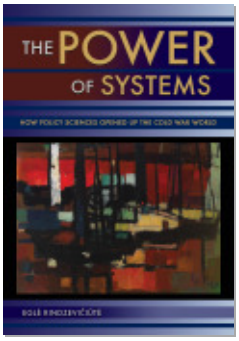
2. Bridging East and West: The Birth of IIASA



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BRIDGING EAST AND WEST

The Birth of IIASA

Q. How to create even a semblance of trust when the hatred for each others' systems runs as deep as it does?
A. Yes, therein lies the essence of this trouble.

—Willem Oltmans, "A Life of Science: Six Conversations with Dr. Philip Handler" (draft manuscript, IIASA Archives, Laxenburg, Austria)

When visited for the first time, Schloss Laxenburg, a royal hunting lodge just outside of Vienna, cannot help but impress the beholder. An ornate and elegant palace on the edge of the sleepy village of Laxenburg, the schloss is surrounded by acres of a beautifully tended park, embellished with Victorian medieval folly castles on artificial lakes and islands, and even an eighteenth-century horse racing track. Church bells ring on the hour and smoking is still permitted in the village *bierstuben*. It feels like stepping into Stephen Zweig's world of the historical and cultured Central Europe that withered away after 1914. It is also difficult to imagine that Laxenburg and the schloss lay in ruins after 1945. Thus when the International Institute of Applied Systems Analysis, an East-West think tank concerned with "global" and "universal" problems, moved into the by-then brilliantly restored palace in 1973, it was a strong statement of postwar reconstruction.[1]

The Old World met the Cold War world: computer cables were threaded through the baroque walls, scientists and their families arrived from East and West Germany, the United States, and the Soviet Union. Some of them brought their dogs, which ran free in the park while their masters hammered out programming codes to optimize control of a wide range of systems, be they capitalist, communist, or planetary. Indeed, there is still a note on the gate to the park saying that as it is natural for a dog to chase and bite a running person, hence joggers are welcome to enter at their own risk. How could this pastoral scenery be at all possible in a world torn by the arms race, political and industrial espionage, and vitriolic ideological attacks exchanged between communist and capitalist blocs?

This chapter revisits the establishment of IIASA in order to demonstrate the crucial role of East-West cooperation in shaping global governance, in particular those aspects that later became identified with neoliberalism: scientific, knowledge-based governance at a distance, capitalizing on scientific expertise and the idea of self-regulation. In the previous chapter I showed that it was precisely this mentality of governance, expressed in the notion of the scientific-technical revolution and the new policy sciences that bridged the opposing great powers. But how can cooperation and opposition be combined simultaneously? Here I find it useful to turn to the social psychologist Karl Weick, who observed that actors do not necessarily have to share values or hold a consensual worldview in order to engage in cooperation with each other. According to Weick, it is sufficient that the otherwise opposing actors pursue similar goals and, importantly, consider each other predictable.[2] I suggest that the establishment of IIASA can be interpreted as precisely such a forward-oriented arrangement to enable a certain form of cooperation between the opposing great powers: mutual predictability was enhanced by bringing together leading policy scientists from East and West, whereas shared goals were articulated through applied systems research.

The history of IIASA should therefore be understood as a coproduction of a new type of Cold War world, where interdependency was actively forged rather than merely discovered, although the logic of discovery, to be sure, had an important symbolic value. I add to Weick's model the contention that neither shared goals nor mutual predictability were a given, but continuously constructed, negotiated, and reasserted. The case of IIASA is an example of such intense work in shaping both shared goals and mutual predictability, which was carried out by a great many mediators.

Who were these mediators? IIASA as a diplomatic initiative was the result of actions by top governmental officials: Lyndon Johnson proposed creating an East-West think tank and Soviet prime minister Aleksei Kosygin accepted his proposal, both sides considering this step as part of cultural diplomacy or an exercise of "soft power" in the presumably less ideological areas of science and technology. Next, other actors, like policy-oriented scientists, translated this diplomatic project into a particular research agenda and institutional setting. As a result of this organizational translation, new practices, objects, and subjectivities were forged and, eventually, even new consensual norms of effective and appropriate governance, equally applicable to capitalist and communist systems. It is in this way, I suggest, that the birth of IIASA is also a story of how a new understanding of the world and of governance was developed that transcended the Cold War division.

Approached from this angle, IIASA should not be reduced to a mere instrument in the hands of the US and Soviet governments, cynically using naïve

scholars to window-dress Cold War competition. The governments involved in the establishment of IIASA were genuinely interested in the prospect of the new, applied policy sciences. Accordingly, I argue that IIASA was a crucial node in Cold War networks where new epistemologies and geopolitics of nascent policy sciences were formulated. Whereas chapters 3 and 4 focus in a greater detail on the ways in which this new governmentality was forged through networks and performed in the everyday life of IIASA scholars, this chapter traces the origins of the institute, discussing the struggles to create and institutionalize IIASA as a transnational nodal point of policy expertise. I begin with an outline of the original diplomatic idea, which was translated into practice by several particular communities of scientists and policy practitioners. Then I proceed to detail the negotiations around IIASA's scientific goals, which were to construct new subjects of governance and new governmental techniques, that is, global problems and systems analysis.

The Origins of the Idea of an East-West Institute

The initial idea of IIASA was American, launched by Lyndon B. Johnson's administration. Initially called an "East-West Institute," the planned organization was to be part of a wider diplomatic attempt to ameliorate US-Soviet relations and signal a new US policy toward Europe.[3] On December 15, 1966 Johnson's advisers McGeorge Bundy, Francis M. Bator, and Walt W. Rostow announced the idea to establish a scientific institute which would bridge the East and West divide by exploring and solving "the shared problems of industrial nations."[4] Where did this idea come from? According to Schwartz, Johnson launched a bridge-building discourse in May 1964, seeking to improve US relations with the Soviet Union and Eastern Europe.[5] In this context, Johnson was persuaded by a group of scholars and policy advisors that an international scientific organization could serve as a tool to better communicate with both the Soviet Union and the Eastern Bloc.[6] During the 1960s the United States launched several schemes with the intention of strengthening its ties with European countries, but in the beginning, these schemes targeted NATO members and did not include East-West cooperation. For instance, there were attempts to develop a new field of future studies, through which US foundations financed Futuribles, a French organization dedicated to the new methods of future studies established by Bertrand de Jouvenel in the late 1950s.[7] Higher-profile efforts involved the foundation of CERN (1954) and the NATO Science Committee (1958), and the idea of establishing "an MIT for

Europe," a technical university close to Paris. The latter project did not materialize as it was shot down by de Gaulle in 1963.[8]

These and other efforts, according to John Krige, led to the formation of a strong network of "transnational elites," anchored in Western European and US research and political organizations, which emerged by the 1960s.[9] To this I add that the idea of an East-West Institute expanded this transnational network to include the state socialist bloc. According to Schwartz and Gemelli, it was a trio of presidential advisors, Francis Bator, George Christian, and the author of the modernization theory, Walt Rostow, who put the idea of the institute on the presidential agenda. A particularly important role was played by former presidential security advisor McGeorge Bundy, who was charged by Johnson with the task of seeing this idea to completion.[10] Indeed, several of my interlocutors involved in the early process of negotiations argue that the East-West institute became a pet idea of Bundy, which he supported in his capacity as leader of the negotiations during his presidency of the Ford Foundation. Also, even when Bundy was formally replaced in the negotiations about the establishment of IIASA by the president of the National Academy of Sciences (NAS), Philip Handler, Bundy continued to influence the negotiation process and, later, the actual work at IIASA.[11] In this way, Bundy provided political leverage to the institute, yet the concrete form and agenda of this cooperation was shaped by other actors.

Although the idea was to create a multilateral institute, one thus less vulnerable to the swings of bipolar Soviet-US relations, the driving force behind the establishment of the East-West Institute depended strongly on US-Soviet dynamics. The institute was formally proposed to the Soviet Union, represented by Aleksei Kosygin, during the Glassboro Summit in 1967. The Soviets clearly treated the East-West Institute as part of their cooperation with the United States: for example, the list of Eastern Bloc countries to be invited to join was drawn up in Moscow, and the Soviets did not reveal this list until the very last moment of the negotiations. That the institute was seen as a Soviet-US rather than a multilateral project is also suggested by the fact that the scarce documents pertaining to the negotiations were archived at the GKNT in the folders of Soviet-US cooperation and not in the multilateral section.[12]

As it is the case with many innovative initiatives, the roots of the East-West Institute were diffuse and different actors were involved at different stages. It is clear, though, that a very particular network was behind the idea: in the United States these were presidential advisors like Walt Rostow and Bundy, scientists with a background at RAND, and other leading figures in the fields of OR and systems analysis. Their Soviet counterparts included the close entourage of the *éminence grise*, introduced in the previous chapter: Dzhermen

Gvishiani of the GKNT, the central organ for research and technology policy, industry, and transfer in the Soviet Union, which was formally in charge of the negotiations about the East-West Institute.[13] Gvishiani, the Soviet counterpart of Bundy, conducted the negotiations on behalf of the Soviet Union and was appointed chairman of IIASA in 1972, remaining in this post until 1986.[14] Other leading figures of the Soviet Academy of Sciences, particularly Vice President Mikhail Millionshchikov, the head of the GKNT Department for International Economic and Technoscientific Organizations (OMENTO), K. V. Ananichev, and his deputy Genrik Shvedov and colleague Andrei Bykov were also involved.[15] A specialist in control science, Aleksandr Letov, participated actively in the negotiations and later become one of deputy directors of IIASA. Generally, the Gvishiani entourage included scientists with a background in OR and cybernetic applications to planning and management, most of whom were drawn from the GKNT.[16]

What kind of political agenda drove the US interest in the East-West institute? Historians have detailed that Lyndon B. Johnson strongly relied on science as an instrument of diplomacy, where the geophysical sciences played a particularly important role.[17] Similarly symbolic was the US focus on systems approach: the East-West Institute was a clear initiative to involve the Soviets in closer cooperation on the cutting-edge field of policy sciences. Yet why would the United States seek to transfer tools that could strengthen the industries of their political opponent, the Soviet Union? One possible reason is that these governmental techniques were not seen as politically neutral, despite public declarations to the contrary, but were understood instead as structurally designed to fit a liberal market economy based on individual rational choice, negotiation, and market regulation. The systems approach and decision sciences, in other words, were understood to be an extension of a Western, liberal system of government and therefore bearing the potential to transform the Soviet system from within. This was matched with keen Soviet interest, albeit for different reasons. In the 1960s the GKNT was intensely concerned about advancing Soviet research and development, seeking Soviet membership in various international organizations in this field. The Soviet leaders pretty much agreed that Soviet scientists, planners, and managers needed to learn, and urgently at that, from American systems analysis or "systems planning," which was described as a magical method that allowed the Pentagon to save billions and propelled American industries to the foremost ranks of innovation and efficiency.[18]

However, it was neither Bundy nor Gvishiani who came up with the actual format for the institute. One path that led to IIASA was the American attempt to establish a counterpart to RAND in Europe.[19] Another path was broken by an active East-West networker and pioneer of econometrics, Wassily Leontief (more

on Leontief in chapter 5), who advocated the idea of an East-West institute dedicated to econometrics as early as August 1964. Leontief wrote that

> experience of recent years has amply demonstrated that countries with quite different social and political systems still face similar, if not identical fundamental technical problems of rational organization of productive processes, of efficient utilization of labor, capital and natural resources, of optimal spatial distribution of economic activities, etc. It is now also widely recognised that the same basic scientific approaches can be effectively applied to the solution of these problems both in highly industrialised and in economically less advanced countries.[20]

He continued, "Not unlike nuclear research, exploratory work in the new field of technical quantitative economics involves a combination of mathematical analysis with large-scale empirical inquiry; only in the latter instance the source of primary facts and figures are not accelerators but also very costly, large-scale information-gathering operations."[21] Indeed, it was during a Moscow meeting with Gvishiani that Leontief proposed creating an international institute modeled on the example of the International Atomic Energy Agency (IAEA) and situated in Vienna.[22] The subsequent implementation of IIASA was too close to Leontief's proposal to be a mere coincidence: before IIASA moved into Schloss Laxenburg outside Vienna, the institute was in fact temporarily housed by IAEA. Leontief, however, did not actively participate in the actual process of negotiations about the future East-West institute.

Another path-breaking initiative concerned activities revolving around the Club of Rome (established in 1968), an informal gathering of the world's leading industrialists and politicians, initiated by Italian businessman Aurelio Peccei.[23] Peccei began organizing the future Club of Rome at about the same time the idea of the East-West institute appeared on Johnson's agenda, that is, in 1966. Indeed, this coincidence led some contemporaries to think that IIASA was also Peccei's idea, something which greatly irritated some of IIASA's founders, including Philip Handler and Solly Zuckerman.

Yet there was a lot of overlap between the East-West Institute and the Club of Rome: Gvishiani and Alexander King of OECD were members of the Club of Rome, and Peccei played a role as a mediator in the negotiations about IIASA. For instance, several months before Bundy's press conference in 1966 Peccei lectured about future world challenges in Washington, DC and contacted Hubert Humphrey, then the US vice president, whom he tried to convince of the need to initiate a multinational project dedicated to "international problems."[24] The establishment of the Club of Rome in 1968 preceded the establishment of IIASA, but the Club's world-famous report *The Limits to Growth* was published in 1972,

just a few months before the signing of IIASA's charter. The central message of this report, which presented a forecast of the future state of the world, was that the world economy would collapse if industrialization and consumption continued at the same rates. This study was based on a simulation using Jay Forrester's model of system dynamics, which was further developed by Donella and Dennis Meadows and their team at MIT. The report was published by the Club of Rome and widely disseminated, becoming a bestseller and leading to heated debates in both East and West (I return to this in chapter 5).

The Americans took great pains to ensure that IIASA would not be confused with these parallel efforts by Peccei, especially because Carl Kaysen, Bundy's advisor, and Handler regarded *The Limits to Growth* report quite negatively.[25] A prominent decision scientist, Herbert Simon was also strongly annoyed with the report: "Jay Forrester, seeking publicity for the report's findings, gained permission to present it at PSAC [the President's Science Advisory Committee] meeting. My reaction was one of annoyance at this brash engineer who thought he knew how to predict social phenomena. In the discussion, I pointed out a number of the naïve features of the Club of Rome model."[26] However, Gvishiani, as his memoir suggests, was much more relaxed about *The Limits of Growth*, later arguing in his memoir that at that time the idea of "global interdependence" was running into difficulties and that the most important Meadows's contribution was to demonstrate a need for and the inevitability of such interdependence.[27] Peccei, in fact, was informed about the progress of IIASA as a matter of courtesy, but not invited to the advanced stages of the negotiations (e.g., meetings in Moscow in 1969 and London in 1970), which "disappointed" him.[28]

The East-West Institute Moves beyond Diplomatic Initiative

On December 16, 1966 Bundy held a press conference in New York at which he announced he had been empowered by the president to pursue the establishment of an international center to study problems faced by advanced countries. Such problems, Bundy emphasized in his speech, were presented by the need for efficient governance of large sectors: large enterprises, cities, systems of underground and air communications, hospitals, and farms. No nation, he continued, had or could possibly have a monopoly on such methods of governance. The envisioned center, therefore, would unite "engineers, economists, managers, experts on industrial production and others" and would evolve into an educational organization.[29]

The press reacted promptly by baptizing the suggested institute an "East-West RAND" and "East-West think tank." Indeed, the parallels with RAND were not coincidental: in the 1960s the US government and scholars were both looking for new organizational forms to feed expertise to the governmental decision makers. It was at that time, as noted by Christina Garsten and Thomas Medvetz, when think tanks began to emerge, organizations which were highly heterogeneous, yet united by their aspiration to bridge academic knowledge and government.[30] Alongside this "think-tank-ization" of governmental expertise, a boom of international organizations took place.[31] The dual trend of establishing specialized organizations, first to produce policy-relevant research and second to engage in international cooperation, converged in the East-West Institute.

It is therefore not surprising that in early 1967 Bundy turned to Henry Rowen, the president of RAND, to commission a preliminary study by its influential OR scholars Roger Levien and S. G. Winter Jr.[32] The resulting report on "an International Research Center and International Studies Program for Systematic Analysis of the Common Problems of Advanced Societies" laid out all the keywords revealing a particular epistemology at work. This study underscored the importance of systems analysis, still a new and ill-defined interdisciplinary field that built on quantitative methods and suggested that systems analysis could form the core orientation of the institute. The focus on "problems" was derived from RAND's mission and the field of operations research, which aimed to produce concrete answers to managerial questions. Finally, the term "advanced societies" invoked an increasingly influential idea of the postindustrial society and served as a diplomatic gesture to the Soviet Union, hinting at a presumed high level of Soviet development and thus inviting the Soviets to join the organization on an equal footing with the West.[33]

The East-West Institute as a diplomatic idea was launched at the famous Glassboro Summit between Johnson and Kosygin, arranged to complement an extraordinary session of the UN General Assembly in New Jersey, June 1967. The Glassboro Summit was an important point in the history of the Cold War, because during this meeting the idea that mutual vulnerability could bring about stability was first voiced, and Johnson and McNamara attempted to persuade the Soviets to reduce their anti-ballistic missile arsenal (outraged, Kosygin almost stormed out of the meeting).[34] But it was also at Glassboro that Johnson formally suggested establishing the East-West Institute (Kosygin bought this idea). In his memoir Gvishiani writes that he first heard about the East-West Institute from Kosygin after the Glassboro meeting, at which Gvishiani's wife, Kosygin's daughter, was present but Dzhermen Gvishiani was not.[35] Having returned from what was his first trip to the United States, Kosygin expressed his enthusiasm about the East-West Institute to Gvishiani, promised to use his personal contact with Johnson if

needed, and assured him that he "would not let this thing to get buried" by the Soviet bureaucracy. Following official procedure, a proposal was submitted to the Politburo; then, as Gvishiani recalled, the decision to appoint him as a Soviet negotiator was reached "unusually quickly."[36]

If actual negotiations about the East-West Institute were kept outside of the public eye, the activities behind the scenes were intense. For instance, Bundy wrote to Kissinger saying that "the Russians recognize and even applaud the bridge-building value, but they now seek to go ahead in ways which will avoid giving the venture a political tone or a high level of publicity. Having taken what is almost certainly a governmental decision, they wish to proceed in what they choose to call a 'nongovernmental' way." Thus Bundy asked Washington to proceed in "a quiet way," acknowledging, at the same time, the political significance: "Even a quiet 'nongovernmental' venture has political complexities, and these should be handled so that both the White House and the Department of State are protected from embarrassment." [37]

During the following six years up to 1972 American research administrators and researchers crossed the Atlantic many times, traveling to Western Europe and the Soviet Union in attempts to recruit support for the East-West institute. Indeed, the diplomatic warm-up stage began even before Glassboro, when in 1966, Bundy, accompanied by Carl Kaysen of Princeton University and Eugene Staples of the Ford Foundation, embarked on a long and intense trip to London, Paris, Bonn, Rome, and Moscow. On his trip Bundy was also accompanied by Francis Bator and Howard Raiffa; some spouses were also present. Bundy met Harold Wilson, then prime minister of Britain, and Chancellor Willy Brandt of West Germany, both of whom promised to support the institute.[38] In 1967 the political heavyweight Bundy was replaced as US negotiator by Raiffa and Handler, who, equipped with RAND's report, began painstaking discussions about a research agenda that would be plausible and acceptable to all sides and practical arrangements as to the location of the institute.

Progress was slow, with the Soviets frequently—typically for them—failing to show up at meetings, and disruptive political events intervening, such as the Prague Spring in 1968. However, the United States sustained interest and the talks were resumed surprisingly quickly after the events in Prague.[39] In October 1968, and therefore just after the Soviet invasion of Czechoslovakia, Gvishiani, Solly Zuckerman, and Peccei met in London to discuss the institute. Although no concrete agreement was reached at that time, in 1969 Bundy expressed confidence that the Soviets had decided to go ahead with the East-West Institute. In his memo to Kissinger, Bundy wrote that Gvishiani, whom he met in April 1969, exuded a "business-like" and "decisive" air, concerned himself with the next practical steps, and gave the impression that "the decision has been taken in Moscow."[40] The

Soviets were not so sure: as Gvishiani recalls in his memoir, in 1969 both he and Mstislav Keldysh, president of the Soviet Academy of Sciences, still doubted that this institute would ever come into being. In any case, the name IIASA was already in circulation by December 1969.[41]

The talks about the East-West institute were part of the intensifying institutionalization of East-West technoscientific cooperation. Although a formal treaty of cooperation between the Soviet Academy of Sciences and NAS was signed in 1958, it was only in 1969 that a president of NAS met a president of the Soviet Academy of Sciences. When Handler encountered Keldysh at the Royal Academy of Engineering in Stockholm, more than twenty years had passed since the beginning of the Cold War.[42] It was therefore a significant meeting, symbolizing a key shift to a new stage of transatlantic relations between the opposing systems.

The establishment of IIASA was part of a renewed US-Soviet agreement on technoscientific cooperation, signed by Handler in Moscow in May 1972. By that time, however, it seems that American organizers of the East-West Institute were cautious about the risk of politicization. For instance, before signing the cooperation agreement, Handler wrote to the president's Office for Science and Technology, saying that while they were welcome to make a statement of progress on IIASA at the Nixon-Brezhnev summit, "we do not feel strongly about this matter."[43] In the Soviet Union, IIASA was mentioned in the talks about the Soviet-US technoscientific cooperation along with other prominent examples, such as docking the two nations' space stations and joint projects in oceanology.[44] There were, however, some concerns that IIASA should not be reduced to a "mere ornament" in this larger context of East-West cooperation.[45]

Another significant development that reinforced Soviet interest in the East-West institute was a series of decisions made by the Soviet government with regard to the future development of the computer industry. In 1969 the Soviet government decided to abandon developing its own computer system and to clone the IBM systems instead. Accordingly, the Soviets actively sought to extract any innovative computer technology from West. It was not only their understanding that domestic research and development in computer technology would not be able to keep pace with US industry, but also their awareness of their internal organizational inefficiency that made Soviet research policy makers turn to international technological transfer. For instance, Gvishiani notes, in retrospect, that he found it easier to obtain new technologies from abroad than from the Soviets' own military complex because of secrecy and departmentalism.[46]

In this way, the curious title of the International Institute for Applied Systems Analysis was a technocratic cryptogram, containing keywords that helped place the institute high on the Soviet agenda of international cooperation. For the Soviets the category of "systems analysis" not only referred to an intellectual

approach, but also served as shorthand for computer technologies. Gvishiani is quite candid about this, as he describes the hopes that the institute would help Soviet scholars "access the most contemporary methods of work and computer technology which was banned for export to the Soviet Union by CoCom."[47] Furthermore, the archival documents of the GKNT show that GKNT officials were openly requesting that Western businessmen bypass the computer embargo and tried to leverage negotiations about the East-West Institute to pressure the Americans into rescinding their embargo. For instance, during his visit to Moscow in May 1970, Handler was given a confidential paper containing a vague phrase which Handler tried to clarify, asking his hosts "whether explicitly this paragraph should be interpreted to mean that unless the United States regulations with respect to export of computers to the USSR are altered, the Soviets would not agree to participate in the Institute." Handler did not receive an explicit answer from the GKNT.[48] At a later stage Gvishiani, accompanied by Viktor Glushkov, the leading Soviet computer scientist in charge of the national computerization program (OGAS), insisted that the institute would acquire the best computers possible and was disappointed by the "cautious" approach of the Americans.[49]

Did the Soviets cynically hope to exploit the envisioned institute to meet the needs of their increasingly obsolete computer industry? On the one hand, this was certainly an important reason: for example, in 1972 the GKNT's official classification attributed operations research and systems analysis to a branch of "Control, Automation and Computer Technology."[50] The centrality of computer technology was also acknowledged in the US-Soviet cooperation agreement, which stated that, "with respect to computer sciences and technology, the Parties noted that both Academies are cooperating in the newly established International Institute for Applied Systems analysis and that they will also give appropriate support to the activities of the US-USSR Joint Commission regarding the application of computers to management, referred to above."[51]

On the other hand, there was definitely more to the Soviet interest than searching for a way to bypass the embargo on computer technology. According to Gavin and Lawrence, Johnson's diplomatic bridge building was a strategic move designed to shift the American mentality of governance to embrace global issues.[52] Although in a different shape, and albeit slowly, a similar shift was taking place in the Soviet Union. Beginning in the late 1950s Soviet economists searched for new techniques to revive Soviet planning, and they had a plentiful choice here: decision sciences, in particular those associated with the emerging systems analysis, but also predictive approaches emphasizing long-range and long-term processes were on the rise in the United States.[53] Moreover, as I showed in chapter 1, there was a new constellation of powerful networks emerging in the Soviet Union,

which linked the fields of economic planning with science and technology policy, which were supported by the tandem of Kosygin-Gvishiani, and which built on the theory of scientific-technical revolution to legitimize East-West cooperation.

I argue, therefore, that the idea of the envisioned East-West institute should be interpreted in precisely this context of changing ideas about governance in both the United States and the Soviet Union. Soviet modernizers sought to learn from the United States: a good example of this orientation is the influential Gvishiani's volume on management theories, in which he described the history of Russian management only in relation to US developments. In such writings, as well as in the theory of the scientific-technical revolution, many fundamental elements of US modernization theory were received by the Soviets and translated to match their local context. As a result, a shared understanding of the drivers of economic and technoscientific progress, and also of the intellectual and material tools needed to implement this progress, emerged and made IIASA possible.

I do emphasize technoscientific development as the key rationale behind the East-West Institute. Nevertheless, foreign and defense policy mattered too, although these aspects could not be discussed explicitly in the negotiations. Enhancing mutual predictability was a key task of the American rationalization of nuclear strategy. This is supported by the fact that even when Johnson's idea of bridge building faded from the US foreign policy agenda, the project of the East-West Institute was retained. A possible reason for this could be what John Lewis Gaddis described as Nixon and Kissinger's notion of the world as structured by multifaceted powers, which could not be reduced to sovereign territory, the national economy, and weapons systems.[54] Accordingly, the containment strategy was modified to include mutual restraint, coexistence, and cooperation. In the world thus conceived there was a place for the future IIASA.

Cold War Policy Sciences: Constructing Neutrality

A single universal development trajectory, as posited by modernization theory, provided a solid platform from which to launch the idea of the East-West Institute. However, the actual design of the institute was a product of subtle negotiations about which sciences and research themes were appropriate for East-West cooperation, the key requirement being that the selected approaches should not conflict with either capitalist or communist values and governmental agendas. A mission impossible? Not quite. This institutional rapprochement was achieved through, first, organizational design, and, second, a choice of scientific disciplines, member organizations, and individual scientists. In this section I discuss the way

in which certain notions of the political were censored from the agenda of the East-West institute, making way for a particular type of politics, which actually emerged as a result of its design.

As mentioned earlier, the East-West Institute was part of an intense and complex effort to create a new type of organization, able to link scientific research, traditionally undertaken by universities, and governmental policy-making. International organizations were deemed to be particularly suitable for such a purpose. The plans for the East-West Institute, indeed, demonstrate a wish to situate this initiative in a wider context of emerging organizations, including, for instance, the European Institute of Technology, the NATO European Computer Science Institute, the UN Economic Commission for Europe, even the Pugwash initiative for a World Science Center.[55] Consequently, as to the organizational design, there was no need for the founders of the East-West Institute to reinvent the wheel and they did not attempt to. Instead, several existing templates were used.[56]

The blueprint for the institute was prepared by RAND's scientists and, as mentioned earlier, the institute was described on several occasions as "an international RAND." It is quite curious that the fact that RAND was one of the key sites for US military research did not seem to bother the Soviets. Instead, the Soviets understood the RAND model to be a huge advantage. Many sources reveal the awe that RAND inspired in Soviet scholars and policy makers, which testifies to Audra Wolfe's observation about rather isomorphic values espoused by the American and Soviet military-industrial complexes.[57] And indeed, one of the meanings of "the political" referred to closed, military research. Following RAND's example, the East-West Institute allowed the possibility of performing industry-oriented research, but it was noted that research with direct military applications would not be pursued on the premises.

If RAND provided a model for combining fundamental and applied research and linking this research to governmental agendas, other, international organizations were used as templates for designing the form of Cold War cooperation. Here the most important sources of ideas were the European Organization for Nuclear Research (CERN) and the IAEA, established in 1954 and 1957, respectively. Other organizations were considered as strategic partners, such as the International Federation of the Institutes of Perspective Research, which focused on global rather than national issues. During the early stage of negotiations Gvishiani tried to establish a relationship between IIASA and the federation: "We, and first of all, Peccei, decided that it was necessary to consciously support both projects, considering that it was useful to have not one, but several new international organizations existing that engaged with global and universal problems." The Americans, however, did not support this idea of explicit cooperation. Another, similar, initiative formulated in 1966 was Nobel's Symposium,

eventually organized by biochemist Arne Tiselius and Sam Nilsson in 1969.[58] Other organizations were deemed useful for further particulars; for instance, at a later stage, IIASA borrowed a summer school model from the Global Atmospheric Research Program (GARP).[59]

The institute was to be an international, nongovernmental organization or, according to Handler, a "quasigovernmental agency," which never received money directly from the government, with the exception of reimbursements for expenses. Nevertheless, if Western member organizations were academic societies and institutes located at arm's length from the government, the state socialist bloc was, of course, represented by the centrally commanded research institutes. The US member organization was the National Academy of Sciences, a venerable organization created by Congress in 1863. Through its National Research Council (NRC) NAS influenced the US government[60] and, according to Herbert Simon, actively engaged in creating the government's policy agenda.[61]

In turn, the physical location of the institute had to further reinforce the image of political neutrality. The RAND report recommended locating the East-West Institute in a country that did not belong to the NATO or the Warsaw pact, was not only "industrialized" so that it could ensure adequate standards, but also "attractive," that is, centrally located, politically stable, and open to scientists from all regimes. Acknowledging the difficulty of finding a country that would fit all these criteria, Sweden, Austria, and Switzerland were named as candidates, as well as France and Italy. Here it must be added that the number of possible locations, all of them in Europe, later grew to include obviously NATO and not-so-neutral countries such as Britain (the Oxford-Harwell area was proposed) and the Federal Republic of Germany (Munich). It was clear, though, that both the Americans and Soviets preferred Vienna to other proposals.[62] Practicalities were also thought through: such a center would employ a staff of a hundred and fifty to two hundred and cost three to five million USD a year to run, something that was described as a good value because the US contribution was calculated to amount to only a 0.5 percent increase in the annual NSF budget.[63]

Another meaning of "politically neutral" pertained to political ideology. This was a highly complicated issue, resolved, in fact, by employing a new idea that policy sciences were, by their own virtue, exempt from conflicting ideological values, whereas the humanities and social sciences based on qualitative methods were excluded from the envisioned cooperation. The NAS membership could have had some influence on setting IIASA's research agenda in order to exclude social sciences and humanities for the most part. Until the late 1960s NAS was dominated by physical and biological scientists; there were very few psychologists and anthropologists. The first non-natural scientist on the board of the National Research Council, Herbert Simon, claimed that "natural scientists simply were

not sufficiently aware of the social science aspects of policy questions to respond appropriately to them."[64]

Thus it was system-cybernetic policy sciences that came to the fore. For instance, the 1967 RAND report states that there was no Eastern European or Western European operations research, just "operations research," a technique "relatively independent of social structures and national values." The same applied to "mathematical programming," "systems analysis," "program budgeting," and "cost-effectiveness analysis."[65] To get a clearer idea of where to start with the concrete agenda, Raiffa and Bower commissioned the Ford Foundation to survey the existing systems analysis methods from 1968 to 1969. A long list of different general and specific areas was produced.[66] A choice of equally "ideologically neutral" themes was also important, with industrial management, energy production, and distribution deemed suitably neutral, while public order, education, and health services were considered to be more ideologically charged and therefore less suitable for the East-West Institute. Recalling that data gathering had proven to be a reliable vehicle for international cooperation, RAND scientists suggested placing this task high on the institute's agenda.[67]

The choice of leaders cemented the founders' determination to make the East-West Institute an international bastion of policy sciences. When the organization of the East-West Institute was delegated to NAS, it appointed an advisory committee chaired by Kenneth Arrow. This committee included the presidential science advisor Joseph Bower, Carl Kaysen, Tjalling Koopmans, and Howard Raiffa.[68] Then, the guidelines for the search for a director indicated that a candidate must be able to combine the systems analysis imperative of problem solving with theoretical or methodological questions rather than addressing pure theory or methodology.[69] A list of potential candidates for director of the institute included not only the leading scholars in policy sciences, but also individuals associated with the research and development sector; for instance, one of the candidates was Ralph Gomory, the research director at IBM.[70] Thus were listed such luminaries of decision sciences as Richard Cyert, Kenneth Arrow, and Howard Raiffa ("the obvious candidate, but Harvard already has paid for 200% of his time").[71] Further candidates included some prominent representatives of state planning, such as the founding father of the French Commissariat of Plan, Pierre Masse ("too old"), the director of Johnson's the Great Society program Charles Schultze ("would be fantastic"), the pioneers in the mathematical methods of linear programming Tjalling Koopmans and Leontief's pupil Robert Solow ("another star"); both Koopmans and Solow were later awarded the Nobel Prize in economy (1975 and 1987, respectively). The other candidates included RAND scientists and federal budget planners like Charles Zwick, the Keynesian James Tobin, and the Belgian econometrician Jacques Dreze,[72] as well as the pioneer in public management

Arjay Miller of the Stanford Graduate School of Business. It was desired that the director not only have stellar academic credentials, but also sufficient energy to get the institute's administration going.[73] Although the documents predictably did not contain detailed political comments, it was noted that Herbert Simon, also considered a candidate for the director's post, would not be suitable because of his anticommunist views.[74] Later documents contained further names, such as RAND scientist Charles Hitch, and indicated that the search for a director should be extended to "mathematical engineering communities."[75]

In his memo to Henry Kissinger about his meeting with Gvishiani, Bundy described the future IIASA as "an institute of advanced methodological studies," which was concerned with "relatively abstract systems analysis of the sort that the theoretical types in our business schools do."[76] Consultations were arranged with leading American organization scholars, described as the finest minds available. A brainstorming meeting was arranged which included the pioneers of OR and dynamic programming and decision analysts Richard Bellman and C. West Churchman, George Dantzig, Thomas C. Schelling, Ronald Howard of Stanford, as well as Charles Schultze (then at the Brookings Institution), William Gorham (ex-RAND, ex-Great Society), Robert Dorfman, Frank Fisher, economist Roy Radner, and applied mathematician Herbert A. Scarf (ex-RAND), as well as Bundy, Bator, Bower, and Raiffa.[77] The British cybernetician Stafford Beer was listed among those interested in the project.[78] On the agenda of this meeting was the organizational structure and thematic directions of the center. A follow-up memo indicated that "even the Best Kinds" had difficulty in focusing on the question together.[79]

This search for a director of the East-West institute shows clearly that it was not to be a mere puppet in the hands of US and Soviet foreign policy makers, but an institution with an agenda of its own. These and other lineups of the finest minds in policy sciences (all male at that!) are also revealing for including many ex-RAND scientists, as well as the mathematics-oriented Keynesians. Although some of them were experienced Cold War warriors (Bundy, Kaysen), clearly an effort had been made not to include, or at least not at the advanced stages of the negotiations, either conservative neoliberals or Kremlinologists whose work described the Soviet Union as an enemy.[80] Furthermore, the search for a director of the East-West institute clearly also revealed a strong belief that the authority of scientific distinction was able to transcend political rifts. According to Handler, "To be effective you must be trusted. Our ability to hold that public trust derives from, first of all, the scientific distinction of the members of NAS: this is the sine qua non. Without that kind of membership all of the rest becomes useless."[81]

The East-West institute had to be a substantial addition to world science and not just another platform for diplomatic rituals, as many UN agencies notoriously were. This was a struggle, however, because Soviet intentions were often

hard to read. For instance, the Soviet delegation did not show up at a meeting set up to agree on the key functions of the Institute, organized by the University of Sussex, June 16–21, 1968. In addition to political commitment, scholarly commitment was also lacking. Thus in Sussex Harvard economist Robert Dorfman indicated that it would be hard for this center to hire "the very best" because permanently working at IIASA meant emigration and abandoning a normal career path. For this reason visiting positions would work better, and the institute would not be a "great research center with a style and specialty of its own," but rather something resembling the Stanford Center for Advanced Study in the Behavioral Sciences (established in 1954 with the aim of promoting policy-relevant behavioral sciences): "an excellent and stimulating place to go for a couple of years to concentrate on your research in close proximity with other like-minded, first-class men from other places."[82]

In the end it was Howard Raiffa who was appointed director of the future IIASA. Raiffa's role in the professionalization of management studies and the decision sciences was comparable only to the one played by Simon. Born into a New York Jewish family, Raiffa had been contracted by Harvard University to establish the Kennedy School of Government; one of his roles was to make management, a discipline about which, as he wrote in his memoir, he had no clue, more scientific. Another important feature of Raiffa was his moderate political views. Retrospectively described as an arms control scholar, Raiffa was less interested in the laboratory models of game theory than the empirical investigation of observed "real life" decisions. In all, it seemed that under Raiffa's guidance the East-West Institute would find a way to begin sailing the rough waters of the Cold War.

All of these factors—the internal composition of NAS, the rise of decision sciences and systems analysis, as well as the Soviet belief in the political neutrality of mathematics-based approaches and cybernetics—contributed to narrowing down the disciplinary focus of the East-West Institute.[83] It must be added, however, that both sides showed some flexibility. For instance, the process of negotiations revealed that the Soviets could be less stubborn and unanimous than the Americans had anticipated. Describing his meeting with Gvishiani (who was considerably late) in June 1972, Raiffa recalled having "correctly anticipated" the Soviets' unwillingness to include projects on welfare, drugs, youth alienation, and police, but also nutrition and transplants in IIASA's agenda. However, Raiffa "was surprised" by the Soviets' positive response and even "enthusiasm" for research into fire protection, urban renewal, alcoholism, and genetics. In contrast, the Soviets pressured the Westerners to focus on large-scale engineering projects, like canals and airports—indeed, the subjects that were included in the RAND proposal of 1967, but later abandoned by the Americans in favor of smaller scale management programs.[84] Nevertheless, the French pushed urban planning projects, be-

ing quite candid (to Raiffa) that this was a way to introduce the social issues that were otherwise avoided by the Soviets.[85] Realizing that there was less internal consensus in the Soviet Union than previously thought, Raiffa chose to "be aware of sensitive areas" and "keep pushing and probing," so that the Soviets eventually agreed to include urban studies in the institute's research agenda.[86]

Meanwhile for the Soviets, it seems, the key issue was to ensure that the future IIASA would focus on the use of computers and mathematical modeling to solve the problems of management and control. The Soviet position was developed at the GKNT, outlining three large areas: "a) the problems of general theory and methodology of systems research as applied to the creation of structures and forms of organizational control systems for large industrial enterprises; b) the economic aspects of major technological projects; c) the problems of environmental pollution and optimal use of natural resources, d) the problems of health system organization and the application of systems analysis in medicine and biology."[87] This shows clearly that at this stage the Soviets were quite averse to including system-cybernetic governance of wider aspects of society in the envisioned IIASA, although by that time system-cybernetic governmental discourse was well-established in Soviet public discourse inside of the country.

Although the Soviets and Americans reached a consensus to include both nature and technology as sources of problems, not all problematic issues could be addressed. Such were any issues associated with the nuclear sector. Accordingly, the negotiators were particularly careful not to associate with disarmament activists (or any activists at all), especially the Pugwash movement. A good illustration of this position is the correspondence between Leontief and Bundy. In 1969 Leontief wrote to Bundy inquiring about whether the planned institute would include "technical economics." It appeared that Leontief was not included in the pre-IIASA talks, although, as I have mentioned earlier, he had fostered a similar idea since 1966. Bundy thus assured Leontief that this institute "would certainly include technical economics," but also warned about the politically sensitive character of this project, writing that

> we seem to be in a rather delicate period in the wider business of Soviet-American relations. And since I am dealing with fairly senior Soviet officials (albeit in a 'non-governmental' way), I think it might be just as well for you not to raise the question as a member of Pugwash group.[88]

In 1971 the charter of the East-West institute, now officially called IIASA, was drafted. The chosen location was Laxenburg, Vienna, because of a generous offer by the Austrian chancellor Bruno Kreisky and because the Soviets preferred Vienna. By June 1972 the French suggestion to house the institute at Fontainebleau, near INSEAD (Toulouse was also suggested), was dropped on the grounds

FIGURE 1. Signing the IIASA charter, London, UK, 1972. From left to right: Dr. Philip Handler, US National Academy of Sciences, Dr. Peter Warren, UK Cabinet Office, Lord Solly Zuckerman, UK Cabinet Office, Dr. Dzhermen Gvishiani, USSR State Committee for Science and Technology, Dr. Andrei Bykov, USSR State Committee for Science and Technology. Courtesy of IIASA.

that the French government could not ensure either full funding for the venue or a beneficial tax regime.[89] Up to the very last minute, working with the Soviets was not easy: Raiffa traveled to Moscow to discuss interim arrangements and the charter, only to find himself unable to get through the GKNT's secretary to see Gvishiani and to discover that neither Letov nor Bykov knew about his arrival or plans.[90] Nevertheless, when they finally met, Raiffa found Gvishiani "amicable and constructive" as always. In contrast, things went smoothly in Vienna thanks to the Austrian Ambassador to the Soviet Union, Walter Wodak, who mediated effectively between IIASA negotiators and Kreisky. "The Viennese," wrote Raiffa, were "gracious hosts" and "they really want IIASA."[91]

The IIASA charter was signed by the representatives of scholarly organizations from the United States, the Soviet Union, the United Kingdom, Canada, Czechoslovakia, France, the GDR and the FRG, Japan, Bulgaria, Italy, and Poland in London on October 4, 1972.[92] The United States and the Soviet Union fulfilled their commitment to support the institute with about one million USD each annually; the remaining members contributed the same amount together.[93] IIASA, in this way, was a truly exceptional case of Soviet international cooperation, because in no other major international organization, be it the UN, UNESCO, WHO, or

IAEA, did the Soviet Union match the United States financially (the Soviets usually paid about half of the US contribution).[94]

The newly born IIASA was both a symptom and a cause of the changing postwar governmentality. Following Gaddis, it does seem that the birth of IIASA was enabled by the US foreign policy of asymmetric containment, demilitarization of foreign policy, and desecuritization of ideology, propagated by Kennedy and Johnson. The idea of the institute also fitted well into the 1960s' concern with scientific expertise and policy sciences. Although some argued that the idea of IIASA was implemented because it became Bundy's pet project and "Bundy mattered,"[95] the institutional explanation should not be discarded. IIASA was an institutional response to the emerging new worldview of multifaceted power and multilateral relations. Furthermore, there was domestic interest, arguably both in the United States and the Soviet Union: in the following chapters I show that the negotiations around the establishment of IIASA served as a vehicle for consolidating the American policy and planning sciences as they were embedded in the ex-RAND, ex-Great Society community of scholars. For the Soviets, IIASA was part of the ongoing search for a way to advance the computer industry.

In the 1960s the governments in the East and West reformulated their national agendas to incorporate increasingly complex issues that could not be addressed within the boundaries of one state or by one government alone. As I have argued earlier, both intellectuals and policy makers argued that the scientific-technical revolution was launching new paths of development in "advanced industrial countries," so there was an acute understanding that new ways to foresee and control technoscientific, economic, and social change were needed. Furthermore, the Cold War agenda was part of this governmental concern as well: a struggle for world hegemony meant that national issues were fought on a global scale, but the world was also redefined as beset by such environmental and infrastructural challenges with which no single government could cope alone.[96] Both the scientific-technical revolution and the idea of the imminent coming of postindustrial society formed an intellectual base for Eastern and Western regimes to develop new contact areas, declaring them immune to ideological contestation. It is in these contact areas that shared, transnational goals and settings for building mutual predictability were conceived.

One outcome of this was a stark and even ruthless effort to depoliticize systems analysis. This is well demonstrated by some important omissions of both disciplinary fields and individual scholars. The absence of Leontief (a member of the Pugwash movement) and the anti-Soviet Herbert Simon—but also Stafford Beer—are telling here. From 1970 Beer was involved in applying the systems

approach in practice to run the Chilean economy through the Project Cybersyn.[97] Although mentioned as a potentially interesting figure, Beer was not included in the negotiations. It has to be added that once diplomatic issues were resolved and IIASA was formally established, both Leontief and Beer cooperated with the institute. However, producing a politically neutral systems approach was an ongoing process, and different strategies of de-politicization were used at different organizational levels. The subsequent chapters detail how, through particular networks, organizational culture, and research projects, the systems approach redefined the Cold War world.