

**RESEARCH FUNDING:**  
**ETHICS AND DYNAMICS OF A DIALOGUE**

by

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In the mutual give and take between government and the people who form the scientific estate, financial support holds a key position. Through individual research and training grants, government-owned research institutions and subsidies to private organizations, the state controls effectively the individual scientist's working conditions and the nature, obligations and general level of the national research product.

In this article I intend to present a hard, simple and impersonal analysis of the rational as well as the emotional motives which determine the complex interactions between government and research. In undertaking a detached and unconditional approach to a situation which is so heavily charged with affective relationships and vested interests, I realize that this might appear crude, ill-advised, even stupid to some, and might wound the sense of loyalty to the government or to the scientific community of all those who - like myself - receive financial research from government sources.

Motives for government support of research, i.e. the reasons given and the rights claimed for this transaction, are four-fold. This quadruple system of motives is rooted in four different value systems, including a transcendental, a mundane, a personal and a political type of values. These will be taken up one by one in the order in which they are usually advanced.

1) The first and most widely accepted motive for research support is of a transcendental, metaphysical nature. It is axiomatic to practically every scientist I have met and to many - though

not all - other people. Being a postulate of axiomatic ethics and thus based on implicit faith of a quasi-religious nature, most people have never questioned it. It is held in high respect by almost everyone, thereby ~~subsequently~~ <sup>consequently</sup> preventing the need for having to marshal further arguments when one is defending the rights of research for government support.

This motive is rooted in the conviction that scientific truth must be revealed and must prevail over falsehood and error, and that scientific progress must always be supported. As a dogma, this is the credo of every scientist, and any questioning of the need for revealing "the truth" or for supporting "progress" is either not taken seriously or met with that peculiar mixture of surprise, contempt, pity and personal distrust that some other, deeply religious persons show when anyone questions the existence of a higher, supernatural being.

Yet, there is no rational argument for pursuing scientific truth or for having to make scientific progress, any more than for accepting any other dogma. It is, as the hippies demonstrate, possible to maintain a high degree of personal integrity without subscribing to this dogma. It is, as the Greek and many other civilizations in history have demonstrated, possible to achieve intellectual (and artistic heights without committing a civilization to scientific research and technological progress. In fact, today it may even be defensible to obstruct certain scientific endeavors, e.g. research leading to new weapons or - in the line of "pure" research - to control of behavior by physiological means. No doubt, the cry of obscurantism will be raised by many to whom

any thought of impeding scientific progress is either an impossibility or unspeakably primitive anathema. Inevitably, these outraged scientists will hold out the ominous threat that such treason of the scientist's highest loyalty would soon lead to a return of the dark ages, (which were dark only in some respects and not in others) and that most of us would then probably be burned at the stake, unless we accepted that the sun turns around the earth!

But it is not uncommon today to hear or read nostalgic phantasies about a world without nuclear fission, DDT and even the almighty automobile. The need for serious examination of all ongoing research, with the aim of forestalling any future technological disasters, is now acknowledged in the highest quarters. In an editorial entitled "The Control of Technology," which appeared recently in Science,<sup>(4)</sup> O.M. Solandt, the Chairman of the Science Council of Canada, writes: "...Society must so organize itself that a proportion of the very ablest and most imaginative of scientists are continually concerned with trying to foresee the long-term effects of new technology...". An attitude of considering this kind of responsibility of the scientist over and above the pursuit of progress, being far from obscurantism, may eventually create an atmosphere in which the principle underlying the transcendental motive for research support will no longer remain axiomatic.

2) This recent development leads us to the second of the four motives, which is mundane in nature. Founded on utilitarian ethics, this motivating argument invokes the promise of

greater security, increased comfort and convenience and enhanced enjoyment for everybody through the miraculous achievements of applied science. In a recent paper, "Science and Social Purpose",<sup>(3)</sup> James A. Shannon, Special Advisor to the President of the National Academy of Sciences in the U.S., made the following statement: "...I am firmly convinced that it is possible to improve our present support mechanism for science, and to provide for a more rational distribution of supports without hampering the productive activity now in being. I am also convinced that such action must be accompanied by a coupling of activities aimed at the acquisition of new knowledge and activities aimed at applying that knowledge for the attainment of social objectives..."

But George H. Daniels, a historian, is less optimistic about the reality behind this trusted old argument for research support by the public, and concludes his paper on "Pure-Science Ideal and Democratic Culture"<sup>(1)</sup> with these uncomfortable sentences: "...Since the time of Gould, scientists have been able to tell each other that the man who based science's claim to support on grounds of immediate practical utility was no loyal follower and true friend of science and, at the same time, to trust that the popularizers and technicians would convey a different message to the public. On the whole, they have not been disappointed in their expectation, and there has been little need for them to go beyond the standard formula: utility is not to be a test of scientific work, but all knowledge will ultimately prove useful. Since the continued existence of scientists in this society

depends upon the believability of that vague claim, there is little likelihood that the schizophrenia will disappear." What Daniels charitably calls schizophrenia, may be diagnosed by others as hypocrisy or cynicism.

3) The third motive that operates between government and research is a personal or psychological one. It derives from the fact that certain individuals have a personality structure which renders them particularly useful to research because of, what one might call, their existential preference for curiosity, for tackling the unknown. These persons seem to have a greater need for problems than for solutions, and, therefore, feel ill at ease in any occupation other than research.

In the past, before research became a professional occupation which, in addition to prestige and personal satisfaction, also <sup>can</sup> provide a fairly comfortable livelihood, only personalities of this special type went into research. Their potential to produce was greater than that of the many others who make up the population of the scientific estate today. They also were - and a few still are - content with much lower personal incomes than the majority of researchers today. Their principal motivation is the availability of adequate research facilities and good working conditions. In practical terms, this means that an intelligent, perceptive and flexible administration that knows how to attract scientists of this type, can still compensate to some extent for a limitation of financial means which would make it otherwise impossible to maintain a research staff. (For governments concerned with the "brain drain", this issue might well

merit serious consideration). However, scientists are not easily exploited; if they compromise on financial returns, the personal compensations-in terms of "old-time freedom and respect"-in their working conditions have to be substantial.

4) Finally, the fourth major motivational force, at work in the government-scientific estate mutuality, is political. It involves national prestige and can be an important factor in determining the distribution of available funds. Because it is a competitive motive, with the aim of producing research which will outclass other research on the international scene, it consistently results in giving the lion's share of support to those universities and other promising research centers which have distinguished themselves by the excellence and general, high merit of their research productivity. Clearly, the probability of producing outstanding research is greatest in those comparatively few centers which have already well organized research teams and facilities, in addition to their scientific reputation. <sup>But</sup> the operation of this political, motivational factor invariably draws more research funds to the privileged haves than to the have-nots, and thus perpetuates a differential which is condemned by many as being unfair and lacking in foresight. It is obvious that such a policy gives little chance to the newer or smaller research centers, which may be clamoring for an opportunity to show that they, too, can attain the scientific level of their favored big brothers.

This problem is well expressed in L.P. Dugal's minority report on "The Role of the Federal Government in Support of

Research in Canadian Universities", from which the following passage is quoted: (2)

"...their philosophy, often apparent in the Report, is that the policy of granting awards must be based on the criterion of excellence only, the "high merit" which is repeatedly stressed. ...This is not a realistic policy because it does not take into account the present state of university affairs in Canada. I would agree with such an ideal policy if all universities enjoyed the same favourable conditions for attaining the desired excellence; the fact is that for many reasons desirable or minimal excellence is not reached at the same time by every individual or organization. Many research scientists, laboratories, and institutes today enjoy a level of excellence they certainly did not have when they received their first awards. Had they been subject to the same policies as are now proposed, they would not have been eligible for the awards they received, often very large, which enabled them to attain their present level of excellence, so that they now consider themselves the guardians of truth and efficiency in the field of research..."

In correspondence to these four motivational forces, every scientist has to balance a complex system of, at least, four different fundamental loyalties:

- 1) toward the scientific community of his peers and colleagues;
- 2) toward humanity at large;
- 3) toward himself and toward his family, considering his personal vocation and comfort;
- 4) toward the scientific estate and toward the government.

In the dialogue about the reasons for research support by the government, it should no longer suffice to quote unthinkingly the hoary argument of research being equivalent to desirable progress. Anyone using this argument glibly today, may be rightly accused of being either naive or hypocritical,



according to the context in which the argument is used. What is called for today, is a sober realization, by both of the parties involved in the dialogue, of what they "want to get out of it". The government might obtain the satisfaction of feeling righteous when supporting the idealistic causes of truth and progress (motive 1), or of achieving national prestige when outdistancing the achievements of other nations (motive 4). Which of the two motives will prevail in a given government, depends on whether the administration is more oriented toward a guilt or a shame culture.

The individual scientist - and also the scientific estate - may get financial support and research facilities (motive 3). Mankind at large has, in the past, had the benefit of many important contributions of science to society; but it <sup>(motive 2)</sup> will have to be on guard in future, lest science's great gifts to humanity may turn into a Trojan horse, and its generous benefits be reduced to mere fall-out and paltry fringe benefits.

An analysis of the dynamics controlling the interactions between government and scientific estate today would be incomplete, if it would not draw attention to certain extraneous factors which, in recent years, have gained considerable importance and are responsible for growing tension between the two interacting parties. These new factors are the increasing power and interference of what might soon become a "comptroller estate". Since very substantial sums of money are changing hands in modern research, careful and knowledgeable bookkeeping is an obvious necessity. There is,

however, the danger that a new, parasitic motive might establish itself in the dealings between government and researchers - to be specific, a persistent and all-pervasive preoccupation with saving money and avoiding waste. Administration of finances is a special skill, perhaps to some extent even an art, but this art, and also the skill, leave many openings for the intrusion of subjective judgements, which are not always rational and perceptive. If the administrative interference of financial accountancy is allowed to continue its growth of power, and if accountancy becomes a significant autonomous factor in the dialogue between government and the scientific estate, then alienation will, like in other important aspects of our modern world, leave its paralyzing imprint on the dynamics and its lethal trace on the ethical values of the new mutuality - and thus destroy the meaningfulness of the dialogue.

## REFERENCES

1. Daniels, G.H. The Pure-Science Ideal and Democratic Culture, *Science*, 156:1699-1705, 1967.
2. Dugal, L.P. Minority Report. In: The Role of the Federal Government in Support of Research in Canadian Universities, by: J.B. Macdonald, L.P. Dugal, J.S. Dupré, J.B. Marshall, J.G. Parr, E. Sirluck, and E. Vogt. (Prepared for The Science Council of Canada and The Canada Council). The Queen's Printer, Ottawa, 1969.
3. Shannon, J.A. Science and Social Purpose. *Science*, 163:769-773, 1969.
4. Solandt, O.M. The Control of Technology. Editorial. *Science*, 165:445, 1969.