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FEDERAL TAX POLICY AND THE SUPPORT OF SCIENCE *

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"Federal Tax Policy and the Support of Science" poses for me a basic issue which may not appear to be central to those whose orientation differs from mine. To some, the subject may call for inquiry into how our federal tax laws encourage scientific endeavor. Others may see in it the question whether our federal tax laws impede scientific activity and, if so, how the impediments may be removed. Still others may interpret it as asking whether our tax policymakers have given insufficient recognition to the advancement of science as a national goal. The premise underlying that interpretation of the issue is that science, given its proper recognition, will command the increased interest and support from tax policymakers which it deserves.¹

* This paper was prepared for and delivered in condensed form on April 8, 1965, to the Conference on Law and the Social Role of Science held in New York City under the auspices of the Rockefeller Institute and Walter E. Meyer Research Institute of Law. A collation of the proceedings of the conference will appear shortly in a book to be published by the Rockefeller Institute Press.

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¹ By "science" I mean, as Professor David F. Cavers has suggested, "the body of knowledge—or system of hypotheses—concerning the structure and processes of nature, or that body of applied knowledge we call technology, or the process whereby both bodies of knowledge are acquired, or the array of scientists and engineers who are learned in them." Professor Cavers proffered this definition in his paper, "Law and Science: Some Points of Confrontation," April 8, 1965 (delivered at the Conference on Law and the Social Role of Science, Rockefeller Institute). His paper will appear in the book collating the proceedings to be published by the Rockefeller Institute Press.

I can understand these approaches and others like them, but they are not mine. As I view it, the problem is one of inquiry directed to delineation and exposure of the circumstances that might call for a special relationship between federal tax law and science. This focus does not encompass the broader, different question of the extent to which the federal government should support science. It involves instead the suitability of the tax system as a vehicle to provide the support. It requires a determination of the conditions that may justify the use of federal tax law to stimulate or reward scientific pursuit and achievement.²

The fact is, of course, that the federal tax system has been used for years as a way of providing financial support for science. In many respects tax support of science resembles a direct federal expenditure; in many respects, it differs. Like a subsidy, tax relief shifts the financial burden from the recipient of the benefit to the rest of the population. The tax vehicle does not lead to a new source of funds; it does not move from a limited to an unlimited source of funds for ventures which the federal government seeks to support. The pie (to change the metaphor) is essentially the same; tax relief is a different, sometimes preferable, usually duller, knife with which to slice it.

A federal expenditure rarely takes the form of a *carte blanche*, for its purposes are specified. Before disbursements are made administrators must be reasonably satisfied within guidelines laid down by Congress that the beneficiaries of a grant, subsidy or contract will use the money appropriated for the purposes specified. Recipients may be required to report to federal agencies on their progress and ultimate results, and funds may be made available only in installments, as work progresses and as reports are received and reviewed. More often than not, right or wrong, Congress directs federal expenditure to particular objectives only when it believes the probability of attainment is more than just speculative. In contrast, the specific objectives for which tax relief is granted are left largely to private individuals to fashion and seek. Moreover, tax relief allows substantial opportunity for diversity and experimentation, for action, speedy or deliberative, with federal direction or supervision virtually nonexistent.

The issue then is the choice, or criteria for the choice, between two approaches to securing the federal government's financial support for science—expenditure versus tax relief. The choice may not always have to be one or the other, but it must at least be how much of one and how much of the other.

² My use of the word "justify" suggests a point of view which places the burden of persuasion on those wishing to use the tax laws to support science. For reasons which I hope will become clear, that is my point of view.

I. THE CONCEPT OF A TAX "PREFERENCE"

Last year Congress budgeted fifteen billion dollars for expenditures in support of scientific activity.³ The techniques of expenditure—grants, subsidies, contracts, and loans—are well known. The preferential tax provisions that provide support for science are less familiar. I will therefore review several of these provisions as a basis for comparison and to help identify guidelines that are relevant to the choice between expenditure and tax relief. But first I want to explain my understanding of a "preferential" or "special relief" provision.

Reference to a tax provision as "preferential" or "special" does not connote opposition to the social or economic objective which Congress has used the tax law to support. It does mean the provision deviates from a norm. Implicit in the reference is the idea that the income tax has an essential integrity; that there is a fundamental standard for determining the tax base and the applicable rates; that maintenance of the standard (restoration where it has been eroded) is important to society, high on its scale of values; that the proponent of a measure which deviates—which creates a preference—has a burden of proof which goes as much to the use of the tax system as the means of accomplishment as to the measure's specific social or economic objective.⁴

Let me illustrate with examples from the income tax of provisions which I classify as "preferential," although they may support objectives (in science and elsewhere) for which there is a broad consensus: Education is good; the law exempts scholarships and fellowships from tax.⁵ Financial support of state and local governments is good; Congress has exempted the interest on their bonds from the federal income tax.⁶ The erosion of land used in farming is bad; Congress allows income tax deductions for expenditures designed to prevent erosion.⁷ Investment is good; gains from the sale of many investments (so-called long term capital gains) are taxed at rates lower than those

³ See generally NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, FEDERAL SUPPORT OF BASIC RESEARCH IN INSTITUTIONS OF HIGHER LEARNING (1964); 12 NATIONAL SCIENCE FOUNDATION, FEDERAL FUNDS FOR RESEARCH, DEVELOPMENT AND OTHER SCIENTIFIC ACTIVITIES (1964).

⁴ Compare EISENSTEIN, THE IDEOLOGIES OF TAXATION (1961); HELLERSTEIN, TAXES, LOOPHOLES AND MORALS (1963); STERN, THE GREAT TREASURY RAID (1964); Blum, *Tax Policy and Preferential Provisions in the Income Base*, 51 KY. L.J. 233 (1962); Blum, *Federal Income Tax Reform—Twenty Questions*, 41 TAXES 672 (1963); Klein, *Federal Income Tax Reform—A Reaction to Professor Blum's Twenty Questions*, 42 TAXES 175 (1965); Blum, *More on "Twenty Questions,"* 42 TAXES 180 (1964).

⁵ INT. REV. CODE OF 1954, § 117.

⁶ INT. REV. CODE OF 1954, § 103.

⁷ INT. REV. CODE OF 1954, § 175.

applicable to income from personal services.⁸ Individuals with inventive genius are valuable national assets; profits which they reap from the sale of their patents are taxed only at the reduced rates applicable to long term capital gains.⁹ Scientific achievement is desirable; certain prizes and awards given in recognition are tax exempt.¹⁰

The merit of each of those provisions is debatable. But wise or unwise, each represents a departure from standard. The standard, though eroded, is still visible in the maze we call the Internal Revenue Code. From the beginning the income tax has been aimed primarily at net income—the amount left after the taxpayer deducts from the money he takes in the sums which he has expended in the pursuit of his business activities. It is true that “gross income” and the deductions attributable to the expenses of earning it are unrefined at the fringes. Some receipts (like gifts) and economic benefits (like the imputed income from home ownership) have been excluded from the tax base. Controversy continues as to the deductibility of expenses (like those for travel and entertainment) which have a business nexus, but smack heavily of consumption. Nevertheless the standard of net income has persisted.

The rates which apply ordinarily in determining a taxpayer's income tax liability are taken from a scale which, in the case of individual taxpayers, is graduated according to the amount of his taxable income, with the rates progressing to higher levels as that income increases.

The concept of “special relief” or “preference” means to me a deviation from a relatively neutral net income base or the application of rates which are tailored according to the source from which income is derived or the purpose for which it is spent. This does not imply disagreement with the social or economic objectives of the preference nor does it imply obstinate, inflexible insistence that the objectives not be sought through the taxing mechanism. It does mean there is a departure from standard.

II. TAX PREFERENCES FAVORING SCIENCE—A SAMPLING

My ultimate inquiry goes to the conditions which warrant departure from standard in support of science. To this end let us now turn to some of the preferences in the federal income tax which favor science either by deviating from a net income base with special exclusions and deductions or by providing reduced rates or even total exemption.

⁸ INT. REV. CODE OF 1954, §§ 1201-02.

⁹ INT. REV. CODE OF 1954, § 1235.

¹⁰ INT. REV. CODE OF 1954, § 74.

A. The Deduction for Contributions

To some extent individuals have been allowed deductions for "charitable contributions" since 1917; corporations have been permitted the deduction since 1936.¹¹ This deduction provides a tax benefit for those who choose to spend a portion of their disposable income for charitable purposes. Scientific organizations, as well as charitable and educational organizations, are among the familiar groups to which such deductible "charitable contributions" may be made.¹² All of these organizations must be "nonprofit" in the sense that their earnings must not inure to any person in any proprietary sense,¹³ but neither the statute nor the Treasury Regulations define the term "scientific." The Regulations encompass any organization whose activities are "carried on in furtherance of a 'scientific' purpose," expressly rejecting any distinction between an organization whose research is "applied" or "practical" as opposed to "fundamental" or "basic."¹⁴ The Regulations require only that the activities be "in the public interest," and not "of a type ordinarily carried on as an incident to commercial or industrial operations" ¹⁵

Although the Treasury Regulations show virtually no interest in an organization's program content, they do delineate activities which are thought not to be "in the public interest."¹⁶ Familiar with the ingenuity employed by taxpayers in their efforts to qualify for the grace of a tax sheltering provision, the Treasury has attempted to build a defense perimeter against expected claims for "scientific" classification brought by organizations which, though engaged in research activities, may exist more to serve commercial or private interest than the so-called public interest. Recently the Internal Revenue Service

¹¹ Today individuals may deduct up to 20% of their "adjusted gross income" for "charitable contributions." In some cases the limit reaches 30%; in others, there is no limitation. Where the 30% limitation is exceeded, provision is made for a five year carryover. Corporations are limited to 5% of their "taxable income," with a two year carryover. INT. REV. CODE OF 1954, § 170. The estate and gift tax deductions for charitable contributions are unlimited. INT. REV. CODE OF 1954, §§ 2055, 2522.

¹² INT. REV. CODE OF 1954, § 170(c)(2)(B); *cf.* INT. REV. CODE OF 1954, § 501(c)(3).

¹³ INT. REV. CODE OF 1954, § 170(c)(2)(C).

¹⁴ Treas. Reg. § 1.501(c)(3)-1(d)(5), as amended, T.D. 6525, 1961-1 CUM. BULL. 187. Although the provisions of this regulation relate directly to scientific organizations whose income is exempt from tax, they are the same scientific organizations to which deductible contributions may be made under § 170 of the Internal Revenue Code. The Treasury Regulations issued under § 170 of the Code do not deal definitionally with a "scientific" organization.

¹⁵ Treas. Reg. § 1.501(c)(3)-1(d)(5) (1959), as amended, T.D. 6525, 1961-1 CUM. BULL. 197.

¹⁶ Treas. Reg. § 1.501(c)(3)-1(d)(5)(iv) (1959), as amended, T.D. 6525, 1961-1 CUM. BULL. 187. Compare Treas. Reg. § 1.501(c)(3)-1(d)(5)(iii) (1959), as amended, T.D. 6525, 1961-1 CUM. BULL. 187.

had before it the case of a nonprofit organization engaged in research directed toward the development of labor saving equipment in the field of agriculture. Finding that the commercial interests being served were paramount, the Service ruled that the organization did not qualify as a "scientific" organization.¹⁷ This, not worthiness of project, is the kind of issue which the tax statute and Regulations require Internal Revenue Service personnel and ultimately the courts to resolve.

The deduction for contributions to scientific organizations has the effect of reducing a taxpayer's taxable base by the amount of his contribution. Taxpayers benefit in direct proportion to the marginal rate of tax applicable to their highest income bracket. Stated otherwise, a taxpayer with at least 100 dollars of income otherwise taxable at the seventy percent rate will pay only thirty dollars of his "own" money by making a 100 dollar contribution. The taxpayer whose marginal rate is only twenty-five percent must pay seventy-five dollars of his "own" money to make an identical contribution. Despite the federal government's financial contribution, the use of the funds is limited to a federal scrutiny no more pointed than that suggested by the Regulations' attempt to draw a perimeter around the term "scientific." It is the individual contributor and the managers of the organization to which he makes his contribution who determine the particular objectives to which his funds are devoted.

The deduction for contributions is perhaps the most significant of the preferential provisions benefiting science. Its principal advantage is in providing a subsidy free of governmental red tape and restraint. Its chief disadvantages lie in the unevenness and relative arbitrariness of the subsidy and in the fact that the amount of the subsidy is greater for the high income taxpayer than for the low. Affluence more than interest, ingenuity, or worthiness determines the extent of the federal support.

B. The Tax Exemption of Scientific Organizations

The income of scientific organizations to which deductible contributions may be made is exempt from federal income tax.¹⁸ Thus 100 percent of the income of such scientific organizations may be available for use in their scientific endeavors. This tax exemption is somewhat circumscribed however. In 1950 it was made inapplicable to the income which an organization derives from "unrelated" business activity.¹⁹ Since the primary purpose of this 1950 amendment was to

¹⁷ Rev. Rul. 65-1, 1965 INT. REV. BULL. 14.

¹⁸ INT. REV. CODE OF 1954, §§ 501 (a), 501 (c) (3), 170.

¹⁹ INT. REV. CODE OF 1954, §§ 511-14.

mitigate the advantage a nonprofit organization has when it competes with taxable business enterprises, Congress had to determine whether a scientific organization's profits from contract research should be treated as income from "unrelated" business. It made its determination by drawing distinctions which, in one instance, depend on the source of the organization's research income; in another, on the nature of the organization performing the research; and, in the third, on the nature of the research conducted.

All of the contract research profits of an exempt scientific organization remain free of tax if the research is undertaken for government or an agency of government.²⁰ The contract research profits of a college, university or hospital are exempt irrespective of the source of the income.²¹ But the research profits of all other scientific organizations, not derived from a governmental source, are taxable unless, according to the statute, the research is "fundamental" and "the results . . . are freely available to the general public. . . ." ²² In their meager effort to define "fundamental" research, the Treasury Regulations explain only that it is to be distinguished from "applied" research, and that it excludes "research carried on for the primary purpose of commercial or industrial application."²³

What might be the justification for distinctions like these? Do they reflect a congressional judgment that "fundamental" research is to receive special encouragement? If so, why is this distinction eliminated in the case of a university? And why in the case of all scientific organizations is the distinction eliminated if the research contract is let by a government agency? ²⁴

Without great difficulty one can rationalize these distinctions.²⁵ Once in a tax statute, however, they tend toward permanence. Their rationalization, whatever it may be, may not answer the question whether such distinctions, reflected in a congressional judgment made

²⁰ INT. REV. CODE OF 1954, § 512(b) (7).

²¹ INT. REV. CODE OF 1954, § 512(b) (8).

²² INT. REV. CODE OF 1954, § 512(b) (9).

²³ Treas. Reg. §§ 1.512(b)-1(f) (3), (4) (1958).

²⁴ It will be remembered that the distinction drawn between "fundamental" and "applied" research in the exemption of a scientific organization's contract income is not made in determining its qualification to receive a deductible contribution. See text accompanying note 14 *supra*.

²⁵ Congress may have decided that research undertaken by a university is likely to be of unusual worth to society even though "applied," or that universities deserve an extra edge in competing for work. Profits from contracts let by Government may be exempt, though the research is "applied," in order to keep down direct governmental costs. If private industry is expected to compete for applied research contracts, however, the rationalizations do little to eliminate this gross interference with market determinants. The exemption of "fundamental" research might be justifiable on the ground, if it is the fact, that relatively few business enterprises compete for such work. Cf. S. REP. No. 2375, 81st Cong., 2d Sess., 1950-2 CUM. BULL. 483, 504-05.

in 1950, have continuing validity in 1965. As the distinctions age they become encrusted, not with new data from the scientific community, but with interpretive rulings and decisions of the accountants, lawyers and judges who, in an adversary context, must administer the statute.

C. Scholarship and Fellowship Grants

The Internal Revenue Code provides in some detail for the exclusion from an individual's income of certain scholarship and fellowship grants.²⁶ These are by no means limited to those for scientific studies, but such studies are clearly within the ambit of coverage. In the case of a student working towards an academic degree the excludable amount is unlimited; in other cases that amount is limited. In no case, however, is the exclusion restricted to those pursuing particular courses of study nor is there a limitation based on the size of the recipient's income from other sources.

Should all scholarships and fellowships, like all "gifts,"²⁷ be excluded? Should none be excluded on the ground that the financial benefit of the exclusion is not directed and limited to those who need it, or to those educating themselves in specified fields such as science? Should qualification for financial aid to education—scientific or other—be determined by the Internal Revenue Service and the courts, as with all the other special tax relief provisions, or should the aid consist only of subsidies administered by an agency like the Office of Education or the National Science Foundation?²⁸ Internal Revenue Service administration has required decisions in a growing number of cases to determine not whether aid is needed or the pursuit worthwhile, but whether a so-called "fellow" engaged in research activity is in effect just working at a job, to be taxed on his earnings despite their camouflage under a "fellowship" label.²⁹

D. Research and Experimental Expenditures

Ordinarily the businessman must compute his taxable income without a deduction for his capital expenditures.³⁰ Those expenditures reduce taxable income through annual depreciation or amortization charges which are deductible over the productive life of the assets

²⁶ INT. REV. CODE OF 1954, § 117.

²⁷ INT. REV. CODE OF 1954, § 102; cf. Rev. Rul. 61-66, 1961-1 CUM. BULL. 19.

²⁸ Cf. Higher Education Act of 1965, H.R. 9567, 89th Cong., 1st Sess. (1965). Compare INT. REV. CODE OF 1954, § 168(e).

²⁹ See, e.g., the rulings and cases digested in 1965-1 CCH STAND. FED. TAX REP. ¶ 1179.017-12. Compare Rev. Rul. 65-59, 1965 INT. REV. BULL. No. 12, at 7, with Rev. Rul. 65-117, 1965 INT. REV. BULL. No. 18, at 7.

³⁰ INT. REV. CODE OF 1954, § 263.

which they have purchased.³¹ In some cases, however, the cost of capital expenditures (like those for goodwill) is recoverable only when the acquired asset or the business of which it is a component is sold.³²

The businessman with a laboratory, however, is one with a preference. He is of course entitled to the accelerated depreciation³³ and investment credit³⁴ made available in recent years to taxpayers quite generally. But in addition he has been given the privilege of treating his intangible research and experimental costs, regarded traditionally in many cases as nondepreciable capital expenditures, as either current operating expenses, deductible when incurred, or as capital items to be written off over a five-year period.³⁵

The statute provides this departure from standard in the case of "research" and "experimental" costs, without defining them. The Treasury Regulations have attempted to limit the preference to "research and development costs in the experimental or laboratory sense," excluding explicitly research expenses incurred in connection with "literary" and "historical" projects.³⁶ Thus several judgments have been made: Congress has decided that research and experiment are to be encouraged or rewarded, and that granting tax deductions not available to businessmen who spend money in other ways to reap their profits is the way to do it. The Treasury Department, on its own, has decided that the term "research" includes inquiry into new scientific developments, but does not include research into scientific history.

The tax lawyer understandably questions the authority of the Treasury to distinguish laboratory from book research; he and others may doubt the wisdom of the distinction. One might also question the congressional judgment that provides relatively permanent support for laboratory research that includes development of a more exotic lipstick, a frothier beer, or a less frothy detergent, but continues to deny any deduction, by way of amortization or otherwise, for the purchase price

³¹ INT. REV. CODE OF 1954, § 167.

³² Treas. Reg. § 1.167(a)-3 (1956), as amended, T.D. 6452, 1960-1 CUM. BULL. 128; *cf.* INT. REV. CODE OF 1954, §§ 1001, 1011.

³³ INT. REV. CODE OF 1954, §§ 167(b)(2), (3); Rev. Proc. 62-21, 1962-2 CUM. BULL. 418.

³⁴ INT. REV. CODE OF 1954, § 38.

³⁵ INT. REV. CODE OF 1954, § 174. For a review of research and development activities and costs see 12 NATIONAL SCIENCE FOUNDATION, *op. cit. supra* note 3; National Science Foundation, Reviews of Data on Research & Development (No. 41, Sept. 1963).

³⁶ Treas. Reg. § 1.174-2(a) (1957). There is no support for the exclusion of literary and historical research in either of the committee reports. See H.R. REP. No. 1337, 83d Cong., 2d Sess. A57-58 (1954); S. REP. No. 1622, 83d Cong., 2d Sess. 33 (1954).

paid, for example, by an expanding concern in the space science industry for the goodwill of a successful company engaged in electrical systems research and production.

A deduction serves only to reduce income subject to tax. The communications firm which is operating at a loss even without a write-off for laboratory research costs receives no current financial benefit from the special deduction. If the purpose is to aid scientific development, and if the work of this firm would make a scientific contribution, it may be just the firm that should be receiving aid. The tax preference, at least in such a case, fails to achieve its goal.

If the object is to encourage needed scientific development, the laboratory research write-off must lead one to question whether this kind of special tax relief can come as close to doing the job as the federal expenditure. If the object of the write-off is not to benefit science as such, but rather to provide a fast recovery for the cost of intangible assets, then the limitation to research and experimental expenditures is arbitrary. The general rule which defers the recovery of many intangible capital costs until a business is sold undoubtedly requires reexamination. Relaxation or reversal of the rule only in special cases like those involving laboratory expenditures serves to cloud the fundamental issue of tax equity and to relieve the pressures that would help create the interest necessary to effect broad based study and change.

E. Patents and Copyrights

The statutory write-off for research and experimental costs benefits only the successful commercial enterprise. Particularly in light of the exclusion of historical and literary research, the professor and research scholar working outside the laboratory are beyond its pale.³⁷ The individual who invents, however, is given a very different, favored treatment.

Ordinarily individuals are taxed on income from their personal service and business activity at rates ranging from fourteen percent to seventy percent.³⁸ Special rates, with a maximum of twenty-five percent, are applicable to the gains realized from the sale of investments held for more than six months.³⁹ The preferential rate applicable to these capital gains is rationalized usually as a device necessary to encourage investment or to alleviate the impact of graduated rates on asset appreciation that may have accrued over a long period of time.

³⁷ *But cf.* Rev. Rul. 63-275, 1963-2 CUM. BULL. 85; Wolfman, *Professors and the "Ordinary and Necessary" Business Expense*, 112 U. PA. L. REV. 1089 (1964).

³⁸ INT. REV. CODE OF 1954, § 1.

³⁹ INT. REV. CODE OF 1954, §§ 1201-02.

In recent years Congress has expanded the classification of assets that qualify for the preferential capital gains tax rate. In 1954 it utilized the capital gains approach to extend its bounty to inventors. When his genius has been sufficient to justify the issuance of a patent, the royalty-type income which an inventor realizes on exploitation of the patent is now taxable at the lower capital gains rates.⁴⁰ To the extent of the federal revenues lost in the rate differential, inventors—scientists—have benefited. The questions that are raised are obvious: Do people need this encouragement to produce a valuable, patentable invention? Even if not, should they be rewarded in this special way if they do produce one? If encouragement and reward are desirable, why is a special tax rate preferable to direct federal grants?

The creative individual whose talents produce a copyright is afforded tax treatment polar to that of the inventor. Concerned that the term "capital asset" might, even without special legislation, be construed to permit an author to secure the benefit of capital gains on the sale of his copyright, Congress has amended the law explicitly to deny capital gains treatment in such a case.⁴¹ This distinction between the patent and copyright holder is not without analogue in the Treasury's distinction between research in the laboratory and research of an historical or literary nature.⁴²

Even if there is justification for a federal allocation of funds to the financially successful inventor (a proposition universally denying such justification may not be self-evident), I have difficulty understanding what might justify using capital gains taxation to achieve this objective. Its use creates the appearance of arbitrary preference, and it may be just that.

III. STRIKING A BALANCE

My sampling of the tax provisions which favor science is not exhaustive. I hope, however, that it will suffice as a backdrop against

⁴⁰ INT. REV. CODE OF 1954, § 1235. In substantial part § 1235 represents only the congressional imprimatur on a result the courts were reaching on their own. President Kennedy sought unsuccessfully to have Congress reverse this result. See *Hearings Before the House Committee on Ways and Means*, 88th Cong., 1st Sess., pt. 1, at 150 (1963).

⁴¹ INT. REV. CODE OF 1954, § 1221(3). Prior to the enactment of this provision in 1950, the Internal Revenue Service had ruled that General Eisenhower was entitled to capital gains treatment on his sale of the copyright for *Crusade in Europe*. BITTKER, *FEDERAL INCOME, ESTATE AND GIFT TAXATION* 566 (3d ed. 1964). When § 1221(3) was proposed, the House of Representatives sought to treat patents and copyrights alike—both as noncapital assets. The Senate Finance Committee, however, whose view prevailed, felt "the desirability of fostering the work of . . . [occasional] inventors" justified eliminating patents from the noncapital asset category to which copyrights were assigned. S. REP. No. 2375, 81st Cong., 2d Sess., 1950-2 CUM. BULL. 483, 515.

⁴² See text accompanying note 36 *supra*.

which to examine criteria which may help make the choice between federal expenditure and tax relief less haphazard.

In every case which calls for federal aid to science, I suggest that the choice of vehicle should be made only after Congress recognizes and seeks to accommodate the demands of at least three interests which may be in tension: (1) society's stake in an income tax system with an essential integrity, (2) society's stake in preserving substantial areas of activity in which private initiative and management are given relatively free reign, and (3) society's stake in having federally allocated funds reach their objectives as directly and inexpensively as possible. Let us look at these sometimes competing, sometimes complementary interests, and then see if it is possible to strike a workable balance.

A. The Three Interests

1. The Integrity of the Tax System

An income tax system with an essential integrity is one which is geared as closely as practicable to the determination of economic net income, with rates applicable to that income without regard to its source. Such a system treats taxpayers with equal income equally. It leaves to the forces of the market the allocation of resources. Where the market place does not operate as desired, it leaves to democratically elected representatives the reallocation to be made. Reallocation for welfare, to encourage scientific development, to provide incentive, to serve as a reward, would be channeled through appropriations. The reallocation that preferential tax rates, exemptions and deductions create is eschewed because it is less directed, more likely to be arbitrary, less susceptible to measure and change. Concern for preservation of the tax system's integrity suggests recognition of the fact that reallocation of resources through tax preference creates a sense of privilege for some, undue burden for others. The sense of fairness and equity that is implicit in a simple tax system, the one with an integrity of its own, is diminished with each preference that is granted. A tax system with integrity is a less costly one to operate, for it needs fewer administrators in government and fewer tax planners outside.

2. Freedom and Encouragement for Private Action

Ours is a society which values highly, even depends upon, private initiative and follow-through. We seek free competition in ideas as in prices. Maximum freedom and privacy for the individual, a minimum of governmental restraint, direction and scrutiny—these are the ideal. To the extent possible the collective goals of society should be

achieved with minimum interference with this ideal. To some extent, those goals can be achieved only by fostering the ideal.

3. Care and Efficiency in the Use of Federally Allocated Funds

When government makes an allocation of funds its citizens are entitled to know the amount of the allocation and why it has been made, and that those who authorize the allocation have been satisfied that it is reasonable in light of the probabilities that it will achieve its goal. They are entitled to a minimum of waste and the optimum in expert direction in the deployment of the allocated funds. As Professor Murphy has said, a system for federal allocation of funds to the proponent of a research project is "intolerable . . . [if] the name of the proposer is all that matters."⁴³

B. Synthesis and Compromise

The fact is, of course, that the integrity of our income tax has never been complete. Its history in Congress has been one of repeated impairment. The oil, gas, and mineral interests and the investors in real estate and securities have been the principal beneficiaries of these impairments. It is therefore not surprising that those in science and other less favored areas have sought their own preferences. They may have come to see the income tax as a grab bag of favors, available to the group with the most effective lobbyist. The tax route is preferred by many of its beneficiaries in no small part because it is less open, not carefully measured, not reflected in the federal budget and not subject to periodic congressional review. Some beneficiaries of tax preference do not accept the preference concept. They view themselves merely as retaining what is theirs, and they, therefore, perceive no inconsistency in declaiming publicly against federal handouts and subsidies.

The advantages which the tax system has over a system of grants and subsidies lie chiefly in its freedom from government restraint and interference. Programs need not be approved before a deduction for a contribution is allowed. The opportunity for diversity and experimentation left open when the charitable deduction and other tax routes are used to provide federal support are just not feasible when the

⁴³ Professor Arthur W. Murphy made the statement in his paper, "The Law and Research Supported by Government," April 8, 1965 (delivered at the Conference on Law and the Social Role of Science, Rockefeller Institute). His paper will appear in the book collating the proceedings to be published by the Rockefeller Institute Press.

federal expenditure is employed. Unfortunately, however, the subsidy in tax relief is obscured and tends toward permanence. The scientific beneficiary enjoys obscurity just as the oil man enjoys the lack of light on the national cost attendant upon his twenty-seven and one-half percent depletion allowance.

The waste and inefficiency that result from the use of the tax system to provide subsidies are great. Although this method avoids a bureaucracy of federal experts to approve and supervise expenditures, it substitutes tax administrators, tax planners and a tradition of protracted administrative controversy and litigation. Funds allocated by the tax route may, and often do, go to projects with little merit, at least by comparison with some projects whose claims to funds have succeeded in competition for direct grants. A "proposer" need not furnish the federal government with even his name to receive funds which the tax system allocates. In this respect, we use a system which, by Professor Murphy's standard, is less acceptable than the one he suggests would be "intolerable."

When ought society bear the cost and waste—the sense of unfairness and discrimination—that attend tax preferences? Only, I suggest, when private decision making, free of government interference, is most compelling. Church support provides the obvious example. If federally allocated funds are to aid religion at all the exemption of church income and the charitable deduction are much less likely to interfere with free religious exercise or tend toward an "establishment" than is the federal appropriation.

Areas of activity in which we regard initiative, diversity, competition in ideas and experimentation as important also lay cogent claim to the tax system as a vehicle for channeling needed funds. The privately supported universities and colleges and many foundations and scientific organizations provide a vital contribution to the welfare and future progress of our society. If all the funds allocated to them through the tax system were reallocated by congressional appropriation, society would probably be a net loser.

Thus a dual system—government expenditure and private contributions stimulated by tax preference—provides a balance, not a perfect one, but one which yields security and direction on the expenditure side, while leaving room for flair, style and creativity on the other.⁴⁴ I would doubt, however, that there is any value to expanding the charitable deduction for science beyond the existing thirty percent

⁴⁴ See SENATE COMM. ON FINANCE, 89th CONG., 1st SESS., TREASURY DEPARTMENT REPORT ON PRIVATE FOUNDATIONS 1, 11-13 (Comm. Print 1965); Sacks, *The Role of Philanthropy: An Institutional View*, 46 VA. L. REV. 516 (1960).

of "adjusted gross income" limitation.⁴⁵ If nonprofit science is to receive more than the billions it receives by appropriation and the unmeasured sums it receives under existing tax preferences, I think it wise to subject the additional allocations to the controls which accompany federal expenditure.

Special benefits for science in the businessman's area should be reexamined. The tax system should treat one businessman seeking a profit as much like the next as possible. Accelerated depreciation, investment credits, current write-offs, if they are appropriate to growth in the economy or a sense of tax equity, should be available across the board.⁴⁶ If a private business is to receive federal support because of the particular activity in which it is engaged, this support should be justified in individual cases, in the open, and the subsidy should be subject to all the controls which are appropriate to a federal expenditure. Private business is entitled to a market reasonably free of "unfair" competition, however, and to this end the provisions which permit some contract research income to go untaxed in the hands of some nonprofit organizations should be reevaluated.⁴⁷

Tax favoritism for the successful inventor has not been justified. If he is to seek reward beyond that which the patent monopoly and his achievements in the market place afford him, he should be made to fight his case in the subsidy arena. If the image of the successful inventor pleading in public for a subsidy appears ludicrous, it may suggest that his case for tax relief needs similar exposure.

⁴⁵ A case can be made for the proposition that the deduction be replaced by a credit against tax. It would provide the same dollar contribution by the Government for the low bracket taxpayer as for the high except in the case of the low income taxpayer whose tax absent the credit would not equal the credit. It may be, of course, that if the percentage of a taxpayer's contribution allowed as a credit were not sufficient to give a high income taxpayer as much tax benefit as he now receives, contributions to charity would fall off. The stimulative effect of the deduction for charitable contributions has never been measured, however; it has been suggested that its gross impact is small and that although deductibility probably does motivate high income taxpayers, gross contributions are increased "by less than the tax relief granted." Vickrey, *One Economist's View of Philanthropy*, in *PHILANTHROPY AND PUBLIC POLICY* 54 (Dickenson ed. 1962); cf. KAHN, *PERSONAL DEDUCTIONS IN THE FEDERAL INCOME TAX* 72, 81-82 (1960). Professor Vickrey also questions "whether it is sound public policy to . . . subsidize much more heavily the charities favored by the wealthy as distinct from those appealing primarily to the poorer contributors." Vickrey, *supra* at 54. Richard Goode suggests continuing the deduction, but limiting it to those contributions that exceed a given percentage of income. GOODE, *THE INDIVIDUAL INCOME TAX* 172-73 (1964).

⁴⁶ A broader, across the board approach might well allow, for example, the recovery of costs incurred in purchasing good will and securing higher education.

⁴⁷ A fair question is why in any case the active commercial business enterprise is entitled to greater protection than the taxable passive investor from the competition of a tax exempt organization. The "greater protection" thesis underlying the 1950 unrelated business income amendment is probably and, I would think, justifiably based on a concern that tax exempt active businesses can exercise control over market conditions, especially price, to a much greater degree than can tax exempt passive investors.

Scholarships and fellowships present a more difficult problem. If all such grants were based solely on the recipient's financial need, and if he had no other income of any significance, exemption of the award would be a sensible, efficient way to provide a measure of federal aid to education. In fact, however, many fellowships are granted without regard to need. They frequently substitute nominally for salaries which technical personnel, and yes, professors, would be earning otherwise.⁴⁸

The unevenness of the benefit which fellowship exclusion provides, the litigation which it fosters, and the waste and inequity involved when the recipient does not need the support, all suggest that the exclusion be restricted. Grants to persons working towards an academic degree, at least a first degree, are likely to be awarded on the basis of need. Their exclusion might well be continued. All other fellowship awards should be included in the income base, with appropriate federal aid supplied by subsidy or loan.

Finally, the darkness should be lifted. The considerations which permit our sacrificing some of the integrity of the tax system for the values of private initiative and freedom do not also require that we be kept in ignorance. The sums federally allocated by tax preferences and special relief provisions should be reflected in the federal budget and accounts. This will provide a measure of efficiency even as we stimulate free private choice. And when new benefits are sought—percentage depletion for the inventor, an increase in the allowable deduction for scientific contributions, low rates for the space science company, or deductions to a parent for his child's medical school tuition—we will be able to ask the estimated cost, appraise it in context with the total federal allocations for science, and expect periodic verification and review.⁴⁹

⁴⁸ In some instances, of course, the nonprofit fellowship-granting organization enjoys part of the benefit of the tax exclusion by making a smaller grant than would be feasible if the recipient were fully taxable.

⁴⁹ I would hope that no new benefits like those suggested in the text find their way into the tax law. Preanalysis in the Bureau of the Budget would help to expose the arbitrariness and extravagance of any attempt to allocate resources to science by such tax tampering. Compare Hubbell, *Concealed Subsidies in the Federal Budget*, 10 NAT'L TAX J. 214 (1957). Several tax preferences were recognized recently as federal subsidies in JOINT ECONOMIC COMM., 89th CONG., 1st SESS., SUBSIDY AND SUBSIDY-EFFECT PROGRAMS OF THE U.S. GOVERNMENT (Comm. Print 1965).