

Title: Public Communication on Science  
and Technology: The Hidden Agenda

Name: Charles Boyle,  
Nottingham Polytechnic, UK

CPCT Conference, Madrid 21-24/5/91

PUBLIC COMMUNICATION ON SCIENCE AND TECHNOLOGY:  
THE HIDDEN AGENDA

Charles Boyle, Nottingham Polytechnic

In general PCST promotes or tends to promote a positive image of science and technology. Science, the epitome of rationality, is shown as our chief means for deepening our understanding of the world, deserving of public subsidy as an elite cultural activity. More important perhaps, it is presented as the indispensable basis of technologies which underpin our whole way of life, enhancing our material well-being and exciting our wonder at the miracles they perform. Even technological disasters, explained away as arising from avoidable human errors of design or operation, are used to argue for more research, as are also, for example, long-term environmental threats.

Such considerations provide themes which may be called the "open" agenda of PCST. These ideas are directed not only at the small minority of the public with any substantial interest in science and technology, but also at vociferous critics and at the silent apathetic majority. But behind this relatively straightforward open agenda lies a highly complex "hidden" agenda which touches on the relationships of science and technology to political, economic and cultural power in society, and is centred on what may be called the scientific world view. I wish briefly to consider some aspects of this hidden agenda and for this purpose select three features of the scientific world view - its emphasis on (1) quantitative, (2) analytical and (3) experimental approaches to what are perceived and identified as "problems". These approaches now permeate

society's thinking and are reinforced by PCST.

Stemming perhaps from the Pythagorean belief that numbers are the key to the secrets of the universe, the quantitative approach had its first great triumph in the Newtonian mathematical synthesis of astronomy and mechanics, and was later extended progressively to other fields of the natural sciences. Modern science and technology are unthinkable without mathematics and statistics, but indeed so also are many other fields of contemporary human activity - industrial production, agriculture, communications, education, etc. An astonishing array of qualities, crudely over simplified or redefined, is now reduced to numbers for the processing attentions of the computer, that ultimate incarnation of the quantitative approach.

The analytical approach seeks to replace an imperfectly grasped complex whole by a series of ever smaller or simpler elements - body, organ, cell, molecule, atom, nucleon, and so on, which can be studied in isolation. This has led within science itself to the proliferation of ever narrower specialisms and sub-specialisms, and to breakdowns of communication. A blinkered preoccupation with detailed means has diverted attention from general ends. Logical inconsistencies become apparent at the boundaries of specialist fields - quantum physicists and deterministic molecular biologists use very different models of the behaviour of microscopic particles.

The experimental approach, rejecting the primacy of reflection and interpretation of "revealed" truth, involves a tampering,

interfering attitude to Nature, a willingness to probe, test and measure isolated physical entities, and ultimately a belief in useful practical consequences arising from the improvement or rejection of traditional practices.

The overall effect of the scientific world view was to eliminate the subjective and the emotional, and to emphasis at the expense of special or singular events the identification of patterns of regularity based on reproducible measurements.

The various approaches to knowledge outlined above, though they can be traced back individually to many early civilisations, were first brought together in a systematic way in the late seventeenth and eighteenth centuries and underpinned the Enlightenment's vision of unlimited material and social progress. They were applied to industrial production and the organisation of work during the Industrial Revolution the division of labour, the detailed quantification of working time, costs, inputs, outputs, the improvement of products and processes by research, indeed the whole field of economics, could not have come into being without the scientific world view.

One the main societal functions of PCST is still to promulgate this world view. Now, harnessed (inseparably almost) to the market-oriented ideology of late capitalism, scientific modes of thought penetrate every corner of life - work, leisure, human relationships, communication, education, entertainment, sport, even

sexual activity and human reproduction.

Two dire consequences (among many) may be selected for special mention. Firstly, our preoccupation with quantity, that is with increase, with growth, with efficiency, with spiralling complexity, is leading us rapidly to a situation that is quite unsustainable on a finite earth. The concept of sufficiency, of enough being enough, embedded centrally in older value systems seems to have been all but totally displaced by scientific "rationality" ("The means are sane, only the end is mad".)

Secondly, quantitative, experimental analysis of the world leads to fragmentation, alienation, dehumanisation of people both as individuals and in societies. "Wholeness" and "health" have the same Old English root, and cannot be restored without limiting the power and hegemony of science.

In the current "post-modern" age when, it is said, history is at its end and the great projects for universal emancipation and welfare, have, for the time being at least, gone sour or been abandoned, it is essential if disaster (nuclear war, environmental destruction, ultimate dehumanisation) is to be avoided, that the hidden agenda of control and exploitation through science is brought to light and vigorously opposed. Those involved in PCST have in my view a great responsibility to ensure that science and technology are represented their full social, political and philosophical context, and with critical insight.