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Elisabeth Epping

Exploring the Institutionalisation of Science Diplomacy

A Comparison of German and Swiss Science and Innovation Centres

Nomos

ifa Institut für Auslandsbeziehungen

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To my parents, and to Jochen, Johann Anton and Hugo

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Steinfurt, May 2022 *Elisabeth Epping*

Table of Contents

List of Figures

List of Tables

Abstract

This thesis explains and investigates the development and the institutionalisation of *Science and Innovation Centres* (SICs) as being distinct instruments of science diplomacy. SICs are a unique and underexplored instrument in the science diplomacy toolbox, and they are increasingly being adopted by highly innovative countries. This study responds to a growing interest in the field. Science diplomacy is commonly understood as a distinct governmental approach that mobilises science for wider foreign policy goals, such as improving international relations. However, science diplomacy discourse is characterised by a weak empirical basis and driven by normative perspectives. This study responds to these shortcomings and aims to lift the smokescreen of science diplomacy by providing an insight into its governance, while also establishing a distinctly actor-centred perspective. In order to achieve this, two distinct SICs, Germany's *Deutsche Wissenschafts- und Innovationshäuser* (DWIH) and Switzerland's *Swissnex,* are closely analysed in an original comparative and longitudinal study. While SICs are just one instrument in the governmental toolbox for promoting international collaboration and competition, they are distinct due to their holistic set-up and their role as a nucleus for the wider research and innovation system they represent. Moreover, SICs appear to have the potential to create a significant impact, despite their limited financial resources.

This thesis adopts a historical development perspective to outline how these two SICs were designed as well as their gradual development and institutionalisation. The thesis further probes why actors participate in SICs by unpacking their differing rationales, developing a distinctly actor-centred perspective on science diplomacy. This study has been designed in an inductive and exploratory way to account for the novelty of the topic; the research findings are based on an analysis of 41 interviews and a substantial collection of documents. The study finds evidence that SICs developed as a response to wider societal trends, although these trends differed for the two case studies. Moreover, the development of SICs has been characterised by aspects such as timing, contingency and critical junctures. SICs are inextricably connected to their national contexts and mirror distinct system characteristics, such as governance arrangements or degree of actor involvement. These aspects were also seen as explaining

the exact shape that SICs take. Furthermore, this study finds evidence of an appropriation of SICs by key actors, in line with their organisational interests. In the case of the DWIH, this impacted and even limited its (potential) design and ways of operating. However, the analysis of SICs' appropriation also revealed a distinct sense of collectivity, which developed among actors in the national research and innovation ecosystem due to this joint instrument. The research findings reaffirm that science diplomacy is clearly driven by national interests, while further highlighting that the notion of science diplomacy and its governance (actors, rationales and instruments) can only be fully understood by analysing the national context.

Abbreviations

AA	Auswärtiges Amt (Federal Foreign Office)
AAAS	American Association for the Advancement of Science
AiF	Arbeitsgemeinschaft industrieller Forschungsvereinigungen (The German Federation of Industrial Research Associations)
AvH	Alexander von Humboldt Stiftung (Alexander von Humboldt Foundation)
AHK	Außenhandelskammer (Chamber of Industry and Commerce)
AKBP	Auswärtige Kultur- und Bildungspolitik (Cultural Relations and Education Policy)
AWP	Außenwissenschaftspolitik (Research and Academic Relations Policy)
BDI	Bundesverband der deutschen Industrie e.V. (The Federation of German Industries)
BFI	Bildung, Forschung und Innovation (Education, Research and Innovation)
BMBF	Bundesministerium für Bildung und Forschung (Federal Ministry for Education and Research)
BMWi	Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy)
BRH	Bundesrechnungshof (Federal Audit Office)
CDU	Christlich Demokratische Union Deutschland (Christian Democratic Party)
CERN	European Organization for Nuclear Research
CNRS	National Centre for Scientific Research
DAAD	Deutscher Akademischer Austauschdienst (German Academic Exchange Service)
DFG	Deutsche Forschungsgemeinschaft (German Research Foundation)
DIHK	Deutscher Industrie- und Handelskammertag e. V. (Association of German Chambers of Industry and Commerce)
DWIH	Deutsche Wissenschafts- und Innovationshäuser /Deutsches Wissenschafts- und Innovationshaus (German Centres for Research and Innovation)
EFK	Eidgenössische Finanzkontrolle (Swiss Federal Audit Office)

ETH	Eidgenössische Technische Hochschule (Federal Institutes of Technology)
FDFA	Federal Department of Foreign Affairs (Eidgenössisches Departement für auswärtige Angelegenheiten)
FhG	Fraunhofer-Gesellschaft (Fraunhofer Association)
FIGF	Forschungs- und Innovationsförderungsgesetz (Swiss Research and Innovation Law)
HGF	Helmholtz-Gemeinschaft deutscher Forschungszentren (Helmholtz Association of German Research Centres)
HRK	Hochschulrektorenkonferenz (German Rectors' Conference)
ICDK	Innovation Centre Denmark
MPG	Max-Planck-Gesellschaft (Max Planck Society)
SERI	State Secretariat for Education, Research and Innovation (Staatssekretariat für Bildung, Forschung und Innovation)
SESAME	Synchrotron-light for Experimental Science and Applications in the Middle East
SIC	Science and Innovation Centre
SIN	Science and Innovation Network
SNF	Schweizer Nationalfonds (Swiss National Science Foundation)
SPD	Sozialdemokratische Partei Deutschlands (Social Democratic Party)
TNB	Transnationale Bildung (Transnational Education)
RPA	Rechnungsprüfungsausschuss (Budget Committee)
RPM	Resource Pooling Model
UK	United Kingdom
USA	United States of America
WR	Wissenschaftsrat (German Council of Science and Humanities)