

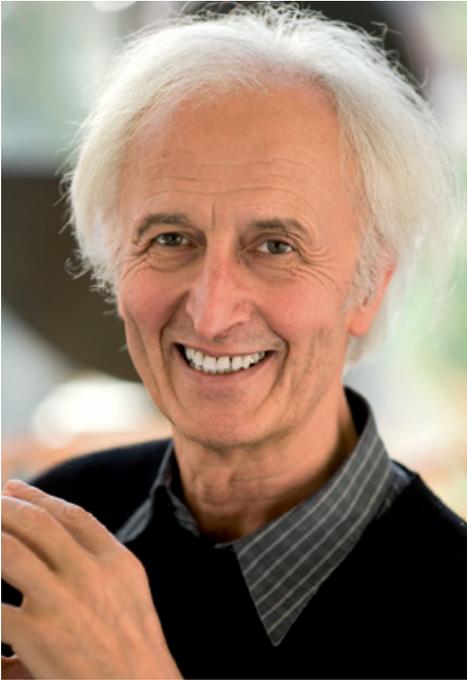


Alexander von Humboldt
Stiftung/Foundation

Forum on the Internationalization of Sciences and Humanities

Crossing Boundaries: Capacity Building in Global Perspective
October 10–11, 2010 • Berlin





With the internationalization of higher education and research and the emergence of a new geography of science and innovation, the demand for expertise on issues relating to the global mobility of researchers has increased. Therefore, the Alexander von Humboldt Foundation has assumed an active role in German policy debates in the past years, joining forces with its partners to ensure that Germany remains a top address for the international academic elite. The Foundation's International Advisory Board was established to assist us as well as our German partner organizations in this effort. Hosted on the occasion of the Board's annual meeting, the Forum on the Internationalization of Sciences and Humanities provides an opportunity for eminent international experts to hold an open debate on current developments in global academic markets and matters of science policy that impact on international initiatives.

Documenting two speeches held during last year's Forum on the topic "Crossing Boundaries: Capacity Building in Global Perspective", the following pages serve not only as a supplement to previously published Forum proceedings, but also to draw your attention to the ways in which the Foundation promotes the exchange and mutual enrichment of knowledge in international dialogue. We invite you to join us in our discussions as we, too, strive for excellence in our own procedures and strategy.

Sincerely,

A handwritten signature in black ink that reads "Helmut Schwarz". The signature is written in a cursive, flowing style.

Helmut Schwarz
President of the Alexander von Humboldt Foundation

Science as Diplomacy of Trust



Kerri-Ann Jones is Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs at the U.S. Department of State, Washington, DC.

- How is it possible to meld science and public policy?
- What can the role of science diplomacy be in enhancing the capacity to address global challenges?

These are two of the central questions of the Fourth Forum on the Internationalization of Sciences and Humanities, and I shall address these issues from an interesting perspective – that of an Assistant Secretary at the U.S. Department of State. So I will begin with the second question first.

Science diplomacy has become a very popular term. It is fitting to address this term here – as Alexander von Humboldt can be considered one of the earliest science diplomats. It is a term that captures the various roles of science in foreign policy with a particular emphasis on the ability of science to build partnerships between countries – partnerships that can be sustained regardless of the political winds. It is the role science can play in basic diplomacy. Diplomacy can be defined simply as the art of and practice of conducting

negotiations between nations, or the management of international relations by negotiations. And nations conduct these negotiations to achieve their foreign policy goals.

The Obama Administration champions science and technology. Shortly after his inauguration, President Obama addressed the National Academies of Science. He was the first president to do that since President Kennedy. President Obama and Secretary Clinton are committed to science diplomacy as an important element in achieving foreign policy goals: foreign policy goals that depend on diplomacy and development; foreign policy goals that include addressing global challenges that confront the U.S. and world community. These global challenges at the national level can threaten peace and stability as well as sustained economic growth and prosperity. We are all very familiar with these challenges – climate change, global health, food security, energy, and water issues are the ones firmly on the world’s agenda.

The role of science diplomacy in enhancing the capacity to address these complex challenges rests fundamentally in the nature of science itself. Science is about understanding the world around us – understanding questions that range from origin of the universe, to earth’s geological formations, to climate patterns, to human social behavior, and to the genetic makeup of viruses. And through that understanding, science seeks to address problems. Science is about generating data during that search for understanding – data that is objective and reproducible – data that can inform policy decisions. While research is conducted by individual researchers, science is also about community – the community that shares values and shares data. The values of science become instinctive to scientists, and they instill unique and strong qualities into the community. These characteristics allow scientific partnerships between individual scientists from different nations and different cultures to flourish.

Science diplomacy and global challenges

Beyond recognizing this general relationship between science and diplomacy – how can the elevation of and

emphasis on science diplomacy make a difference in addressing global challenges? I believe there are three very specific ways that this is happening.

The first way is the most obvious – that is recognizing the importance of research in addressing global challenges and investing in programs that support such research. The Obama Administration is taking many steps to do just that. The Global Health Initiative, an effort to strengthen and coordinate existing health investments and focus on strengthening health systems, recognizes the key role of research. Research is essential for both understanding operational successes and failures, and research is essential for the discovery of new treatments, drug-delivery systems and vaccines.

Another global and development challenge is addressing food security. In 2009 at the G-8 summit in Italy, global leaders decided to take on the challenge



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of food security and pledged a renewed effort and real actions. The U.S. has developed the Feed the Future Initiative – a comprehensive approach based on country-owned plans, strategic cooperation and leveraging benefits of multilateral institutions. Central to Feed the Future is the recognition that agricultural productivity must be increased under conditions where resources will be limited and where stressful conditions are likely to expand and intensify. Central to addressing this productivity challenge is research, and it will be a significant component of the initiative. Increased funding has been requested to build research partnerships among the U.S. Agency for International Development, the USDA, universities and the Consultative Group on International Agricultural Research. These initiatives involve not only the Department of State but include agencies from across the U.S. Government, including USAID, NIH and USDA.

The second specific way that science diplomacy is contributing to addressing global challenges relates to probably the most important element of all, an element where the Alexander von Humboldt Foundation is a leader – focus on people.

As Alan Leshner from AAAS has observed, we have moved beyond international science and technology cooperation. We are now functioning in and with the global research community. Researchers expect to work with colleagues around the world – either physically or virtually. Leading scientists now have laboratories in multiple countries, and universities have a growing number of international branches.

The role of science diplomacy is to strengthen the global research community to build on existing partnerships. The combined talent of the world will be needed to address the global challenges we face. Efforts to engage scientists from around the world, broaden participation of women and minorities in science everywhere, and attract more and more young people to scientific and technical careers are essential to building a strong and vibrant global research community.

The people aspect of science diplomacy

The fact that the Department of State is championing science diplomacy has brought an increased focus on investments in people. The Fulbright Program now offers a science and technology award where support is offered for foreign students to study for PhDs in

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the U.S. Fulbright has also just started a program in partnership with NIH's Fogarty International Center. The International Visitor Programs are increasingly addressing technical issues and designing specific U.S. study tours. We are also exploring ways to create additional connections between students and scien-

tific societies around the world and partner with our technical agencies.

In his Cairo speech, President Obama recognized that science and technology play an important role, and he made it a central element of his efforts to build new relationships with the Muslim world. He announced the Science Envoys Program, which the Department of State has established. The newly announced science envoys are: Dr. Rita Colwell, who is also a member of the Alexander von Humboldt Foundation's International Advisory Board, Dr. Alice Gast and Dr. Gebisa Ejecta. The science envoys travel to specific countries – visiting with science and government leaders and speaking with students and researchers. They personally make connections and identify opportunities for new partnerships.

The people aspect of science diplomacy has another dimension – increasing the presence of science and technology in the diplomatic world – notably within ministries of Foreign Affairs, such as the Department of State. Within the Department of State, this is happening as well. We are seeing an increased interest in science and technology – which is a result of Secretary Clinton's leadership. We are seeing more AAAS Fellows – Ph.D. scientists who come to the Department for a year or two. We are seeing AAAS Fellows being put to work across many different offices throughout the Department. We are seeing more Jefferson Fellows – mid-to-late career university professors who come to the Department for a year to work on technical issues.

My final point on the ways science diplomacy addresses global challenges also touches on the other question mentioned earlier: how is it possible to meld science and public policy?

Science plays a role in public policy by furnishing the objective data that is needed for policy development. International policy is forged through multilateral negotiations. These, too, are dependent on objective scientific data.

The best known example of this interface is the Intergovernmental Panel on Climate Change (IPCC). For over twenty years, this panel of scientists and government officials has worked to make the complex science



of climate change accessible to policy makers and the public. The recent review by the Interacademy Panel has concluded that while some process and management issues need to be reviewed and changed, the IPCC has been successful overall and served society well. It is a difficult task to continually assess the complex science of climate change, but the IPCC provides an effective and much needed model.

The importance of communication

Currently, the international community is engaged in discussions on the development of a scientific body that would address biodiversity and ecosystem services. This platform, as it is being called, would serve as the interface between science and policy. The new platform would perform regular and timely assessments of the available knowledge on biodiversity and eco-systems services and their interlinkages. It would maintain a catalog of relevant assessments and identify the need for regional and subregional assessments. The development of this new effort is in its early stages.

In closing, I would like to make three observations that I believe are very important for our continued progress in science diplomacy and in science based policy development.

The first observation is ensuring that we realistically recognize that science is both national and international. While we are all members of the global research community, we each have a national science and technology enterprise that needs to be strong and vibrant. I do not see this as problematic, but rather complimentary, requiring balance and recognizing that competition and collaboration are compatible.

The second observation is the importance of transparency. The global challenges we face are complex as well as difficult interrelated problems. Building public confidence in the role of science in policy development depends on transparency. Transparency builds trust. Transparency takes time, and it takes working across topics, interests, and cultures – professional cultures and national cultures.

This leads to my final observation which is a simple one but extraordinarily challenging: we cannot underestimate the importance of communication across disciplines, sectors, institutions, professions and nations. Communication is at the heart of diplomacy and increasingly at the heart of science as it reaches far beyond laboratories and universities; and as its role in foreign policy continues to expand and intensify, we all will have much work to do together.

Crossing Boundaries: Capacity Building in Global Perspective

At the beginning of the 21st century, capacity building presents an entirely new task for science and research foundations as they confront and embrace the chances and challenges of globalization. The internationalization of science and research systems has made considerable progress in recent years, with universities redesigning themselves as global entities and international researcher mobility increasing. However, many questions concerning the optimization of these processes and their impact remain open: What are the possible consequences of internationalization and globalization with regard to research funding strategies, and how do they impact on international and local initiatives? How is it possible to build up learning communities and strengthen networks of trust across

the world for the benefit of sustained development and global progress, while trying to enhance the competitiveness of national higher education and research systems at the same time? Last, but not least: how can science be better integrated into political decision-making?

The 4th Forum on the Internationalization of Sciences and Humanities took a global perspective on the possible role of science and research in overcoming barriers, embracing the challenges of globalization, and contributing to sustainable solutions to the scientific problems posed by the future.





Internationalization of Science: Challenges and Goals



David Simo is Professor for German Literature, Comparative Literature and Cultural Studies at the University of Yaounde 1, Cameroon.

In a globalizing world, to speak of the internationalization of science might not seem to need any further justification or problematization. Since contacts between researchers from different countries exist, and since there are networks and publication organs which function across national borders, internationalization appears to be obvious and represents just another indicator of high quality research. For many scholars, the concept of internationalization still implies the existence of national sciences which are just

put in contact with one another. Therefore, this concept appears obsolete to them and not capable of reflecting the reality of the practice of scientific research which is said to occur beyond national borders and in networks which do not take national frameworks into consideration.

For those who consider the internationalization and even globalization of science not only as necessary and desirable, but also as an existing reality, the discussion about globalization would focus only on the

management of this process; on the development of mechanisms to channel it in order to make it efficient and rational. In this regard, addressing the internationalization of science appears to be just a technical exercise which requires a competence in organization, in fundraising, etc.

As in other sectors such as the economy, finance, politics, technology etc., the obviousness of this internationalization or globalization of science actually ignores enormous differences and contentions between world regions. It ignores also the latent or open conflicts between political powers, such as states, or profound asymmetries between participants in the process. In fact here, like elsewhere, power structures as well as relationships driven by domination and individual interests play an important role. Thus the issue of the internationalization of science appears to be eminently political and forces us to ask questions about its nature and function, its modalities and its purposes, the actors etc. If the existing internationalization appears problematic, we have to address the need for and the possibility of organizing a truly international basis which combines efficiency and fairness, justice or equity and productivity.

The participation of all people and all regions of the world in knowledge production

According to a popular model of global academic power structure (Alatas 2003), which is based on Wallerstein's World Systems Theory, there are three different players in the international scientific scene: Those who can be considered as the core of scientific production and who possess scientific power, the semi-peripheral core which possesses a certain scientific power and the periphery. This different topological positioning also corresponds to the positioning in the economic, financial and political world. The periphery in the scientific international scene is composed of poor countries which in this regard are dependent on the core and the semi-peripheral core and have not only to rely upon their funding, but borrow from them the agendas, the methods and even the goals of their scientific research. Most of the time, they have to struggle to exist, to be accepted as part-

ners in the production of knowledge. Researchers in poor countries find themselves in a highly complex situation where they have to expend much energy to convince their local political authorities of the necessity to develop scientific research as a means of solving the crucial social, sanitary and economic problems which appear as a greater priority; they also have to convince donor agencies situated in the core and semi-peripheral core of the world system of the necessity to help develop research institutions in their own countries, and they have to convince all their partners, local and international, to let them develop their own research agenda and goals. From their perspective, internationalization appears as necessary and desirable, but the challenge comes in a different guise. Most of the time it is not possible for them to fit into, or to integrate into existing networks and procedures which have difficulty to acknowledge their existence not just as junior partners, but also as real participants in the international production of knowledge. For them, true or better international collaboration does not yet exist, but is still to be achieved.

In the declaration on science and the use of science at the World Conference on Science organized by UNESCO in Budapest in 1999, this question is addressed in two directions: The participants stress the urgent need to reduce the gap between developing and developed countries by improving scientific capacity and infrastructure in developing countries



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(p. 12). And they assert "that there are barriers which have prevented the unrestricted participation of social groups such as women, disabled individuals, indigenous peoples and ethnic minorities, hereinafter referred to as disadvantaged groups" (p. 14).

In this declaration it is acknowledged that at national level and at international level there are structural barriers which result in asymmetry and marginalization of some regions and some social groups. But it is not clearly explained why these barriers should be overcome. The problem is not just ethical but also epistemological, because the absence of some world regions and of some social groups in the field of knowledge production has an impact on the identification of research agendas and on the formulation of relevant research issues. It is known that scientific research is embedded in paradigms which are historically and socially produced. The paradigm reflects historical, social, ethical and political consciousness, and awareness of reality and problems. And the awareness depends on historical and social experience, desires and aspirations. By marginalizing some regions and some social groups in the production of knowledge, there are forms and contents of knowledge whose necessity will never be perceived and which will therefore never be produced. The second argument, which pleads for the integration of those who are marginalized today in

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the field of the production of knowledge, is that cognitive potential is equally distributed among all groups and all people in the world. To marginalize some people is to miss valuable contributions from potential capacities which will never have the opportunity to be mobilized for the benefit of all mankind.

The other question the participants at the Budapest conference did not really address is how to overcome the different gaps in other areas to achieve a true or better internationalization of science production. This is not an easy question. But the fact that the inter-

national scientific community is aware of it is already very important. The fact that I am invited to this conference is, I think, the result of this awareness. Some participants might feel my presence, and that of other colleagues from peripheral countries, is non-functional and even a disturbance, since it confronts them with problems they might consider marginal or even non-existent. It might interfere with their reflections on means and tools to be used in order to rationalize and maximize the functioning of existing ties, connections and policies. But I know that there are institutions which have already been elaborating strategies for achieving a truer and better internationalization of science. The Volkswagen Foundation has undertaken strong efforts in this direction, and the reflections and actions of the Alexander von Humboldt Foundation are but another example. I am convinced that international contacts and cooperation including researchers from poorer countries confront individuals and institutions at different levels with questions and challenges which will sooner or later create awareness and a process of semiosis, i.e. a process of emergence of new concerns, new ideas, and a new interpretation and understanding of reality and relationships. I consider these reflections to be necessary, indeed indispensable.

The case of social sciences

We have been speaking generally of science. The internationalization of social sciences implies far more conflict issues. While the science of nature deals with objects which are independent of human will and desire, even if they are the object of action and manipulation, social sciences deal with the product of human will and creativity. From the beginning, they didn't just aim at producing knowledge for knowledge's sake, but partook in the effort of individuals and groups to order the world, to elaborate meanings, to understand the self, to create common ground for action and connective historical links with the past and into the present day. In 19th century Europe, the social sciences were, therefore, used in the creation of the emerging framework for organizing political, social, cultural and economic life, which is called the

nation. Social science emerged as a nationalized enterprise at the service of the nation. It was used to create and homogenize one's own group and to differentiate it from other groups. This differentiation ended in establishing hierarchies between individuals, groups, nation, race, gender etc. Social sciences have therefore a history and a legacy which render their internationalization complex and contentious. From the beginning, the internationalization of social sciences aimed first of all at producing knowledge about oneself to promote the self-image outside and inside, and producing knowledge about others in order to compare them with oneself and to interact with them. In this context, the production and spread of knowledge was inscribed in political and strategic goals. And it results in the domination of the West, in the diffusion of western knowledge, in the domination of western categories and concepts, in the creation of exclusion mechanisms.

A true and better internationalization has to achieve the following goals:

- Overcome eurocentric and other ethnocentric approaches.
- Take research findings and theories across national borders in order to "test their robustness and validity" (Michael Kuhn, Doris Weidemann, 2010, p. 12).
- Investigate "cross-national variations" in order to help "increase knowledge and identify moderating factors and limits of general theories" (Michael Kuhn et. al. 2010 p. 12).
- Organize cross-national cooperative production of knowledge as a means to overcome nationalist and nativistic approaches which are based on domination and confrontation. The cross-national and cross-cultural cooperative production of knowledge is therefore the best way of strengthening mutual understanding, mutual values and a mutual frame of interaction.

Therefore, "true internationalization rests on equal participation of scientists of different provenience and focuses on qualitative aspects – a new orientation of social sciences – rather than on the quantity of traditional international ties that would only strengthen the dominance of Euro-American social sciences. Be-

cause the claim to universal validity of findings and theories cannot be upheld in a world that systematically excludes the less privileged, the inclusion of multiple experiences and viewpoints becomes mandatory. Insofar as internationalization can be considered a prerequisite of valid scientific theories, it gains the status of an epistemological imperative." (Michael Kuhn et. al., 2010, p. 14)

Conclusion

The internationalization of science is desirable and necessary for different reasons. But it does not mean just rationalizing and strengthening existing ties and networks. It means imagining new strategies which avoid marginalization. And it should aim at the emergence of "a broader talent pool" (Michael Kuhn et. al., 2010, p. 12) and to liberate scientific production from nationalist bias and ethnocentric enclosure.

Quoted literature:

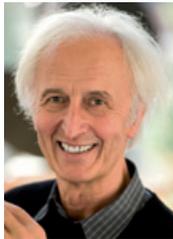
Michael Kuhn, Doris Weidemann (Eds.), (2010): Internationalization of Social Sciences. Asia – Latin America – Middle East – Africa – Eurasia. Bielefeld, Transcript Verlag.

Alatas, S. F. (2003): Academic Dependency and the Global Division of Labor in the Social Sciences. *Current Sociology*, 51(6), 599–613. Science for the Twenty-First Century. A new commitment. UNESCO, Paris, 2010.



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