

PREFACE

SCIENCE AS A BRIDGE. SCIENCE IN ACTION

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ABSTRACT

The article deals with the concept of science in action. This is a method of conducting science in the interests of the local community and in collaboration with local institutions. Academic research is coupled with practice, with the common aim of solving specific social problems. Knowledge gained in this way enriches global achievements, and at the same time meets the needs of the community. The defining conditions of this process are respect and mutual acknowledgement among co-workers, partnership communication, co-operation focussed on effectiveness and the coupling of theory with practical research, as well as a full-scale diagnosis of the real problems in the institute.

Key words: science in action, university, research cooperation, scientific problems

One of the key themes in the discussion on the modern university is the question “why do we need science?” The answer to this question is essential in defining the function and operation of the university as a centre for science. Generally, supporters of the independence of the university take the position that science should be conducted for its own sake, and for the pleasure of learning, in order to widen human knowledge, discover the world around us and learn more about it. According to this concept, modern academics are the priests of knowledge, who should be totally independent, so that nobody can in any way attempt to influence the results of their research. In this case, utility is secondary, because autonomy and freedom of research has a greater significance. The supporters of such an approach are obviously mainly academics themselves, who would like to carry out their research in a comfortable atmosphere, without pressure, on the principle that “nobody can tell me what I should research.”

Opponents of this approach point out that science conducted in this way rarely leads to the development and improvement of living conditions. Placing independence above all else means that we can conduct research for years without any concrete results. There is also the temptation to falsify research results and generally waste funds.

Utilitarians see the university as a tool, and the conduct of science as a means of solving the specific problems which our culture, civilization and modern society are faced with. According to them, the limits of autonomy should be defined by effec-

tiveness and need, and with it funding in the form of grants. This does not mean, of course, that scientists should be restricted in their activity and told what to do. Competitions and grant programmes are rather a form of stimulation and sponsorship, an indication of what is of priority in the research process. Apart from these two positions, there are those who treat science as a hobby, for the sheer pleasure of learning, and they should be able to (indeed should) conduct research, but on their own account by seeking sponsors and without incurring any cost.

Competitions and grants can only fulfil their role if applications are assessed impartially. Participants in this kind of scientific rat-race frequently complain that the rules of such competitions are unclear, and that those who assess applications are more guided by their own preferences rather than clearly defined assessment criteria. There are also sometimes scandals, involving accusations of nepotism, collusion or the introduction of additional irrelevant conditions, such as membership in a particular organization or the use of a particular methodology.

It seems that discussion is too focussed on one single chosen aspect, despite the fact that there are numerous monographs dealing with the role of science and the mission of the university. The way to the essence of this problem and finding a satisfactory solution, and at the same time putting an end to these endless discussions, is through recognizing and accepting that the intra- and extra-mural worlds are parallel and of equal status in reality, and that the one cannot exist without the other. They should be treated equally, and science can be the bridge between them. In order to achieve this, it is necessary to first define and then eliminate the limitations and barriers which from the outset have defined the borders of the space in which these two worlds might meet.

The most important fringe conditions which decide the success of building bridges between the intra- and extra-mural communities are – respect and mutual acknowledgement, partnership communication, effective co-operation, and treating scientific disciplines as paractical science (science in action).

Respect and mutual acknowledgement are the fundamental values on which inter-personal contact should be based. In the case of “corruption” by power, especially when it comes to weakness of character, there is a whole range of determinants which work against effective contact. For example – an over-blown ego, labelling, a conviction of one’s own infallibility, a tendency to denigrate the achievements of others, self-conceit and arrogance.

Respect for colleagues, as well as for the institution itself, is the mark of an ability to work with others. If we are not convinced that the other party is capable of logical reasoning and taking rational decisions, we will be reluctant to engage in forced co-operation which may lead to sham and simulation. From observation of the scientific community, it is precisely this lack of conviction in the other party’s awareness and causative abilities which often precludes any kind of relationship. And if a professor, locked in his or her silent study, has no contact with reality either as creator or co-creator, then his or her lectures will contain inaccuracies, distortions and stereotypes. He or she then becomes a purveyor of rubbish.

Respect creates the appropriate emotional atmosphere, enabling **partner communication**. Academics have to give up being a law-maker and become a

“translator”, a person who can transform the slightest nuances into simple language which an average person can understand. On the other hand, the extramural world cannot treat the universe of science as something perfect and irrefutable. Effective partner communication should include criticism, discussion, and an exchange of visions and ideas. Respect cannot eliminate intellectual discussion and turn a dialogue into a “monologue of the wisest”. Proper communication depends on all sides being engaged in reaching the truth, setting parameters, understanding and agreement. At the same time, academic titles often bedazzle and invoke blind obedience among those who do not possess them.

This means that to ensure proper communication between academic institutions and those practicing science in action, there is a need for a well-prepared scientific staff comprising people, for example, with the title of doctor. Sometimes they lack the required communication skills to reach out to lay people, so PhD students and doctors could become “translators” of science and facilitate understanding.

More important than language skills, which most academics possess, are undoubtedly psychological skills, such as empathy and the ability to listen attentively.

The next condition for using knowledge as a platform for understanding between the communities is **effective co-operation**. A space for common activity could be scientific-practical projects, in which both those conducting research and those using the science to increase their effectiveness take part. In order for such an effective co-operation to exist, a further range of skills, such as project management, planning and organization, is necessary.

Effective co-operation begins with presenting the needs of the partner organization and the research possibilities of the institute and then forming a joint project of operation. Just as in the case of communication, there is a temptation for the partner with the greater prestige to push their own opinion and solutions. Such a situation, unfortunately, cannot be described as co-operation between partners, because it is the subjugation of one side by the other. Generally, it is the business partners and institutions operating outside the academic circle who have a better understanding of the needs and are able to correctly define the problems. Therefore, it is they who ought to have the most say when it comes to priorities.

Effective co-operation also requires a different approach to the conduct of science. It is essential to put aside the construction of cold, elegant theories in favour of “dabbling” in practical matters, creating something along the lines of **science in action**, analogous to action science, with which such a method of conducting science should be closely connected. The concept of science in action is the close co-operation between researchers and practitioners – academics, volunteers, workers in the organization and representatives of the local community – who are able to build an effective co-operative network for real and specific problems. Such dedicated teams are able to solve complex problems within the education environment. While academics are able to supply the most up-to-date knowledge, researchers take care of the research methodology and practitioners can act as scouts, identifying future “battle fields”.

I think that for many academics the concept of the exact sciences co-operating with business, local councils and communities, non-governmental organizations and ordinary people who are not part of any institution, is difficult to comprehend and even shocking, especially for those whose standard bears the motto of independence of science and the university as their primary value. Very often they have lost the sense of this value long ago, and consider that contact between the independent academic and the outside world is the definition of subjugation and a descent into dependency. Here it is worth remembering that respect and partnership are the corner stones of co-operation between communities on the principle of science in action. And if we have this respect, there is no place for some kind of feudal subjugation.

Effective co-operation on a partnership basis can bring many benefits for both sides. Practitioners receive better diagnostic tools, monitoring and support from the academics – experts whose everyday job is analyzing problems in a wider context, possessing the apparatus for this task, as well as up-to-date information. On the other hand, researchers receive inspiration for their explorations, the possibility of testing theory in real situations, occasionally the possibility of discovering something completely unexpected, as well as financial support within the framework of scientific research programmes.

In this context, there appears to be only one answer to the question posed at the beginning. Science should of course be conducted for learning and development. However, it is not worth wasting our time on abstract problems, when all around us there are concrete difficulties as well as the consequent possibilities of supporting society through scientific research.

For some years I have observed a kind of somnambulist dance among academics, sleep-walking without inspiration, while tackling futile problems already long played-out, inventing ever more scientific problems in the name of research, which do not bring us a step nearer any new knowledge or development. With a few published articles containing few citations, and without any serious research or inspiration, they climb the career ladder, criticizing the work of others „upon a whim“. Isolated from reality, after some time they are not even able to distinguish good from bad in science, because they have no such competence, even though the system has elevated them to the top. They make decisions only because they have authority, even though they have no esteem in the local scientific community, and they are invisible in global science. This sleep dance can be partly interrupted by reaching out to the once in need and supporting local community activities in resolving their burning issues.

This article is related to an article published many years earlier, and is an extended version of the concept discussed at that time (Kobylarek, 2005)

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