

Epilogue

**INTERDISCIPLINARITY AND
THE INNOVATION PROCESS**

How to Organize Spaces of Translation, or, the Politics of Innovation

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When I first spoke with Helga Nowotny about the key concepts to be addressed at this workshop—Cultures of Technology and the Quest for Innovation—I thought of those situations, described by Tom Hughes, in which people from different functional spheres (e.g., science, industry, and administration) have cooperated in an efficient manner. Why is this so difficult to organize in continental Europe? One thinks of the German effort to sell science to the public, a project known as PUSH (Public Understanding of Science and Humanities). My impression is that the public is very polite with science, listening to whatever it has to relate and buying the books written by science writers for the general public. Scientists, however, pay scarce attention to what the public has to say. Societal interests hardly influence the problem choice of scientists. Why is this so? I would like to sketch out a possible answer: We lack spaces where a culture of translation could be learned, I maintain, and I believe that networks could provide such spaces.

As the administrator of the Wissenschaftskolleg zu Berlin I am responsible for with organizing scientific innovation. An institute for advanced study is intended to be a breeding ground for new ideas. The political reason for supporting such luxurious and elaborate institutions is the expectation that the invited fellows will produce unexpected insights and contribute to innovation. Such institutions provide opportunities for learning not only from other disciplines, but also from other cultures, a feature of increasing importance in a globalizing world as well as within a European Union in the process of unify-

ing and enlarging itself. That is why the word “culture” in the title of the workshop made me think of language and interculturality, in short, of translation.

But what do I mean by translation?

Translation or Linguaging

The inherent contradiction of the subject of the workshop, the quest for innovation, as well as of the objectives of institutes for advanced study, is obvious: expect the unexpected; organize the unforeseen. When one tries to perform this task, however, one realizes that culture matters, or, more specifically, that language matters. Innovation is often the result of new combinations of disciplines, collaborations between science and culture at large, between ideas and technological opportunities, and between theoretical and practical concerns, each embedded in a particular jargon. That is why I use the term *language* not only for national languages such as English or German, but also for the languages particular to a range of specialized scientific and social functions whose mutual unintelligibility increasingly provokes misunderstandings and hinders inspiration. Translation is therefore a necessity not only between national languages, but also between these various jargons.

If language matters for innovation, then institutions must organize spaces of translation where such cognitive differences can be studied. I like A. L. Becker’s concept. He calls this exercise “linguaging” or “beyond translation,” a kind of linguistics of the particular, a reconstruction of the context of the sources of the text and of the translation, an investigation of omitted and added meaning. According to Becker,¹ implied modes of analysis of the translation include such questions as the following: What prior texts are evoked? In science, these are normally stored in disciplines. What is the meaning of words used when interacting with other people? Words can have a performative character; they can be seen as acts of meaning (Jerome Bruner) in the social endeavor of science and scholarship. How do they refer to an outside world; how indeed do they help to construct such an outside world?

I insist on these modes to demonstrate how complex translation can be if it is understood as an anthropological investigation of intercultural situations, as a tool for understanding differences, once the equivalent words have been proposed. Translation in this sense becomes a means of transgressing the traditional boundaries of specialization and culture.

Networks

If networks are important for innovation, how could they be helpful for the exercise of translation in this sense? From the organizational point of view, such

spaces of translation are subject to a contradiction similar to that faced by the organization of innovation in general. The aim may be clear—inspiration through the understanding of differences—but the mechanism necessary to arrive at this aim is uncertain. Merely bringing together native speakers of different languages does not guarantee mutual inspiration. What are the conditions, then, for fostering innovation?

Although institutes for advanced study do indeed represent such spaces of translation, I do not want to talk about them directly, but rather about a fashionable kind of organization characterized by its provision of limited spaces of cooperation to “tribes” from a range of organizations: the network. Networks are often said to provide innovation by way of their unexpected effects or (to use another catchword) synergies. In this sense, networks can also be seen as spaces of translation; conversely, an institute for advanced study can be seen as a temporally limited network where researchers from different home institutions can find out whether they have anything to learn from each other.

The term is so widely used that I first want to emphasize what I do not mean by *network*. The network is a form of organization between the company and the market providing results for participants in their home institutions. In this sense, the network is on the border between the inside and the outside. Each organization has many conventional ties to the outside world, to other organizations. It is part of a larger company, or of a state, or it dominates other organizations, as is the case with organizational hierarchies. It has regular links to providers, such as to privileged partners providing regular services or to potential outsourcing destinations. The network is something in between.

Networks may be said to be efficient if they can provide results more efficiently than the market, or than organizational hierarchies. The most common aim of networks is to generate, transmit, and transform information. That is why they are so relevant to the fields of science and technology. If an organization constantly needs a certain piece of information and is aware of this necessity, it will internalize the task (e.g., research in the chemical industry). If the organization can define precisely the piece of information it needs and if there are providers on the market, it will either buy the information (e.g., accountancy) or reject it.

The problem arises when it is unclear whether more information will be useful or not: which is the normal case of innovation. Network organization is thus appropriate for innovation, if it implies that people or organizations are brought together for a common purpose that may be marginal to each of them, but is of great importance to all of them if something new evolves out of the cooperation. In this case the network may be said to be efficient. However, this implies that there is something unknown to all of the members that emerges as they learn from each others’ differences, and it is this process that I call “translation.”

In this sense, I would like to look at the network organization as a space of translation. This view of the network stresses elements that are important for

designing spaces of translation, but that might be neglected if one considered efficiency or innovation as output only. Such elements are as follows:

- **Practical outcome:** A network without objectives is lost, but the practical outcome may be so urgent that there is no time for an attempt at translation, at understanding the hidden differences. This contradiction—pursuing an objective while at the same time allowing for deviation—is normally solved by defining the available time. The difficulty of the exercise for professionals, normally, is to avoid quick solutions.
- **Reflexivity:** Network communication is continuously threatened by inefficiency and quick solutions, by the tendency to be either too functional, thus endangering innovation, or is too irrelevant. From the point of view of translation, the danger arises from the impression that the translation is perfect—professional translators tend to neglect differences in this sense—as well as from romanticizing or exoticizing the strangeness, the otherness. The effective network presupposes a constant awareness of its participants, of the fact that they continue to be in the space of translation, of their exposure to the dialectics of conventional and unknown or surprising, or, to put it in Jerome Bruner's terms, of the fact that they are creating a new story. If they are too distant from the conventional, they cannot be understood; if they are too conventional, they become simply boring, not innovative. The participants must arrive at the right equilibrium through an attitude of reflexivity.
- **Diversity and proximity:** If the participants are too familiar with each other, little surprise can be expected. If the leading scholars in a given problem area are assembled, innovation will be unlikely because they are all well aware of their reciprocal potential language gains, even if they come from different disciplines or countries. Diversity must be built into the group of participants. Too much diversity, on the other hand, will lead to endless languaging. If there is no common language, translation is impossible. In this sense, attaining the right distance in the composition of the group requires skill, but is also a matter of the time available. The more time can be invested, the more strangeness is acceptable and potentially fruitful.
- **Equality of interest and qualification:** If participants' qualifications and curiosity about the unknown and the other is unequally distributed, the network quickly becomes monolingual, losing its mutual strangeness as a space of translation. This implies that the arrangement should be such that equality is emphasized in general, while hierarchy is only accepted with regard to formal procedures, and not to content.
- **Trust:** Explications delivered by native speakers must be taken at face value and allowed to become part of the space of translations. Participants must be able to trust that information is not being withheld or falsified by fel-

low participants for tactical reasons. There is a certain kind of community-building proper to this communicative situation. In this sense, the translation is a new language created for the sake of this community alone. Social arrangements are very important to this aspect of the network, providing as they do the experience of trustworthiness (extrafunctional activities, e.g., meals or sport, continuity, or minor competitions or hierarchies).

- Trespassing on professional competence: One of the greatest difficulties for languaging in networks is motivating ambitious professionals to listen and learn rather than to be immediately efficient. Professionals are unsettled by the prospect of not being able to rely upon their well-established routines, and having to accept uncertainty of outcome. This also applies to interdisciplinarity, or to the relationship between scholarship and art. Why pursue uncertain investigations, after all, if you know of a well-prepared disciplinary pathway?

I have exaggerated, of course. Neither a network nor an institute for advanced study can be explained as a space of translation, but it is interesting to consider such entities on the basis of their potential for innovation.

What may we conclude, then, about the two situations mentioned at the outset? In Europe, bringing together people from different functional systems still provides a source of inspiration. Of course, especially in technical fields, there are also highly developed communities of language between science and industry. On the whole, however, academics are not very familiar with the skills and perspectives of managers and public servants, and vice versa.

Such a perspective on translation may even be instructive for the mutual inspiration of science and public interest; to put it another way, it may produce innovation in the sense of what Nowotny calls “robust knowledge.” The basic organization of PUSH resembles that of the church, whose authority, by the way, science took upon itself: scientists preach and the public listens faithfully. In the interests of robust knowledge, on the other hand, it might be worthwhile trying to design spaces of translation to motivate scientists to listen to the public and to integrate the public interest into their scientific problem choice. The court of law is such a space, designed to make peace among citizens by means of words and arguments. The Wissenschaftskolleg and other spaces of translation will continue to assemble people with an eye to constituting spaces between science, technology, and society in which all parties can listen and learn how to translate their differences in outlook and interest. Such spaces of translation might then become spaces of innovation.

Note

1. Alton L. Becker, *Beyond Translation: Essays toward a Modern Philology* (Michigan, 1995), 302–3.