Power is a key concept of international relations. For realists, power is an instrument. They assume that the national interests of state actors are defined in power terms, which reflect their foreign policy. From the realist perspective of rational state actors, power is having the capacity to advance national interests even when it requires coercing others. The goal of the state is to maintain and increase its power in a system depicted by negative-sum power relations. Understanding what power means for international relations can be achieved by looking at how and where states derive their capability to persuade other countries to actively support, tolerate or at least to refrain from ‘spoiling’ actions. This understanding of power has evolved and with new challenges arise new actors that although do not have the military capability are still able to persuade other actors, dictate international norms or even establish new global institutions.

Howard Raiffa provides a different conceptualization of power, which offers a distinct way of measuring the power of states. He argues that power can be measured by its ‘casting out’ ability, which is the ability of state actors to convert different values to make them relevant, quantifiable and comparable. Such abilities include providing the needed technical and expert information for example for a state to present itself as an appropriate role model and therefore a ‘rightful’ global or regional leader. This ‘casting out’ ability as an indicator of power is central to the concept of knowledge diplomacy. This article builds on this type of power and discusses the concept of knowledge diplomacy, which is interesting, because it contends that the processes of negotiations and interactions between states are not only changing the preferences and behavior of states, they also shift the understanding of power and what it means for international relations. Power becomes both an independent and a dependent variable of scholarly analysis.

Knowledge Diplomacy as an Emerging Concept – A Call for a Deeper Academic Debate

The unprecedented role of scientific knowledge not only in national policy-making but also in global cooperation has moved scientists and technical experts nearer to policy makers. This mobilized a public debate on 1) the socio-political mandate and independence of science and research communities; 2) the democratic control of scientists, researchers and professional experts; 3) equitable access to knowledge resources; and 4) the potential role of scientific knowledge in legitimizing authoritarian regimes or reinforcing authoritarian tendencies in deficient democracies. With knowledge becoming a powerful means not only to assert interests, but also a legitimizing factor for national governments and for a state’s global leadership, the stake becomes so high that calls to revisit its accountability are inevitable. For example, Colin Crouch is concerned that the use of knowledge in policy-making might be replicating existing structural inequities. When decisions of governments are no longer results of deliberations involving all those affected, but are rather made in closed door expert meetings, democracy is weakened. In addition, concerns were raised that the increasing importance of technical knowledge in international negotiations such as those related to climate protection and sustainable development is exacerbating the Global North and the Global South divide. This can be for example observed in the assessment reports of the Intergovernmental Panel on Climate Change (IPCC) where the generation and distribution of technical knowledge relevant to national and international climate decisions are dominated by OECD member states.

New concerns have been raised in light of the COVID-19 pandemic, climate protection and sustainable development
that scientific expertise is becoming ‘dogmatic’ and is therefore reinforcing technocratic authority. For example, Paola Velasco Herrejon and Thomas Bauwens criticize imposing certain technocratic modernization paradigms to indigenous communities when implementing wind farms in Mexico. The so-called ‘technocratic narrative’ or the notion that expert knowledge equates effective governance is problematic, because it imposes a dogmatic type of modernity. Andrea Lavazza and Mirko Farina notice the lack of challenge against the ‘epistemic authority’ of (medical) experts that justified limitations to human rights and political liberties. Other experts are concerned that expert knowledge is becoming an instrument of ‘autocratization’ and fracturing of societies as shown in some countries where the ruling party instrumentalized the pandemic to weaken or eliminate political opposition or to weaken mechanisms of accountability and political control. In addition, the failures of some governments to effectively control the pandemic are further sowing distrust of science, which, if they continue to unfold, may impede other sustainability policies.

The current global political context – post-pandemic recovery, autocratization in several regions, increased climate protection efforts and drivers of sustainability in a momentum – needs a deeper discourse on the science-policy-society interface for evidence-based policy-making. Through such a discourse, impulses can be found for example how evidence-based policy-making can fully define good governance, how a culture of trust and equitable mechanisms of knowledge generation and distribution can be earned, and how a more inclusive outlook on implementing evidence-based policies can be achieved.

Knowledge diplomacy (or science diplomacy) is an emerging academic concept particularly in the post-truth era. Academic interest on the knowledge or science diplomacy is relatively new. The Royal Society and the American Association for the Advancement of Science distinguish three main types of activities of science diplomacy: science in diplomacy or science providing advice foreign policy objectives, diplomacy for science or the role of diplomacy to facilitate international science cooperation and science diplomacy or the role of scientific cooperation to improve international relations. For Sarah Asada, knowledge diplomacy is an outcome of the internationalization of higher education, as states recognize the benefits of hosting international students to cultivate knowledge in the host country. In addition, she sees the pivotal role of this type of knowledge diplomacy in advancing knowledge for the whole world. Jane Knight sees knowledge diplomacy as a complement or even an alternative to ‘the more one-sided soft approach’ as networks in higher education and research can provide new channels to address issues that are too sensitive for traditional diplomacy. In other words, knowledge diplomacy refers to the networks of scientists and researchers that can facilitate cooperation even in politically sensitive areas.

Bo Kjëllen, a prominent Swedish scholar and chief negotiator for Sweden involved in the very first climate negotiations in 1991 until 2001, coined the concept of ‘New Diplomacy for Sustainable Development’. In light of the distinct issues and processes behind environmental and climate issues, he insisted that a new branch of the ‘very old tree of diplomacy’ has been created that go beyond the traditional security concerns. While the classical topics of international relations have not yet lost their dominant role, the new awareness of the impacts of humans entering a new geological epoch, also labelled as the Anthropocene Era, necessitate different skills set. One important characteristic of this New Diplomacy is the reliance on science and research, which elevates the power potential for state actors that can generate and distribute needed technical and expert knowledge. The pool of potential global leaders is no longer limited to those countries with military capabilities but can now include middle powers with the capacity to generate and distribute knowledge. Gunnar Sjöstedt expands this New Diplomacy and points to the goal of multilateral negotiations to manage complexity. He noticed that climate change negotiations are specially dealing with high levels of complexity with many topics needed to be addressed in scientific terms leading to the expanding role of knowledge diplomacy in international politics. He continues that because expert skills in related issues have become prerequisites for negotiators, the power base for international relations shifts as ‘small, smart states’ are able to assume leadership in international negotiations.

Gunnar Sjöstedt and the author of this article further advanced the conceptualization of knowledge diplomacy by highlighting the systemic perspective of climate change negotiations. Multilateral negotiations are integral parts of a larger web of collective decision-making. The results (e.g., accord, agreements, memorandum of understanding or the failure to achieve any concrete agreement) of each multilateral negotiation can pave way or impede future negotiations. The value of these negotiations lies on how they are able to establish ‘consensual knowledge’ for future
negotiations. For example, the earlier multilateral negotiations on climate change were setting the stage for the Paris Climate Agreement by producing earlier agreements to start negotiation, later establishing the agenda or the formal organization of the negotiation (e.g., establishment of the UNFCCC), and coming up with a viable roadmap for the final agreement, which can be extended or replaced by another agreement. The consensual knowledge refers to the ‘common but specific understanding that parties have of issues on the negotiation agenda’.

Further developing the concept of knowledge diplomacy and of consensual knowledge of Gunnar Sjöstedt, this article introduces a ‘process perspective’ on knowledge diplomacy by pointing out the relevance of scientific and expert knowledge for deliberative national policy-making and global cooperation to address common vulnerabilities or common goods. The agents of knowledge diplomacy are not limited to state actors and scientific and research communities, but can also include non-state (e.g., NGOs) that can provide expert knowledge based on their experiences on helping implement certain programs or projects on the ground. These agents interact with each other, share information, deliberate for example on ways to interpret observations and jointly come up with recommendations for national policy-makers and global negotiators.

In this article, knowledge diplomacy is defined as an orchestra of collaborative and negotiation processes that aim to establish consensual knowledge on various issues. Examples of consensual knowledge include the insights presented by RAINS model that has been used in negotiations on long-range air pollution or the 1.5°C used as milestone in several assessment reports of the IPCC, which are used as basis for climate change negotiations. For example, the various assessment reports of the IPCC and the Summaries for Policymakers serve as consensual knowledge that is used not only in climate negotiations to achieve global agreements such as the Paris Climate Agreement, but also in domestic policy-making. In addition, knowledge diplomacy also refers to how networks of scientific bodies, universities, research institutes and think tanks exchange insights and attempt to find consensus about common concepts, methodologies, and interpretations of scientific knowledge. These exchanges for example include interactions between social scientists with a deeper understanding of societal implications of technical solutions and natural scientists with limited insights about the actual operational usability of scientific knowledge.

Another type of consensual knowledge includes the formal or informal understanding between policy-makers and epistemic communities how to resolve national or global problems. Scientists and experts from universities, think tanks, research institutes and the private sector are integrated in formal structures of decision-making for example through required formal and regular consultations with expert committees. At the end, the decisions made are results of a consensus-building process. Further types of consensual knowledge include the convergence of understanding and interpretations of knowledge for example through increased mobility of experts or technology transfers following technological cooperation projects between countries.

Knowledge Diplomacy and its Facilitative Role in Achieving the 2030 Agenda for Sustainable Development

Scientific and expert knowledge is central to any sustainable future. Because consensual knowledge establishes the parameters within which decisions can be made despite complexity and uncertainty, it assumes a facilitating function. This can be for example well observed on how national strategies to achieve sustainability are developed, legitimized, implemented, and assessed. Policy-makers consult scientific experts to better understand problem issues and to come up with evidence-based solutions that can be jointly accepted by any political ideology and by the constituents. At the same time, the reliance of policy-making to scientific knowledge increases the demand or need to be critical of the emerging scientific authority or technocracy. In the context of transformation to sustainability (T2S) where the outcomes of bargaining and persuasion games represent new lock-ins, the ability or the inability to influence the definition of these lock-ins through equitable access to knowledge is integral to the legitimacy of T2S.

Knowledge diplomacy (and how it leads up to consensual knowledge) is an important driver of creating visions and narratives on sustainable futures. At the same time, the transformation process towards sustainability creates new norms for example in governance and social relations that have implications to how knowledge diplomacy is conducted. Expanding access to education as a strategy to reduce income inequality is more likely to empower a broader citizen participation in consensual knowledge making and thus in policy-making. Building on the author’s
work on Sustainable Development Pathways, this article introduces three possible futures scenarios of how knowledge diplomacy can unfold depending on how access to scientific and expert knowledge translates into convening power: convergent cosmopolitan society (melting pot 1), convergent liberal world (melting pot 2), and divergent glocality (salad bowl).

The first scenario, knowledge diplomacy in a ‘convergent cosmopolitan society,’ sees a polycentric world order and a non-state centered type of global cooperation as an outcome of a more pronounced global citizenship. Social globalization complements the creation and distribution of knowledge. States as well as non-state and subnational actors cooperate as part of their vision that there is only one global system where every actor has a place. This scenario highlights local needs, traditions, and identities as integral elements of global cooperation to achieve sustainable futures. This implies that global cooperation involves both ‘scaling up’ and ‘scaling down’ of best practices. Furthermore, the sources of power for state, non-state, and subnational actors that define their global engagement are convening, information-associated, moral, and symbolic. This scenario expects that consensual knowledge building is regional and impact oriented. The focus on the demand side of consensual knowledge building leads to the increased attention and significance of traditional knowledge. There is low competition between (world) regions due to the impact orientation of consensual knowledge. This means that the expectation that consensual knowledge is only useful when its impact is highlighted and linked to its historical context. Therefore, (local) ownership of scientific knowledge is most likely to be high in this scenario. In addition, because policy gains are achieved through consensual knowledge that for example led to the establishment of regional industry standards and norms, cooperation between (world) regions is more likely limited to exchanging of good practices. At the same time, the existence of multiple regional standards and various combinations of policy mixes will most likely lead to multiple regional visions of sustainable futures, which enjoy broader societal support and ownership.

The second scenario ‘convergent liberal world’ foresees a world where state, non-state, and subnational actors cooperate due to expected pay-offs in value. In this future scenario, the focus on value expands the scope of the pay-offs from cooperation, which also implies a broader definition of economic well-being. The global value chain approach in this world foresees different but coupled sectors (e.g., energy, agriculture), all of which share their outputs to achieve sustainable future. In this scenario, consensual knowledge building is fragmented and sectoral. Networks of scientific and expert knowledge concentrate on specific sectors such as the transport or energy sectors. Transnational knowledge exchange between research institutes, universities and think tanks is fluid, although this fluidity necessitates existing cooperation agreements. Consensus knowledge building evolves within sectors (e.g., industry, energy, transport). Each of these sectors is strongly organized around international governmental and non-governmental organizations that coordinate consensual knowledge building within the sectors. Global sectoral policy frameworks identify the issues that require scientific and expert knowledge. Consensual knowledge building is therefore more likely to be supply side focused. Knowledge diplomacy in this scenario will evolve around increasing value as well as productivity (including livestock intensification) through optimization and innovation. Because the world order in this future scenario is polycentric, whereas the centers of power are rather technology-driven, each center of power has a distinct set of norms, standards, and sanctioning mechanisms, which are shared by those actors supporting this center. This means that generation of knowledge diplomacy is most likely relatively limited in terms of area, but global in terms of reach or distribution. For example, expertise in information technology can be concentrated in few areas and these world areas will attract other types of expertise and so on. This ‘Silicon Valley’ phenomenon or ‘bundling’ of headquarters of related players in one area facilitates knowledge generation within a sector. In addition, membership to ‘knowledge expert communities’ is more exclusive. Therefore, additional mechanisms of accountability and state regulation will be needed.

The third scenario ‘divergent glocality’ foresees a more state-centered world order. It is characterized by a polycentric and silos oriented knowledge diplomacy. The states’ negotiation behavior and focus on pay-offs of international agreements implies a world order that is primarily polycentric in terms of concentration of power and national in terms of regulation. However, this polycentricity is mainly defined by ‘functional’ sources of power. This means that the various ‘centers’ of power in this world order are differentiated by power through formality, procedures and the materials involved. Consensual knowledge building focuses on co-benefits, synergies, and trade-offs, which are important in weighing policy options. At the same time, networks of scientific and expert knowledge support policy-making by making government agencies and institutions accountable, thus improving democratic
quality. These networks are however concentrated in regional knowledge hubs that often reflect existing regional centers of power. For example, the East Asian region will most likely concentrate on certain issues leading to national governments focusing on certain policies relevant to these technologies, which will also be reflected in their foreign policy. Because each of these regional hubs will most likely represent specialized knowledge, the polycentricity of knowledge diplomacy is not expected to bring intense competition among regional knowledge hubs. For example, consensual knowledge on wind energy can be centered in Northern Europe and bioenergy in South America. At the same time, consensual knowledge on poverty alleviation can be centered in South Asia due to India’s developmental experience and its international development assistance policies regarded as a good model for poverty alleviation. This initial regional focus on consensual knowledge is addressed by another layer of contextualization of consensual knowledge to make it applicable in other regions. This means that polycentricity in this pathway connotes dependence between regions and therefore a high acceptance of more intense cooperation between regions. However, because government agencies and institutions cannot cover all issues and areas relevant to T2S, this scenario expects to have a ‘blind spot’ which expose T2S to additional governance risks. Therefore, additional policies are needed to prevent the crowding out of public policies, meaning that consensual knowledge building in this pathway will more likely sustain more coordination between national governments.

**Conclusion**

The architecture of global cooperation and of national policy-making are both dependent on how power based on access to scientific and expert knowledge is distributed between countries and among non-state and subnational actors. While power remains a major driver of international relations, its meaning is quickly shifting due to the increased interlocking of vulnerabilities and interests. This interlocking leads to a shared reality that has further implications to how states cooperate and how state actors cooperate with non-state actors. It is still a long way to go to fully understand the meaning of this power shift for theory and for practice. This article attempted to contribute this understanding by analyzing what knowledge diplomacy means for power and for cooperation. With scientific and expert knowledge becoming an instrument of power, it needs to be asked whether there are mechanisms of accountability in place for example for scientists and experts to ensure that no new inequalities are created. The negotiation perspective on knowledge diplomacy offers not only a power based perspective on the meaning of scientific and expert knowledge, but also a process-related perspective that brings some light to how knowledge is changing international relations. The three futures scenarios of knowledge diplomacy aimed at showing three possible versions of knowledge diplomacy as scientists and experts interact with state and non-state actors.

This article invites for a broader debate on the science-policy-society interface and what this means for international relations and for domestic policy-making. Possible issues include the role of governance in creating and distributing scientific and expert knowledge. Another emerging issue is the so-called ‘marriage’ between authoritarianism and expert knowledge or the role of expert knowledge in crisis management. Another possible entry to the debate on knowledge diplomacy is its meaning to the Global North-Global South relations.

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