) & A. & H. DRAPER, THE DIRT ON CALIFORNIA (1968).

17. In fiscal year 1975-76, the University of California expended $33.2 million in general and special appropriations from the state general fund in support of agricultural research. Div. of Agric. Services, Univ. of Calif., A Report of Research in the California Agricultural Experiment Station (Oct. 1977) (unpublished report to the University Regents).

18. *See* CAL. CONST. art. IX, § 9.

19. The doctrine covers the use of public property as well as the expenditure of public funds. San Vincente School v. County of Los Angeles, 147 Cal. App. 2d 79, 304 P.2d 837 (2d Dist. 1956) (unconstitutional to allow private school the exclusive use of public park building).

20. *See* People v. Parks, 58 Cal. 624 (1881) ("the Legislature has no power to impose taxes for the benefit of . . . private enterprise." Unconstitutional to allow private mining operations to store debris on public property). In California, the proceeds from the sale of revenue bonds are not subject to the public purpose restriction, although they are subject to statutory controls over their disposition. California Educ. Facilities Auth. v. Priest, 12 Cal. 3d 575, 526 P.2d 513, 116 Cal. Rptr. 361 (1974) (no violation of Constitution to use proceeds from revenue bonds to finance construction of dormitories and other buildings for private colleges). This is an important exception since it allows state and local agencies to finance a broad range of capital projects for private use. *See* Goodman, *Constitutional Law — Public Purpose — Restricting Revenue Bond Financing of Private Enterprise*, 52 N.C.L. REV. 859 (1974).

21. *See* California Hous. Fin. Agency v. Elliot, 17 Cal. 3d 575, 551 P.2d 1193, 131 Cal. Rptr. 361 (1976) (use of public funds to finance low income housing is in the public interest). *See generally* McAllister, *Public Purpose in Taxation*, 18 CALIF. L. REV. 137 (1930).

22. CAL. CONST. art. XVI, § 6.

23. CAL. CONST. art. XVI, § 3.

The public purpose doctrine apparently originated in an 1853 decision of the Pennsylvania Supreme Court.[24] That case, cited with approval in early California applications of the doctrine,[25] held that the power of public taxation was constitutionally[26] limited to public purposes.[27] In practice, this restriction on the power to tax is actually a restriction on the power to spend.[28] In several early opinions, the United States Supreme Court held that the due process clause of the 14th amendment to the federal Constitution incorporates the principles of the doctrine.[29]

In California, there is some question regarding the scope of the doctrine. The California Supreme Court has held that the public purpose provision of the state constitution[30] does not apply to expenditures by charter cities and counties.[31] This exemption is based on language in the Constitution vesting charter cities with exclusive control over their own municipal affairs.[32] The state appellate courts, however, have not consistently recognized the exemption.[33] Moreover, under the 14th amendment, the United States Supreme Court has focused on the public character of the funds rather than on the particular agency authorizing

24. Sharpless v. Mayor of Philadelphia, 21 Pa. 147 (1853). *See* McAllister, *Public Purpose in Taxation*, 18 CALIF. L. REV. 137 (1930).

25. *See* People v. Parks, 58 Cal. 624, 639 (1881) (unconstitutional to allow storage of mining debris on public property). *See also* City of Los Angeles v. Lewis, 175 Cal. 777, 780 (1917) (municipal operation of cement plant unconstitutional taxation for private purpose); the opinion cited People v. Salem, 20 Mich. 452 (1870), apparently the first case to invalidate an expenditure under the public purpose doctrine. The *Salem* opinion analyzed the relation of railroads to the public interest and concluded "the public may reap many and large benefits" from railroad service, "but only incidentally." The Michigan Court held "it is not in the power of the state to subsidize . . . [private] . . . business." 20 Mich. at 485-86.

26. Sharpless v. Mayor of Philadelphia, 21 Pa. 147, 160 (1853). Each justice wrote a separate opinion and it is unclear whether the plurality relied on a specific state or federal constitutional provision.

27. *Id.* at 160. The court reluctantly held that the financing of railroad construction was a public purpose.

28. *See* Loan Ass'n v. Topeka, 87 U.S. 655, 660 (1874) ("the right of [municipal corporations] to contract must be limited by the right to tax").

29. *See* Parkersburg v. Brown, 106 U.S. 487 (1882) (unconstitutional for city to loan funds to private business).

30. CAL. CONST. art. XVI, § 6.

31. Tevis v. City & County of San Francisco, 43 Cal.2d 190, 196, 272 P.2d 757, 761 (1954); Los Angeles Gas & Elec. Corp. v. City of Los Angeles, 188 Cal. 307, 205 P.2d 125 (1922).

32. CAL. CONST. art. XI, § 5; "It shall be competent in any city charter to provide that the city . . . may make and enforce all ordinances and regulations in respect to municipal affairs, subject only to restrictions . . . in their . . . charters . . . . City charters . . . with respect to municipal affairs shall supersede all laws inconsistent therewith." *See generally* Sato, "*Municipal Affairs" in California*, 60 CALIF. L. REV. 1055 (1972).

33. *Compare* Social Workers Union v. County of Los Angeles, 270 Cal. App. 2d 65, 75 Cal. Rptr. 566 (2d Dist. 1969) (constitutional proscription does not apply to charter counties) *with* San Vincente School v. County of Los Angeles, 147 Cal. App. 2d 79, 304 P.2d 837 (2d Dist. 1956) (private use of public park unconstitutional).

the expenditure.[34] The better interpretation of the California cases seems to be not that charter cities are exempt from the principles of the public purpose doctrine but rather that expenditures for a municipal affair in accord with the restrictions of the municipality's charter are presumed to be for a public purpose.[35]

Actions to enjoin the waste of public funds under section 526a of the California Code of Civil Procedure are similar to actions under the state Constitution alleging a "gift of public funds."[36] The concept of "waste" in the statutory action appears to include the concept of an expenditure of public funds for a private purpose.[37] An action for waste, however, is apparently broader than the constitutional proscription.[38] Occasional judicial confusion of the concepts complicates analysis.[39] It is clear that an action for waste will lie against charter cities,[40] even though they may be exempt from a constitutional challenge against a gift of public funds.[41] There is also authority for such an action against the Regents of the University of California.[42]

Since courts generally have approached actions alleging waste or lack of public purpose on a case by case basis, it is difficult to distill specific rules of law. It is possible, however, to identify some broad principles that apply to actions under either the constitution or the Code of Civil

34. Loan Ass'n v. Topeka, 87 U.S. 655, 664 (1874) ("there can be no lawful tax which is not laid for *a public purpose*").

35. The language of the California cases holding charter cities exempt from the constitutional restriction does not support such an interpretation.

36. CAL. CONST. art. XVI, § 6.

37. *See* Rathburn v. Salinas, 30 Cal. App. 3d 149, 106 Cal. Rptr. 154 (1st Dist. 1973) (unlawful to lease downtown public parking lot to bank for construction of private bank building).

38. Traditionally, actions under the public purpose doctrine have involved expenditures for a private purpose. In addition to this principle, the concept of waste includes expenditures for no purpose whatsoever. *See* Harnett v. Sacramento County, 195 Cal. 676, 235 P.2d 445 (1925) (election enjoined where outcome would be moot). Conceivably, such an action could also be brought under the public purpose doctrine.

39. *See* Rathburn v. Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973), an action against a charter city under § 526a, *quoting* Irwin v. City of Manhattan Beach, 65 Cal. 2d 13, 415 P.2d 769, 51 Cal. Rptr. 881 (1966), an action against a general law city alleging a violation of the public purpose doctrine. It is possible that the Code of Civil Procedure is not a substantive provision at all, but simply procedural to afford taxpayer standing. There is no support in the cases for such an interpretation, however.

40. Harman v. City & County of San Francisco, 7 Cal. 3d 150, 496 P.2d 1248, 101 Cal. Rptr. 880 (1972) (action alleged "gift of public funds," court enjoined city's method of appraising surplus property for sale as contrary to provisions of city charter).

41. Tevis v. City & County of San Francisco, 43 Cal. 2d 190, 272 P.2d 757 (1954) (public purpose doctrine not a ban against granting municipal employees retroactive vacation rights since doctrine only limits power of legislature and city derives power over municipal affairs from its charter, not from the legislature).

42. Regents of Univ. of Cal. v. Superior Court, 3 Cal. 3d 529, 476 P.2d 457, 91 Cal. Rptr. 57 (1970) (action to enjoin expenditures in enforcing regulation barring Communist Party members from faculty because regulation unconstitutional).

Procedure.[43] The public purpose doctrine arose during a period of widespread investment of public funds in private railroad ventures.[44] Because of the often disastrous results of such investments,[45] the doctrine originally focused on prohibiting expenditure or investment of public money in any privately controlled enterprise.[46] Later, courts expanded the doctrine to proscribe expenditure of public funds for any operation traditionally considered to be in the private sector, even if the venture were under public control.[47]

Recently, California courts have modified these broad restrictions,[48] although the rule against public funding of privately controlled operations is still in effect.[49] Now the focus of the doctrine is generally against public expenditures without a corresponding public benefit.[50] Since actions under the public purpose doctrine are often brought to enjoin an expenditure before any funds have actually been spent for a particular program,[51] courts will look to the purpose of the expenditure when evaluating the sufficiency of anticipated public benefit.[52] Expenditures for a public purpose are valid; those for a private purpose are not.[53] The state constitution enumerates a number of permissible purposes.[54] Where the Constitution is silent, courts will look to the legislature for an expression of public purpose.[55] Occasionally, courts will

43. No further distinctions will be made between actions under the Civil Procedure Code and the state constitution. Apart from the issue of the liability of charter cities under the public purpose doctrine, the Code of Civil Procedure appears merely to furnish standing to challenge *ultra vires* municipal action, which includes expenditure of public funds for private purposes.

44. *See* McAllister, *Public Purpose in Taxation*, 18 CALIF. L. REV. 137 (1930).

45. *Id. See also* Sharpless v. Mayor of Philadelphia, 21 Pa. 147, 159 (1853).

46. *See* Loan Ass'n v. Topeka, 87 U.S. 655 (1874). This principle is now embodied in CAL. CONST. art. XVI, § 3, prohibiting the appropriation of state funds to any organization not under the exclusive control of the state as a state institution.

47. *See* City of Los Angeles v. Lewis, 175 Cal. 777 (1917) (unconstitutional for city to operate cement plant).

48. *See, e.g.*, Community Television of S. Cal. v. County of Los Angeles, 44 Cal. App. 3d 990, 119 Cal. Rptr. 276 (2d Dist. 1975) (release of tax lien against property of educational television station not unconstitutional because Legislature has found educational television to serve public purpose).

49. CAL. CONST. art. XVI, § 3.

50. *See* County of Alameda v. Carleson, 5 Cal. 3d 730, 488 P.2d 953, 97 Cal. Rptr. 385 (1971) (social welfare not a gift of public funds); Rathburn v. City of Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973) (lease of city parking lot to bank unlawful because public benefit insufficient).

51. *See* Rathburn v. City of Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973). Courts also may look to purpose rather than benefit since anticipated benefit is often difficult to assess.

52. *See* County of Alameda v. Carleson, 5 Cal. 3d 730, 488 P.2d 953, 97 Cal. Rptr. 385 (1971).

53. County of Alameda v. Jannsen, 16 Cal. 2d 276, 106 P.2d 11 (1940).

54. CAL. CONST. art. XVI, § 3 (care of orphans and aged indigents, assistance for the needy blind, aid for physically handicapped persons) & art. XVI, § 6 (aid to veterans).

55. County of Alameda v. Carleson, 5 Cal. 3d 730, 746, 488 P.2d 953, 964, 97 Cal. Rptr.

rely on analagous principles for guidance in evaluating the propriety of a particular use of public assets.[56]

In applying the public purpose doctrine, California courts have usually used something akin to the Supreme Court's rational basis test.[57] Under this test, courts will invalidate an expenditure only if it has no conceivable relation to the public interest.[58] For example, in 1976, the California Supreme Court held that a legislative determination of public purpose, although not binding on the courts, would be given "great weight and will not be invalidated unless unreasonable or arbitrary."[59] In an earlier opinion, the Court indicated that it would invalidate an expenditure only if it were the product of legislative "fraud, oppression or a manifest abuse of discretion."[60] Occasionally, the courts will adopt a stricter test, requiring, for example, a "reasonable relation" between an expenditure and the public interest to be served.[61] In such cases, mere rationality of the proposed use is insufficient to sustain it against a public purpose challenge.[62]

Whatever test is used, courts generally prefer to defer to legislative determinations of public purpose, rather than to substitute their judgment for that of elected officials.[63] How far courts will carry this deference in any particular case seems to depend on one or both of two factors. First, the courts have considered the relationship between the challenged program and traditional notions of the proper role of gov-

385, 396 (1971) ("the determination of what constitutes a public purpose is primarily a matter for the legislature").

56. *See* Rathburn v. City of Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973) (long term lease of public property evaluated by analogy to principles controlling sale of public property).

57. *See, e.g.*, Village of Belle Terre v. Borass, 416 U.S. 1 (1974) (challenged zoning ordinance constitutional because "reasonable, not arbitrary" and had "rational relation to permissible state objective").

58. In the absence of an express legislative purpose, the court will speculate as to what the legislature *might* have intended. *See* County of Alameda v. Carleson, 5 Cal. 3d 730, 488 P.2d 953, 97 Cal. Rptr. 385 (1971) (continuation of welfare benefits after recipient employed is not unconstitutional). The court said, "with respect to AFDC grants, the legislature *could* reasonably conclude . . . that the income disregard provision was a necessary and proper device." *Id.* at 746 (emphasis added).

59. California Hous. Fin. Agency v. Elliot, 17 Cal. 3d 575, 584, 551 P.2d 1193, 1198, 131 Cal. Rptr. 361, 366 (1976).

60. Irwin v. City of Manhattan Beach, 65 Cal. 2d 13, 24, 415 P.2d 769, 776, 51 Cal. Rptr. 881, 888 (1966).

61. Rathburn v. Salinas, 30 Cal. App. 3d 199, 205, 106 Cal. Rptr. 154, 158 (1st Dist. 1973).

62. *Id.* The case suggests that the court should weigh the respective public benefit from two competing uses and disallow that use having the least public benefit if there is gross disparity between the two.

63. *See* Board of Supervisors v. Dolan, 45 Cal. App. 3d 237, 119 Cal. Rptr. 347 (1st Dist. 1975) (court relied on published legislative findings of public purpose to uphold low interest loan program for rehabilitation of urban housing).

ernment.[64] Second, they have generally evaluated the effect on governmental operations of abolishing the spending program in question.[65] Consideration of the proper role of government is a largely historical concept.[66] As long as the legislature has determined that a particular program deals with a subject properly of public concern, the courts will usually not disturb that determination.[67] The second factor, the impact on governmental operations, is of more importance to the courts, although it is usually not explicit in their opinions. A review of public purpose cases of the last twenty years shows that successfully challenged expenditures were generally of small dimension.[68] Conversely, where the courts have rejected public purpose challenges, the challenged programs were often of major importance.[69] Although the opinions are unclear, it is likely that the courts are balancing the fiscal harm of allowing the program to continue against the adverse governmental effect of an injunction.

Apart from the above factors, courts will defer to a legislative determination of public purpose only when there has been formal consideration and sanction of the particular expenditure. Although not explicit in the cases, it appears that such a determination, if the rule of deference is to apply, must be made by a governmental body vested with the general police power.[70] Where the challenged program received only informal or administrative approval, the courts seem to weigh its merits

64. *See* City of Los Angeles v. Lewis, 175 Cal. 777 (1917) (municipal operation of cement plant unconstitutional).

65. This factor is not explicit in the opinions. *See* notes 68 & 69 *infra.*

66. That the courts considered this factor at all seems to stem from judicial concern over the loss of public funds in the event the quasi-public venture failed. *See* Sharpless v. Mayor of Philadelphia, 21 Pa. 147 (1853).

67. Since the role of government is now so broad, the courts will accept virtually any legislative determination of the propriety of a governmental venture. *See, e.g.*, Pipes v. Hildebrand, 110 Cal. App. 2d 645, 243 P.2d 123 (4th Dist. 1952) (municipal construction of aircraft hangars constitutional).

68. *See* Rathburn v. City of Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973) (unconstitutional to convert city parking lot into bank building, construction not started); Hutton v. Pasadena City Schools, 261 Cal. App. 2d 586, 68 Cal. Rptr. 103 (2d Dist. 1968) (unconstitutional to award retroactive pay to suspended employee); Holzendorf v. Housing Auth. of Los Angeles, 250 Cal. App. 2d 596, 58 Cal. Rptr. 886 (2d Dist. 1967) (unconstitutional to reimburse public employee for cost of criminal defense).

69. *See* County of Alameda v. Carleson, 5 Cal. 3d 730, 488 P.2d 953, 97 Cal. Rptr. 385 (1971) (social welfare program constitutional); Irwin v. City of Manhattan Beach, 65 Cal. 2d 13, 515 P.2d 769, 51 Cal. Rptr. 881 (1966) (easement over public street for private overpass constitutional, overpass already constructed).

70. This principle is not explicit in the opinions. It is logical, however, since a determination of a public purpose in essence is a determination of the public health, safety or general welfare. For public agencies without authority to exercise the full police power, the public purpose doctrine requires that their expenditures be limited to a purpose within the agency's scope of responsibility (i.e. a mere finding of public purpose insufficient, expenditures must be confined to those public purposes within the agency's authority). *See* Golden Gate Bridge Dist. v. Luehring, 4 Cal. App. 3d 204, 84 Cal. Rptr. 291 (1st Dist. 1970).

carefully, rather than yield to the judgment of an inferior level of government.[71] Furthermore, if a challenger can show that the officials who made the administrative or informal decision were biased in any way, the courts tend to view the appropriation as tainted and to subject it to close scrutiny.[72]

In summary, the public purpose doctrine developed during a period when courts looked with disfavor on attempts by government to enter into traditionally private ventures. Later, courts developed a rule of deference to the legislative judgment. Although this rule of deference still operates when challenged programs have received formal legislative consideration (particularly when those programs are of significant importance), deference is not automatic. Courts will still invalidate expenditures clearly contrary to the public interest. Courts will subject informal or administrative appropriations to more careful examination. Finally, evidence of bias on the part of public officials will trigger even closer scrutiny.

Because of the judicial exemption of charter cities in California from the restrictions of the public purpose doctrine,[73] it is arguable that the University of California is similarly exempt.[74] The following section addresses that question in the light of the University's constitutional autonomy,[75] the principles of the public purpose doctrine and considerations of public policy.

II. The Application of the Public Purpose Doctrine to The University of California

The University of California is a semi-autonomous unit of state government.[76] California courts have not yet ruled on whether the University's autonomy is so broad as to exempt its expenditures from the

71. *See* Albright v. City of S. San Francisco, 44 Cal. App. 3d 866, 118 Cal. Rptr. 901 (1st Dist. 1975) (without authorizing ordinance, flat rate expense reimbursement to city council members unconstitutional). *See also* Stanson v. Mott, 17 Cal. 3d 206, 551 P.2d 1, 130 Cal. Rptr. 697 (1976) (unlawful for state parks official to expend state funds in support of ballot proposition without legislative authorization).

72. *See* Bayside Timber v. San Mateo County Supervisors, 20 Cal. App. 3d 1, 97 Cal. Rptr. 431 (1st Dist. 1971) (unconstitutional to delegate administrative authority without standards to members of regulated industry).

73. Tevis v. City & County of San Francisco, 43 Cal. 2d 190, 272 P.2d 757 (1954).

74. The argument for the University's exemption would be the same as that for charter cities, that the language of the constitutional restriction speaks only to the legislature and both charter cities and the University obtain their authority from the Constitution, not from the legislature. This argument, however, ignores the fact that the University, unlike charter cities, depends on the Legislature for its funds.

75. Cal. Const. art. IX, § 9.

76. Cal. Const. art. IX, § 9. *See* L. Glenny & T. Dalglish, Public Universities, State Agencies and the Law (1973) for a general discussion of state university autonomy and its consequences.

requirements of the public purpose doctrine.[77]

On March 23, 1868, the California Legislature passed an "[a]ct to create and organize the University of California."[78] Less than one hundred years later, a prominent California jurist described the school as "one of the greatest state universities in the world."[79] The independence of the University's Regents from political interference was one of the major reasons for its rapid ascension to preeminence.[80] The state constitution vests the Regents with "full powers of organization and government"[81] over the institution and permits legislative control only to "insure the security of its funds."[82] In addition, the tradition of academic freedom[83] has enhanced public and legislative respect for the University's constitutional autonomy. As a result, University Regents and faculty have exercised almost exclusive control over academic matters, including curricula and research policies. California courts, as a rule, have guarded solicitously the University's traditional independence and have recognized the authority of the Regents to manage the internal affairs of the institution.[84]

While constitutional autonomy is a fundamental principle of University government, the public purpose doctrine is equally fundamental to the government of the state as a whole.[85] Although the two principles should not often conflict,[86] when they do, it seems that the University's

77. *But see* Newmarker v. Regents, 160 Cal. App. 2d 644, 325 P.2d 558 (1st Dist. 1958). In *dicta*, the court said that it was questionable whether the state constitutional proscription against the gift of public funds applied to the University; the court assumed the doctrine did apply, however, in holding that University employees could not recover accrued sick leave forfeited when they went on strike.

78. 1867-68 Cal. Stats. 248.

79. Wall v. Board of Regents, 38 Cal. App. 2d 698, 700, 102 P.2d 533, 534 (2d Dist. 1940) (McComb, J., concurring).

80. *Id.*

81. CAL. CONST. art. IX, § 9.

82. *Id.*

83. The doctrine of "academic freedom" involves the freedom of individual faculty members to teach and conduct research without administrative interference. Since the doctrine, apart from those aspects incorporated by implication in the University's grant of constitutional autonomy, affects University affairs only to the extent that University management allows, it is not relevant to the issue of an external challenge to University policy. *See generally* L. EPSTEIN, GOVERNING THE UNIVERSITY 115-42 (1974).

84. *See* Hamilton v. Regents, 219 Cal. 663, 28 P.2d 355 (1934), *aff'd*, 293 U.S. 245 (1934) (undergraduate curriculum); People v. Kewin, 69 Cal. 215, 10 P. 393 (1886) (management of Hastings Law College); Goldberg v. Regents of Univ. of Cal., 248 Cal. App. 2d 867, 57 Cal. Rptr. 463 (1st Dist. 1967) (student conduct); Newmarker v. Regents, 160 Cal. App. 2d 644, 325 P.2d 558 (1st Dist. 1958) (employee fringe benefits); Wall v. Board of Regents, 38 Cal. App. 2d 698, 102 P.2d 533 (1st Dist. 1940) (faculty qualifications); Williams v. Wheeler, 23 Cal. App. 619 (1st Dist. 1913) (student admissions policies).

85. *See* Sharpless v. Mayor of Philadelphia, 21 Pa. 147, 168 (1853) ("when taxation is prostituted to expenditures in no way connected with the public interests or welfare, it ceases to be taxation, and becomes plunder").

86. There is nothing essentially antagonistic between the public purpose doctrine and Uni-

autonomy must yield. Existing limitations on the University's independence and the nature of its financial support reinforce this conclusion.

The University is "not the sovereign."[87] California courts, though respecting the University's political independence,[88] have not hesitated to subordinate University policies and regulations to the police power of the legislature,[89] the provisions of the federal Constitution,[90] and the general policies of state government.[91] The courts have established that the University's autonomy extends only to those "matters which are . . . exclusively University affairs,"[92] such as employment of faculty[93] and admission requirements.[94] A matter of general statewide concern, however, is not such an exclusive affair and the University is not free to deviate from general policies covering such matters.[95]

Whatever argument might be made to exempt the University from the provisions of the public purpose doctrine[96] necessarily would be limited to an exemption only for expenditures for exclusively University affairs.[97] Some of the University's research programs have widespread impact not only throughout the state but throughout the world.[98] Although professorial freedom to conduct research is a maxim of academic liberty,[99] such freedom, unrestricted, cannot be reconciled with the realities of the modern world. Technology, once developed, is difficult to control.[100] Freedom to research simply cannot mean blind freedom to develop and unleash scientific breakthroughs that can have an

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versity self government; one would hope that University Regents and employees, as public trustees, would always have the public interest in mind.

87. Estate of Royer, 123 Cal. 614, 624 (1899).

88. *See* Wall v. Board of Regents, 38 Cal. App. 2d 698, 102 P.2d 533 (1st Dist. 1940).

89. Williams v. Wheeler, 23 Cal. App. 619 (1st Dist. 1913) (public health).

90. *See* Goldberg v. Regents of Univ. of Cal., 248 Cal. App. 2d 867, 57 Cal. Rptr. 463 (1st Dist. 1967) (regulations on student conduct may not require students to waive constitutional rights).

91. As a rule, California courts have recognized the University's obligation to conform to legislative policies of state government only when the legislature has specifically included the University in the relevant statute. *Cf.* California State Employees Ass'n v. Regents of Univ. of Cal., 267 Cal. App. 2d 667, 73 Cal. Rptr. 449 (1st Dist. 1968) (state personnel policies).

92. Tolman v. Underhill, 39 Cal. 2d 708, 712, 249 P.2d 280, 282 (1952) (employee loyalty oath is matter of general statewide concern and Regents may not specify an oath at variance from the oath required of all state employees).

93. Wall v. Board of Regents, 38 Cal. App. 2d 698, 102 P.2d 533 (1st Dist. 1940).

94. Williams v. Wheeler, 23 Cal. App. 619 (1st Dist. 1913).

95. Tolman v. Underhill, 39 Cal. 2d 708, 249 P.2d 280 (1952).

96. The only basis for such an argument is the precedent of the exemption for charter cities, *see* note 31 *supra.*

97. The exemption for charter cities is limited to municipal affairs since the constitutional autonomy of charter cities is limited to municipal affairs. *See* Tevis v. City & County of San Francisco, 43 Cal. 2d 190, 272 P.2d 757 (1954). Similarly, the University's autonomy is limited to University affairs. *See* Tolman v. Underhill, 39 Cal. 2d 708, 249 P.2d 280 (1952).

98. To use an extreme example, University of California research under Professor Edward Teller led to the development of the hydrogen bomb.

99. *See* L. EPSTEIN, GOVERNING THE UNIVERSITY 115 (1974).

100. For example, the National Security Agency is attempting to suppress non-governmen-

overwhelming effect on an unsuspecting and unprepared society. The tomato harvester, a University invention, has precipitated fundamental changes in the character of the state's agricultural industry and its rural environment.[101] Clearly, such matters are of general statewide concern and therefore, notwithstanding academic freedom, cannot be, by definition, exclusively University affairs.[102] Expenditures for research to develop usable technology, therefore, should be required to meet public purpose standards,[103] regardless of whether or not all University expenditures are subject to the same standards.

Because of its constitutional status, the University has significantly more freedom in handling its fiscal affairs than do other state agencies.[104] University expenditures, however, are still subject to statutory and legislative controls. University accounts are subject to full audit by the State Controller and the State Director of Finance.[105] The University cannot encumber state funds in advance of legislative appropriation.[106] The legislature can directly restrict University expenditures with the use of riders in each year's budget act.[107] These riders often impose rather specific restrictions.[108]

In short, the University depends on the state legislature for its financial support and it must restrict its expenditures to conform to legislative mandates. The express language of the constitution[109] forbids the legislature from making or authorizing a gift of public funds. It is arguable, therefore, that funds appropriated to the University by the legislature are impressed with the restrictions of the public purpose doc-

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tal research in the development of computer codes lest scientists discover an "unbreakable" secret code. S.F. Chronicle, Oct. 19, 1977, at 6, col. 1.

101. *See* W. FRIEDLAND & A. BARTON, DESTALKING THE WILY TOMATO (1972).

102. *See* Tolman v. Underhill, 39 Cal. 2d 708, 249 P.2d 280 (1952).

103. The public purpose doctrine would serve as only a minimum control. University research may need additional regulation to insure against adverse effects. *See* S.F. Chronicle, Oct. 19, 1977, at 2, col. 1; a University of California researcher admitted that his pesticide research was "stupid" in not going far enough to detect potential health hazards on workers exposed to the chemical. *See also* W. FRIEDLAND, SOCIAL SLEEPWALKERS (1974).

104. For example, the University is exempt from the regular state purchasing procedures, state audit of its claims on the state Treasury for contract compliance and certification of invoices prior to receipt of state funds. CAL. STATE AUDITORS MANUAL § 5431.

105. 3 OP. CAL. ATT'Y GEN. 108 (1944). Because of budget constraints on the auditing agencies, these audits are limited to cursory examination of University expenditures. Interview with Richard Frost, Accounting Officer, Univ. of Cal., Davis, in Davis, Cal. (Oct. 17, 1977).

106. *See* California State Employees Ass'n v. State, 32 Cal. App. 3d 103, 108 Cal. Rptr. 60 (3d Dist. 1973).

107. *See, e.g.*, 1976 Cal. Stats. 742. These riders impose conditions precedent to University receipt of appropriated funds. The University is free to reject the appropriation, but if it accepts it, it must abide by the restrictions imposed by the legislature. The constitutional validity of these riders has not been litigated in California. *Cf.* Board of Regents of the Univ. of Mich. v. Auditor General, 167 Mich. 444, 132 N.W. 1037 (1911).

108. For example, 1975 Cal. Stats. 511 prohibits the purchase of carpeting with state funds except for the offices of designated University officials.

109. CAL. CONST. art. XVI, § 6.

trine.[110] The legislature lacks the authority itself to subsidize privately oriented research with public funds.[111] If the courts consider the University exempt from public purpose restrictions, the legislature can, in effect, do indirectly that which the Constitution forbids it to do directly. A California appellate court recently expressly condemned such an indirect approach to subvert constitutional proscriptions.[112]

Perhaps the strongest argument for application of the public purpose doctrine to the University is simply public policy itself. It is virtually inconceivable that the University of California, with its "huge operations . . . involving the annual expenditure of hundreds of millions of dollars,"[113] is under no obligation to restrict its expenditures to matters in the public interest. A contrary conclusion would mean that University Regents are free to distribute University funds as they please. Such a conclusion not only offends the basic principles of government but is directly contrary to the intent of the state constitution which expressly provides for the security of University funds.[114]

Finally, even if courts were to class the University with charter cities, as exempt from the constitutional provision incorporating the public purpose doctrine, the institution should nevertheless, like charter cities,[115] be subject to an action for waste under the Code of Civil Procedure.[116] The California Supreme Court has impliedly sustained the propriety of such an action to enjoin unlawful University expenditures.[117]

Judicial construction, fiscal analysis and public policy all support application of the public purpose doctrine to University of California expenditures. This article assumes that the University is subject to public purpose requirements and that it may not expend public funds for private purposes. The following section analyzes the relationship between the public purpose doctrine and University expenditures for research.

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110. *See* Holzendorff v. Housing Auth. of Los Angeles, 250 Cal. App. 2d 596, 58 Cal. Rptr. 886 (2d Dist. 1967) (public funds are trust funds; money made under mistake of law or fact can be recovered).

111. There is no California case in point. *Cf.* Board of Trustees of Stanford Univ. v. Cory, No. 3 Civil 17100 (Cal. Ct. App., 3d Dist., Apr. 10, 1978) (Legislature may not constitutionally furnish support to private medical school).

112. *Id.* (Legislature may not grant aid to private school under guise of contract for legitimate public purpose).

113. Regents of Univ. of Cal. v. Superior Court, 3 Cal. 3d 529, 541, 476 P.2d 457, 465, 91 Cal. Rptr. 57, 65 (1970).

114. CAL. CONST. art. IX, § 9.

115. Tevis v. City & County of San Francisco, 43 Cal. 2d 190, 272 P.2d 757 (1954); Harmon v. City & County of San Francisco, 7 Cal. 3d 150, 496 P.2d 1248, 101 Cal. Rptr. 880 (1972).

116. CAL. CODE CIV. PROC. § 526a (West Cum. Supp. 1978).

117. *See* Regents of Univ. of Cal. v. Superior Court, 3 Cal. 3d 529, 476 P.2d 457, 91 Cal. Rptr. 57 (1970) (interlocutory appeal on issue of venue).

III. The Public Purpose Doctrine and Farm Mechanization Research

A. The Research

University of California research programs may be divided into two general classes. Traditional inquiry into the basic concepts of a particular discipline may be termed "basic research." Research oriented toward refining and applying known concepts in the development of economically useful systems or inventions can be described as "applied research."[118] The University has applied research programs in the areas of agricultural engineering, pharmacology, agricultural chemistry, energy production, food science and nuclear weaponry.[119] With the exception of nuclear arms research,[120] the public funds of the state support the majority of the activities in these programs.[121] The public purpose doctrine requires a substantial public benefit to justify an expenditure of public funds.[122] Because of their economic orientation, applied research programs may often lack the requisite degree of public benefit.

Farm mechanization research is an example of applied research. As a rule, mechanization research projects have the development of a specific, commercially useful machine or process as an initial objective.[123] For public purpose analysis, commercial utility as a basic research goal is the key distinction between applied and basic research programs.[124]

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118. The boundary between applied and basic research is not clearly circumscribed. University research efforts may be characterized along a continuum from inquiry into the most basic concepts of a particular discipline at one end to application of well known principles in the solution of the mundane problems of everyday life at the other. Basic research with incidental commercial applications should still be considered as "basic." The distinction is made between the *objectives* of research programs. Research with the objective of an economically useful invention is "applied."

119. With the exception of nuclear weapons research, which the University calls "applied physics," the University itself does not recognize a distinction between basic and applied research. These categories are for the purposes of this article only.

120. Nuclear arms research is confined to the University's Lawrence Livermore Laboratory and is funded exclusively by the federal government.

121. *See* note 132 *infra*. This article only deals with research funded, at least in part, by the state. Problems of federal preemption would undoubtedly arise in any discussion of controls over the disposition of federal funds.

122. *See* Rathburn v. City of Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973).

123. For example, current mechanization projects include the following: "Engineering system for vegetable production and harvesting" (development of an onion harvester; an explicit objective is to "optimize . . . profits for producers"); "Mechanical fruit harvesting: chemical abscission: tree restructuring" (development of a system to harvest olives by shaking the olive tree); "Mechanical harvest of grapes." Division of Agric. Sciences, Univ. of Calif., Agricultural Mechanization Research Projects (Mar. 20, 1978) (unpublished).

124. The University recognizes this distinction. For example, the official University position on patents considers patentability of research inventions to be "fortuitous by-products, rather than the inevitable results, of scientific research." Office of the Auditor General, Joint Legislative Audit Committee, Report to the Calif. Legislature: The University of California System: Patent and Royalty Program 7 (Oct. 6, 1977). The official descriptions of the current

While commercial utility as a research objective is sufficient to justify characterization of research as applied, it is not enough in itself to establish a violation of the public purpose doctrine. In some cases, commercial usefulness may simply be an incidental benefit of otherwise legitimate research.[125] In other cases, extraordinary circumstances might justify the expenditure of public funds for the development of commercially useful products.[126] Commercial utility does suggest, however, that public funds will be spent for the development of inventions to be produced and sold in the commercial market place, generating private profit. Without special justification, such expenditures appear to involve a classic violation of the public purpose doctrine.[127] In a search for justification, courts will look at a suspect program "as a whole"[128] for evidence of public benefit. Such an examination of University mechanization research reveals significant evidence of *private* benefit[129] but indications of substantial *public* benefit are absent.[130]

The University of California spends more than fifty million dollars a year on agricultural research programs.[131] Between sixty and seventy per cent of this figure consists of appropriations to the University from the state's general fund.[132] The Department of Agricultural Engineering, which conducts virtually all of the mechanization research,[133] receives about 1.2 million dollars per year for its research activities.[134] This department has initiated 123 major research projects since 1930.[135]

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mechanization research projects do not conform to this policy statement since patentability appears as an implicit primary goal.

125. For example, a University of California physician, in researching the response of brain waves to external stimuli, discovered a principle that can be used to measure audience reaction to television programs. S.F. Chronicle, May 16, 1978, at 2, col. 1. Since this discovery was merely incidental to basic research, it would not involve a violation of the public purpose doctrine.

126. For example, research in pharmacology may often lead to the discovery of a patentable drug. If the public interest in a particular drug were substantial (*e.g.* cancer treatment, etc.), the research should be allowed. There is no support in the cases for such an exception, however.

127. The doctrine originated as a ban against the use of public funds as capital to generate private profit. Research and development costs of a new product are generally capitalized and recovered over the useful life of an invention. If research is supported by a public institution, there is subsidy not only to the developers but to the users as well, since the price of the end product will not include its research costs.

128. Rathburn v. Salinas, 30 Cal. App. 3d 199, 203, 106 Cal. Rptr. 154, 157 (1st Dist. 1973).

129. *See* W. FRIEDLAND & A. BARTON, DESTALKING THE WILY TOMATO (1975).

130. *See* CAL. AGRARIAN ACTION PROJECT, NO HANDS TOUCH THE LAND (July 1977).

131. Div. of Agric. Sciences, Univ. of Calif., A Report of Research in the California Agricultural Experiment Station, Appendix "D" (Oct. 1977) (unpublished).

132. *Id.* University of California faculty salaries are always budgeted against state funds.

133. Interview with Roger Garrett, Chairman, Agric. Engineering Dept., Univ. of Cal., Davis, in Davis, Cal. (Feb. 16, 1978).

134. Agric. Experiment Station, Univ. of Cal., Davis, Budget Summary: 1975-76 Expenditures (Oct. 26, 1977) (unpublished).

135. Div. of Agric. Sciences, Univ. of Cal., Agricultural Mechanization and Related Issues (Feb. 16, 1978) (unpublished report to University Regents).

One third of these projects was aimed at the mechanization of some aspect of "field operations."[136] The department has conducted research in the mechanical harvesting of at least seventeen different commodities.[137]

Individual faculty members have almost unrestricted individual freedom to select their research areas and project designs.[138] The availability of so-called "soft money,"[139] however, often limits this freedom of choice to areas chosen by the providers of external funding.[140] Because of these funding arrangements, as well as other factors,[141] almost all mechanization research has been initiated at the request of members of the state's agriculture industry.[142]

When University researchers perfect a machine, the University patents the design and then licenses a private manufacturer to produce and market commercial models.[143] The University returns fifty per cent of the license royalties to the individual faculty/member inventor, turns over twenty-five per cent to the state's general fund and retains the remaining twenty-five per cent to fund additional research.[144] These royalties generally cover only a fraction of the original research costs attributable to the patented machine.[145]

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136. *Id.* "Field operations" refers to soil preparation, planting, thinning, weeding, fertilizing, pest control, harvesting and related processes. Other research categories are Processing, Quality Control, Safety and Human Factors, Energy, Weather, Environment, Structures, Waste Management, Food Engineering and Aquaculture (raising plants and animals in the sea).

137. The commodities are tomatoes, grapes, rice, vetch (hay crops), sugar beets, cotton, onions, corn, tree fruits, nuts, asparagus, citrus fruit, olives, berries, melons and lettuce. Div. of Agric. Sciences, Univ. of Calif., *supra* note 135.

138. Interview with Roger Garrett, *supra* note 133. *See* I. Fujimoto & E. Fiske, What Research Gets Done at a Land Grant College: Internal Factors at Work (1975) (unpublished, available through Dept. of Applied Behavioral Sciences, Univ. of Calif., Davis).

139. The University uses the term "soft money" to refer to funds, generally obtained from sources external to the University, that cover the variable costs attributable to any single research project. Such costs include research assistant salary, equipment and supplies, etc. "Hard money" describes state funds regularly budgeted to the University. Faculty salaries, fixed overhead, administrative costs, etc. are paid for with "hard money".

140. The federal government, state marketing orders, industry organization and private institutions all provide "soft money" for various projects. *See* Div. of Agric. Sciences, Univ. of Cal., Agricultural Mechanization Research Projects (March 20, 1978) (unpublished).

141. Industry interest in a particular project, whether or not accompanied by funds, is naturally of substantial concern to researchers. It would make little sense to spend significant time and money to develop a machine for which there is no industry need.

142. Interview with Roger Garrett, *supra* note 133.

143. Office of the Auditor General, Joint Legislative Audit Committee, *supra* note 124.

144. *Id.*

145. The University was unable to provide cost figures for past projects. For comparison purposes, the University is currently spending $66,000 per year in state funds to develop more efficient methods of grape harvesting. Div. of Agric. Sciences, Univ. of Cal., Agricultural Mechanization Research Projects (Mar. 20, 1978) (unpublished). Royalties to the University from the tomato harvester, the University's *most* financially successful invention, returned an average of $130,000 per year over 1974-1976, 50% of which was paid over to the faculty inventer. Office of the Auditor General, Joint Legislative Audit Committee, *supra* note 124.

The tomato harvester is the most successful of the University's agricultural inventions.[146] The commercial licensee has produced over 1200 machines since the license was issued in 1960.[147] This machine now harvests 100% of the state's canning tomatoes.[148] The harvester has changed the entire character of the California tomato industry.[149] Although the harvester has apparently generated substantial income for the licensee[150] and the state's tomato farmers,[151] there is no evidence suggesting that either consumers[152] or the general public[153] has received any significant benefit.

B. The Benefit

The public purpose doctrine requires a benefit to the state "in the nature of consideration" as justification for an expenditure of public funds.[154] Incidental benefit to a private party will not invalidate an appropriation if it is otherwise supported by adequate public benefit.[155] In an expenditure for applied research, this public consideration could logically be found only in the economic and social effects of successful projects.[156] Mechanization proponents and opponents agree that the effects of past mechanization research have been primarily economic. Research opponents, however, argue that the economic benefit from past University projects has accrued solely to the private sector and that the economic effect on the general public has been essentially negative.[157] Mechanization proponents disagree.[158]

146. Indeed, it is one of the few successes, from the standpoint of industry acceptance, that the Davis Department of Agricultural Engineering has had. The only commercial model of the Davis-developed lettuce harvester, the product of over ten years of research, is now idly stored on the farm of a Salinas grower. Interview with Roger Garrett, *supra* note 133.

147. Interview with John Kincheloe, Operations Manager for Blackwelder Corp., in Rio Vista, Cal. (Feb. 27, 1978).

148. Div. of Agric. Sciences, Univ. of Cal., *supra* note 135.

149. *See* W. FRIEDLAND & A. BARTON, *supra* note 129, at 50-65.

150. The harvesters sell for $90,000 without electronic sorting equipment. Interview with John Kincheloe, *supra* note 147.

151. *See* W. FREIDLAND & A. BARTON, *supra* note 129, at 30-33.

152. *See* CAL. AGRARIAN ACTION PROJECT, *supra* note 130.

153. *Id.*

154. County of Alameda v. Janssen, 16 Cal. 2d 276, 281, 106 P.2d 11, 14 (1940).

155. Irwin v. City of Manhattan Beach, 65 Cal. 2d 13, 24, 415 P.2d 769, 776, 51 Cal. Rptr. 881, 888 (1966).

156. Although no cases have dealt with the issue of the public purpose of research, there does not appear to be any aspect other than the effects of research with which to evaluate its public value.

157. Mechanization opponents argue that mechanization has caused unemployment, creating a social cost, higher consumer prices, and lower quality food products. *See* CAL. AGRARIAN ACTION PROJECT, *supra* note 130.

158. University officials do not disagree with the data used by research opponents to show adverse effect, only its interpretation. Interview with Charles Hess, Director of the Agricultural Experiment Station, Univ. of Cal., Davis, in Davis, Cal. (Nov. 8, 1977).

University officials justify public support of mechanization research primarily because of the importance of California's agriculture industry to the state's economy.[159] These officials fear that without mechanization, predicted labor shortages will destroy California's competitive position in a agricultural market place.[160] In the state's tomato industry, forecasts of a dwindling labor supply following the end of the Bracero Program[161] intensified these fears and prompted widespread industry acceptance of mechanized harvesting.[162] University researchers also believe that mechanization has enhanced the productivity of the state's farm industry, contributing to higher employment[163] and greater output.[164] These researchers feel that the relationship between higher domestic agricultural productivity and the nation's balance of payments position in foreign trade is additional justification for public support of mechanization.[165]

Although the arguments in support of mechanization research are legitimate, they are also quite general. Virtually any form of applied research or of public subsidy of private industry could be justified on the basis of its beneficial effect on the state's economy. The public purpose doctrine, however, requires substantial and direct benefit to the public.[166] Incidental benefit to the general economy is insufficient to justify the expenditure of public funds.[167]

Under extraordinary circumstances, it is conceivable that an industry could be so infused with the public interest that public support is justified.[168] A determination of extraordinary public interest, however, would be a matter for the legislature, not the University Regents.[169] At

159. Interview with Charles Hess, *supra* note 158.

160. *Id.*

161. The Bracero Program was the popular name for the program authorized by 7 U.S.C. §§ 1461-1468 in 1954 that allowed seasonal importation of Mexican Labor. The program lapsed in 1964. *See generally* E. GALARZA, MECHANTS OF LABOR: THE MEXICAN BRACERO PROGRAM (1964).

162. Interview with Roger Garrett, *supra* note 133.

163. Remarks of James Kendrick, Jr., Vice President and Director of the Agricultural Experiment Station, Univ. of Cal., to the Educational Policy Committee of the Regents of the Univ. of Cal. (Feb. 16, 1978).

164. Interview with Charles Hess, *supra* note 158.

165. *Id.*

166. Rathburn v. City of Salinas, 30 Cal. App. 3d 199, 106 Cal. Rptr. 154 (1st Dist. 1973).

167. *Id. See also* Hill v. Rae, 52 Mont. 378, 384, 158 P. 826, 831 (1916) ("It will not suffice to say that, the general purposes of the act being to foster agriculture, and thus to promote the general welfare, such purpose is a public one").

168. There is no California case law to support an exemption from the strictures of the public purpose doctrine because of extraordinary circumstances. Should the legislature make formal findings of such circumstances, it is unclear whether the courts would defer to those findings and recognize an exception to the doctrine. *Cf.* Stanford Trustees v. Cory, No. 3 Civil 17100 (Cal. Ct. App., 3d Dist., Apr. 10, 1978 (Court of Appeal invalidated subsidy to private medical college despite legislative findings that the subsidy was in the public interest).

169. The opinions of California courts emphasize that determination of public purpose is a

a minimum, it would seem that even such a legislative determination must rest on findings of a public need and private inability to respond to that need.[170] In the area of agricultural mechanization, neither of these special circumstances is present. There is evidence, in California, of an adequate labor supply,[171] willing to work for wages that are still low enough to enable California agriculture to remain economically competitive.[172] There is also evidence that private capital would have provided mechanization research funds had the University not taken the initiative in this field.[173] Indeed, it is possible that private industry is actually cutting back its expenditures for research because of the "free" research services provided by the University.[174]

In short, there is significant evidence which indicates that past expenditures for mechanization research have lacked the requisite degree of public benefit under the public purpose doctrine. Conversely, there is no evidence that extraordinary factors exist which could justify public support for the research despite the absence of direct benefit to the public. By inference, ongoing programs may be similarly infirm. Under these circumstances, a violation of the public purpose doctrine seems likely.

In reviewing an expenditure of public funds under the public purpose doctrine, courts will normally defer to the judgment of the officials who authorized the questioned expenditures.[175] There is no precedent, however, for deference to the judgment of University officials for a determination of what may or may not be in the general public interest. California courts will defer to a legislative determination of public purpose only if there has been formal consideration and sanction of the particular expenditure. State funds are allocated to the University under a general appropriation without legislative sanction of the ulti-

matter for the legislature. *See* County of Alameda v. Carleson, 5 Cal. 3d 730, 746, 488 P.2d 953, 964, 97 Cal. Rptr. 385, 396 (1971).

170. By analogy to the strict scrutiny requirements of the United States Supreme Court. The Court requires that the state show a permissible, necessary and compelling state interest before it will allow a denial of equal protection. *See, e.g.*, Storer v. Brown, 415 U.S. 724 (1974).

171. Interview with Michael Linfield, Legislative Advocate for the United Farm Workers Union, in Sacramento, Cal. (Apr. 28, 1977).

172. *Id. See* CAL. AGRARIAN ACTION PROJECT, *supra* note 130.

173. In addition to the UC-Blackwelder harvester, two other machines are on the market, both developed privately. They are manufactured by FMC Corp. and Johnson Farm Machinery. Furthermore, the University designed grape harvester is sold only overseas. Grape harvesters used in the United States are either of private design or the invention of the University of Michigan. Interview with Roger Garrett, *supra* note 133.

174. Hunt-Wesson Foods, Inc. is closing its agricultural research facilities across the country and will rely on University and seed company research in the future. Davis Enterprise, Oct. 12, 1977, at 1, col. 4.

175. County of Alameda v. Carleson, 5 Cal. 3d 730, 488 P.2d 953, 97 Cal. Rptr. 385 (1971).

mate disposition of those funds.[176] The responsibility for budgeting financial support to specific programs rests with the University Regents. It is doubtful that a finding of public purpose made by the Regents would be sufficient to invoke judicial deference. In other cases where a challenged program received only informal or administrative approval, the courts have been reluctant to defer.[177] Instead, the courts have weighed carefully the merits of the suspect program in making their own determination of whether it is in the public interest.

Deference to University researchers[178] seems particularly improper when those researchers purport to make funding decisions affecting the health, safety and general welfare of the public in matters far outside their particular fields of professional competence.[179] Furthermore, the University allocates funds to various research programs without those safeguards underlying the rule of deference. Courts will defer to the impartial legislative judgment of elected officials. This judgment is formed only after public hearing and debate. Legislators are accountable to their constituents for unpopular decisions. In contrast, University officials make research decisions in private, without opportunity for public comment. Their judgment is influenced by members of the agriculture industry.[180] University officials are not publicly accountable.[181] They are appointed, not elected. Tenured faculty remain secure in their employment regardless of the popularity of their research decisions. In similar situations, courts have refused to defer to such a non-legislative judgment in reviewing the propriety of public expenditures.[182]

176. The legislature simply appropriates a lump sum to the University. *See, e.g.*, 1976 Cal. Stats. 742.

177. *See* Albright v. City of S. San Francisco, 44 Cal. App. 3d 866, 118 Cal. Rptr. 901 (1st Dist. 1975).

178. The University Regents delegate research decision making responsibility to the faculty. Interview with Roger Garrett, *supra* note 133.

179. At present, the University does not seem to even consider the potential impact of the machines it develops. Interview with Roger Garrett, *supra* note 133. The University is strongly opposed to any sort of mandatory requirement of impact assessment. *See* Remarks of James Kendrick, Jr., *supra* note 163.

180. Interview with Roger Garrett, *supra* note 133. Professor Garret could not recall any mechanization project not initiated at the request of the agriculture industry. The University is quite proud of the industry contacts that it maintains through its Cooperative Extension Division. *See also* CAL. AGRARIAN ACTION PROJECT, *supra* note 130.

181. The state Fair Political Practices Commission recently ordered University Regents and senior officials to file financial disclosure statements. Rather than comply with the order, the Regents voted to seek an injunction against the Commission. S.F. Chronicle, Nov. 19, 1977, at 2, col. 4.

182. *See, e.g.*, Stanson v. Mott, 17 Cal. 3d 206, 551 P.2d 1, 130 Cal. Rptr. 697 (1976); Albright v. City of S. San Francisco, 44 Cal. App. 3d 866, 118 Cal. Rptr. 901 (1st Dist. 1975); Bayside Timber v. San Mateo County Supervisors, 20 Cal. App. 3d 1, 97 Cal. Rptr. 431 (1st Dist. 1971).

Logic and precedent argue against deference to the University's judgment. The factors underlying the rule of deference are not present to insure the integrity of that judgment. The University allocates funds informally, with persons having potential conflicts of interest controlling expenditures. The effects of past mechanization projects suggest that the judgment of University officials alone is insufficient to guard against the expenditure of public funds for private purposes. In strictly economic terms, expenditures for farm mechanization research have not been supported by adequate consideration in terms of public benefit. Other applied research programs may be similarly deficient. Although past expenditures are probably beyond recovery,[183] the University has the ability to rechannel its current research efforts to conform to public purpose precepts.[184] Such a rechanneling, particularly if forced upon the University by the courts, will involve a delicate balance between public purpose principles and the values underlying the University's constitutional autonomy.[185]

C. Potential Relief

University officials themselves are in the best position to insure an optimum balance between the institution's autonomy and the principles of the public purpose doctrine.[186] In the past, however, the University has jealously guarded against instrusions upon its constitutional autonomy.[187] It is unlikely that University researchers will voluntarily relinquish the almost absolute control they now enjoy over University research policies nor admit that these same policies have allowed past expenditures in violation of the public purpose doctrine. Therefore, it is probable that an action against the University will be necessary to curtail future expenditure of University funds for private purposes.

The Code of Civil Procedure[188] affords standing to any resident or taxpayer of the state to bring such an action. Potential plaintiffs need

183. *But see* Holzendorf v. Housing Auth. of Los Angeles, 250 Cal. App. 2d 596, 58 Cal. Rptr. 886 (2d Dist. 1967) (public funds are trust funds and may be recovered if paid by mistake). *Cf.* Stanson v. Mott, 17 Cal. 3d 206, 551 P.2d 1, 130 Cal. Rptr. 697 (1976) (if public official negligently authorized unlawful expenditure of public funds, that official is personally liable for their repayment).

184. Agricultural engineering faculty are generalists and could restructure their research programs to comply with the public purpose doctrine without a major disruption of University operations. Interview with Roger Garrett, *supra* note 133.

185. The University's cooperation in arriving at such a balance is essential. Without taking account of the University's viewpoints, a decree could well result in overinclusive and needless restrictions on University research.

186. Naturally, these officials are in the best position to know which programs and policies are crucial and which can be modified or eliminated without damage to the institution.

187. *See, e.g.*, discussion note 181 *supra.*

188. Cal. Code Civ. Proc. § 526a (West Cum. Supp. 1978). The statute speaks only of actions against cities and counties. Ahlgren v. Carr, 209 Cal. App. 2d 248, 25 Cal. Rptr. 887 (3d Dist. 1962) extended the action to include state agencies.

not show direct injury other than the mere illegal expenditure of state funds.[189] An injunction against further expenditures, as provided by the code, could constitute acceptable relief.

An action focusing on mechanization research would be the most efficient vehicle for resolution of the initial legal issues.[190] Mechanization opponents have marshalled an impressive array of data to rebut the contentions of the University that expenditures for past mechanization programs have been in the public interest.[191] Current research projects share the same objective with those of the past: the development of a commercially useful invention. Under similar circumstances, the courts in other areas of the law (notably anti-trust) have developed rules of presumptive illegality.[192] Under these rules, a practice or course of conduct that has historically generated effects contrary to the public interest is considered presumptively unlawful, regardless of its reasonableness in any particular case.[193] The University of California has expended public funds in support of mechanization research for the past forty years.[194] If University officials are unable to identify any specific and direct public benefit resulting from this research, a rule of presumptive illegality seems warranted. Such a rule would eliminate the need to project the future effects of current research projects in an attempt to identify potential public and private benefit. If the presumption were made rebuttable upon a showing of special circumstances, the danger of curtailing projects legitimately in the public interest would be minimized.

Quite apart from the effects of past research, the objectives of proposed research could be easily classified under the public purpose doctrine. The doctrine forbids expenditure of public funds for private purposes. Arguably, research directed at development of inventions for use only in the private sector should be presumptively illegal. Such a rule would facilitate judicial review of challenged projects and provide a relatively simple standard for the use of University officials in reviewing proposed research.

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189. *See* Regents of the Univ. of Cal. v. Superior Court, 3 Cal. 3d 529, 542, 476 P.2d 457, 466, 91 Cal. Rptr. 57, 66 (1970).

190. In a public purpose challenge to University research, the threshold legal question will be the applicability of the doctrine to any University expenditures. *See* text accompanying notes 76 to 177, *supra.* Another significant issue will be the operation of any evidentiary presumptions. *See* text accompanying notes 190 to 195, *supra.*

191. Interview with Michael Linfield, *supra* note 171. *See* W. FRIEDLAND, *supra* note 103; W. FRIEDLAND & A. BARTON, *supra* note 129; CAL. AGRARIAN ACTION PROJECT, *supra* note 130.

192. *See, e.g.*, United States v. Socony-Vacuum Oil Co., 310 U.S. 150 (1940) (price fixing *per se* illegal).

193. *Id.*

194. Div. of Agric. Sciences, Univ. of Cal., *supra* note 135, at app. III.

These issues present mixed questions of fact and law that may best be left to the discretion of the trial court. The point is, however, that the factual questions involved in a public purpose challenge to applied research, though complex, are manageable. The effects of past mechanization research suggest that the use of some form of presumptive illegality is justified. The nature of such a presumption will ultimately depend upon the ability of research opponents to translate their past allegations into relevant and persuasive evidence.

Detailed discussion of potential injunctive relief is beyond the scope of this article. Possibilities include creation of quasi-legislative procedures within the University to allocate research funds in accord with public purpose principles. Where special circumstances justify funding of applied research programs despite their commercial orientation, modification of University patent policies to recoup research costs could avoid a public purpose violation.[195] Tightened legislative supervision of University expenditures might also be in order.[196]

In summary, it is within the equitable jurisdiction of California courts to try a public purpose challenge to applied research and to fashion a decree that will curtail public support of essentially private activities. Obviously, the factual and legal issues involved in such an action will be complex. Regulation of academic research is a novel area of the law. The issues discussed in this article have been simplified to facilitate understanding. Judicial resolution of these issues will prove, no doubt, to be far from simple. Complexity or novelty in the past, however, has not deterred the judiciary from adapting existing legal principles and fashioning new remedies to resolve new and unforeseen human disputes created by the complexity of the modern world.[197]

IV. CONCLUSION

For the past 110 years, the legislature and the judiciary have left the management of the University of California to its Regents and faculty. Under this management, the University has prospered and earned worldwide acclaim. In their zeal for the pursuit of excellence, however, University researchers may have forgotten a fundamental principle of

195. For example, the University could license its patents through competitive bidding and reduce the percentage of the royalty paid to the faculty member/inventor. *See* Office of the Auditor General, Joint Legislative Audit Committee, *supra* note 124.

196. This may already be in the offing. The report cited *supra*, note 124, is one in a series of reports to the legislature on University operations. It is likely that the legislature will act on the infromation in these reports. *See* S.F. Chronicle, May 24, 1978, at 8, col. 4. Assemblyman John Vasconcellos has accused the University of being "in bed with agribusiness." Vasconcellos is chairman of the Assembly sub-committee with responsibility for approval of the University's budget.

197. *See, e.g.*, Melvin v. Reid, 112 Cal. App. 285, 297 P. 91 (4th Dist. 1931) (judicial recognition of action for invasion of privacy based on general language in the state Constitution).

their public trust: the University's role is to serve all Californians, not just farm workers and not just agribusiness. Despite the pleas of the United Farm Workers Union, these researchers have devoted a significant amount of time and public money to the mechanization of California agriculture.

The public purpose doctrine prohibits the expenditure of public funds for private purposes. While agricultural mechanization may be inevitable, members of the UFW, along with all of the state's citizens, have a legitimate and legally enforceable interest in seeing that public funds are not used to finance the essentially private underlying research.

Although the University of California enjoys political autonomy under the state's constitution, this autonomy extends only to University affairs. Constitutional autonomy is not license for University researchers to expend public funds without regard for the statewide effects of those expenditures or to ignore fundamental principles of state government.

It is doubtful that even the most ardent supporter of the University's agricultural research would agree that that University could properly finance research to mechanize an automobile assembly line. The difference between that research and farm mechanization research is difficult to discern. Yet, the University continues to spend over 1.5 million dollars per year to develop systems and machinery for private use by California's farmers.

The University of California is truly a "tribute to the people of California."[198] If the University is to retain that esteem, it must continue to serve *all* of the people. The University is a great *public* institution; if necessary, California courts should use the public purpose doctrine to ensure that University research goals do not deteriorate into mere quests for private profit.

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198. The University's Centennial motto, 1868-1968.