Vladimir Kolosov Jacobo García-Álvarez Michael Heffernan Bruno Schelhaas *Editors*

A Geographical Century

Essays for the Centenary of the International Geographical Union





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Editors

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ISBN 978-3-031-05418-1 ISBN 978-3-031-05419-8 (eBook) https://doi.org/10.1007/978-3-031-05419-8

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Preface

It is a unique privilege to be so intimately involved with a distinguished international organization such as the International Geographical Union (IGU) as it celebrates one hundred years since its formal establishment. The present volume reflects on this illustrious history in great depth and detail and, in doing so, offers an important viewpoint at a critical juncture—not only on the organization itself, but on the nature and development of the discipline of geography in general. So much has changed in a 100-year period of history that has been punctuated by the cataclysmic World War II, countless national and regional conflicts, political revolutions, sundry economic disasters and stock market crashes—and now even a global pandemic that has taken its toll, one way or the other, on just about everybody on the planet. This has indeed been a tumultuous period. Despite such massive challenges, since the establishment of a scientific union for Geography in 1922 and its acceptance as a member of the recently hatched International Research Council—itself a product of negotiations that took place at the end of the First World War—our beloved discipline has flourished and continues to gain in significance.

Over above the turbulent political and economic events that have characterized the last one hundred years, we now find ourselves facing problems of titanic proportions that have arisen due to the unsustainable utilization of the earth's rich but limited resources expressed. What we now refer to as the climate emergency is the most obvious manifestation of a wider and continually evolving human—environmental crisis. In straddling the natural and social sciences and humanities, geography aims to integrate the study of both natural and human realms and their interactions, focusing on space, places, and regions, addressing and questioning both short-term and longer-term processes and their resultant patterns. In this sense, geography is a science that is critical to understanding the processes, patterns, and trajectories of our future Earth, an understanding that is vital if we are to give future generations any chance at all of an equitable and sustainable future. As an international organization, the IGU oversees a discipline attempting to grapple with some very big issues indeed. It is no mean responsibility.

As this volume surely demonstrates, the IGU has evolved to be a diverse, even heterogeneous, body but one that has consistently demonstrated its effectiveness as a platform for synthesis. It should, therefore, continue to prove to be a highly valued source of intellectual reinforcement for the discipline. One hundred years down the line, we can of course pat ourselves

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on the back for presiding over an increasingly dynamic organization, but the nature and scale of the current challenges confronting humankind suggests that this is no time to rest on our laurels—there is much work ahead. I express the sincere hope that the IGU President in 2122 will be able to look back with pride on what will then be our bicentennial and feel a sense of satisfaction that this work was indeed well done!

Cape Town, South Africa

Michael E. Meadows President: International Geographical Union 2020–2024

Acknowledgements

This volume is the result lengthy discussions dating back to February 2016 when an initial meeting was organized in Leipzig involving members of the IGU Centennial and Sesquicentennial Task Force, the IGU Commission on the History of Geography, and the Leibniz Institute for Regional Geography. The general editors wish to thank all those organizations and individuals—especially the section editors and chapter authors—who have generously supported this project, many from positions of responsibility in IGU executive bodies and commissions. Special thanks are extended to past and present members of the Commission on the History of Geography who have been actively involved in this project from the beginning; to Marie-Vic Ozouf-Marignier and Nicolas Verdier for invaluable advice and hospitality; and to Philip Jagessar for editorial assistance.

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Introduction 1

Vladimir Kolosov, Jacobo García-Álvarez, Michael Heffernan, and Bruno Schelhaas

The International Geographical Union (IGU) is the only global organisation representing the entire discipline of Geography. The IGU brings together geographers from more than 100 countries, as scholars, teachers, and practitioners. Formally established in Brussels under the auspices of the International Research Council in 1922, the IGU is one of the oldest scientific associations in the world, though it was preceded by a sequence of ten International Geographical Congresses (IGCs), inaugurated in Antwerp in 1871.

In July 2022, the IGU will celebrate its centenary at an extraordinary congress in Paris. This provides an opportunity for the global community of geographers to reflect on the internationalisation of Geography and the IGU's role in

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fostering this process and the wider cause of scientific international cooperation. The internationalisation of Geography, initiated more than a century before the current, turbulent era of globalisation, has been a remarkably resilient and creative endeavour that has overcome many reversals and diversions during two World Wars, severe economic depressions, Cold War military and geopolitical conflicts, the imposition and collapse of dictatorships, and the end of communism in most parts of the world.

As the IGU's history makes clear, internationalism and the interdisciplinarity are mutually sustaining aspirations. Geography's internationalism has always been closely associated with the discipline's productive diversity and inherent interdisciplinary character. Inspired by traditions of teaching and research inherited from the natural sciences, the social sciences, and the humanities, Geography's internationalisation, revealed by the expanding range and quality of collaborations between geographers in different parts, facilitated by the IGU, has greatly expanded the discipline's conceptual ambition and empirical evidence.

Like most sciences, Geography has continually evolved over the past century. The pace of change has accelerated in recent decades in response to rapidly changing economic, social, political and above all environmental challenges. New research directions have emerged across the discipline, enabled by the rapid development of new information and communication technologies and new

1

methods and theoretical approaches. Modern, twenty-first century Geography, now more diverse and interdisciplinary than ever, is perfectly attuned to a world of complexity. It provides a unique disciplinary perspective on the most difficult global problems, from climate change to the diffusion of pandemics. As an international educational science, modern Geography also deepens popular understanding of the nature-society interface, the widening gap between the global North and global South, the growing geographical inequalities that impede the economic, social, and cultural prosperity within regions and nation-states, and the processes of social fragmentation and polarisation that have arisen in recent years.

The IGU has been critically important to Geography's development as an international, interdisciplinary project. The IGU's many activities are carried out by 43 Commissions, some associated with specific sub-disciplines such as Geomorphology and Political Geography, others organised regionally or thematically such as those concerned with Coastal Systems, Cold and High Latitude Regions, Geographical Education, the Mediterranean Basin, Latin America, and Africa. Each IGU Commission is itself a global association with memberships that range from a few hundred to several thousand.

This volume of newly commissioned essays is not the first to reflect on the IGU's history and significance. Two important volumes reviewed aspects of the IGU's history and current situation in the early 1970s and mid-1990s. The first volume, published to mark the centenary of the first IGC and the 50th anniversary of the IGU in 1972, was entrusted by the IGU's Executive Committee to Philippe Pinchemel, the founding chair of the IGU Commission on the History of Geographical Thought (renamed in 2008 as the Commission on the History of Geography). The volume focused mainly on the history of the IGCs, reviewing in six chapters, co-written by no fewer 15 authors, the organisation and leading participants at these events, as well as their role in the development of different branches of geographical inquiry (Union Géographique Internationale 1972).

The second volume, published as the IGU prepared to celebrate its 75th anniversary in 1997, was edited by Marie-Claire Robic, Anne-Marie Briend and Mechtild Rössler. It was written mostly by five researchers belonging to, or associated with, the EHGO team at CNRS-Université Paris I created by Philippe Pinchemel and directed at that time by Marie-Claire Robic. Organised into five sections and 18 chapters, Géographes face au monde was the product of thorough and systematic research on the history and the development of IGU after World War Two, and was illustrated with dozens of maps, statistical tables, and photographs. The editors and authors made use of an extensive bibliography of published work in the history of science and science and technology studies. The volume also included some of the first essays to make systematic use of previously unknown archival documentation, complemented by personal testimonies and recollections from five prominent geographers (Robic et al. 1996).

It is not our intention to replicate, challenge or replace these outstanding commentaries, both of which contain richly diverse and carefully researched essays that will remain fundamental works of reference. That said, a great deal of new unpublished documentation on the IGU's history has emerged in the past 25 years, including congress proceedings, excursion guides, collected volumes by commissions and national committees, newsletters, journals, reports, minutes, keynote lectures and presented papers, as well as unpublished correspondence. These resources, partially reviewed in the substantial body of new published work since 1996, provides an opportunity to reconsider the history of the IGU as it marks its centenary and to reflect on its role within the discipline over an entire century.

The story of the IGU's archival records, recounted in some of the essays in this volume, is an interesting commentary on the complex process of Geography's internationalisation since 1922 (see also Hodder et al. 2021). Like many international organisations, the IGU has never had a permanent office. The organisation's administration, and associated archives, have continually

moved from place to place, following each newly elected Secretary, though some IGU documents have been purloined for more sinister political reasons, notably during the German occupation of Paris in World War Two. This constant mobility prevented any systematic attempt to catalogue the collection, or even to preserve the documentary record, until 1982 when attempts were made to establish a more professional archive of materials covering the years from 1956 onwards (Schelhaas and Pietsch 2020). The archive's mobility did not end there, however, as documents were relocated to London and then Rome before finally moving to their permanent home at the Leibniz Institute for Regional Geography in Leipzig where they are now available for consultation by any interested scholar.1

Geoffrey Martin, a renowned US-based historian of Geography, established the first catalogue of the IGU archives in 2002. He gathered together 214 boxes of documents and developed a useful organising structure for the collection based on twelve series. Many of these documents were derived from the offices of IGU Secretaries and Presidents. The material focuses mainly on the Executive Committee, IGCs, member countries and commissions. Besides these written sources, the IGU archives also contains visual materials, including a collection of videos, the 'Dialogue Project', that features interviews with leading twentieth century geographers. Many of these are available online on YouTube² and the website of University College Dublin.³ The IGU is always interested in receiving new documents related to its history in any format-paper, digital, or audio-visual. Several essays in this volume, especially in Part One, draw on materials from the IGU archive.

This new volume of essays is divided into four parts, in an attempt to provide both chronological and thematic coherence. The six chapters in Part One, edited by Federico Ferretti, provide a historical perspective focusing on the evolution of Geography as an international science before and after the foundation of the IGU in 1922. The first two chapters, by Michael Heffernan and Bruno Schelhaas, provide new accounts of Geography's institutional internationalisation, focusing on the IGCs, the creation and early history of the IGU, and its relations with other organisations. Both chapters make extensive use of the IGU's archives. The next four chapters explore specific historical and geographical themes within this broad context. Based on the experiences of geographers in the USSR, China and Poland, Vladimir Kolosov, Marek Więckowski, Debin Du, and Xionghe Qin consider how Geography's internationalisation was simultaneously challenged and facilitated by the geopolitical divisions of the Cold War within socialist countries, a story in which the IGU played a fascinating role. In their chapter, Trevor Barnes and Michael Roche provide a critical commentary on the circulation and dissemination of geographical ideas, especially mathematically based theories and concepts associated with the so-called 'quantitative revolution', emphasising once again the importance of the IGU as a forum for international exchange. In the final two chapters in this Part, Heike Jöns and Joos Droogleever Fortuijn explore the complex meaning of scientific internationalism, drawing on recent research in science and technology studies. These two chapters provide detailed, extensively illustrated analyses of recent IGCs and the structures, commissions, and personalities that have shaped the values and practices of the IGU in the post-Cold War era.

The five chapters in Part Two, edited by Marcella Schmidt di Friedberg, address some of the current challenges facing the international community of geographers. The authors of these chapters consider how the IGU has responded to these challenges and what further actions might be necessary in the future. The impact of the Internet, information technologies and open

¹ See https://igu-online.org/igu-archives/. For more information, please contact Bruno Schelhaas, the IGU archivist, at archiv@leibniz-ifl.de.

² https://www.youtube.com/channel/UC1WzSi02jYP3Qg jseHxKB3g and https://www.youtube.com/channel/ UCH2zyPfp_AaPpxZFJfX62BA.

³ https://www.ucd.ie/geography/research/lifeexperienceas catalystforcross-disciplinarycommunication/.

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access journals is addressed in the first chapter by Denise Pumain and Christine Kosmopoulos. In the second chapter, Rindra Raharinhjanahary, Nathalie Lemarchand and Louis Dupont discuss the importance of linguistic diversity in the creation and dissemination of geographical knowledge in a context where English has become the globally hegemonic form of scientific communication. The third chapter, by Rafael de Miguel González and Karl Donert, is a critical overview of the past, present, and future of international geographical education, focusing on the importance of the IGU and its connections with UNESCO and other educational agencies. The fourth chapter, by Pascal Clerc and André Reyes Novaes, provides a novel intellectual history of the most fundamental of geographical divisions, between the 'global South' and the 'global North', which has shaped the development of the modern discipline of Geography, as well as the policies and practices of the IGU. In the fifth chapter, Mireia Baylina, Maria Dolors García-Ramón and Janice Monk, chart the interwoven histories of feminism and internationalism in modern Geography, emphasising the role of the IGU's Commission on Gender and Geography in promoting women's voices in the discipline across all parts of the world and as an institutional space in which previously overlooked questions and perspectives can be formulated and debated.

The five chapters in Part Three, edited by Alexander Murphy and Michael Meadows, offer a more prospective approach and reflect on the twenty-first century challenges confronting international Geography and the IGU in particular. This Part considers Geography's capacity as a 'bridging discipline' between the natural, social and human sciences, and its potential as an integrative, interdisciplinary project. This theme is explored with reference to the human-environmental problems of the Anthropocene in the first chapter, by Ruishan Chen, Annah Zhu, Yingjie Li, Pengfei Li, Chao Ye and Michael Meadows. In the second chapter, Benno Werlen demonstrates how the International Year of

Global Understanding, an IGU contribution to the UNESCO International Years programme initiated in 2016, promises a new geographical paradigm and worldview for the twenty-first century. The final three chapters review the potential contribution of Geography and IGU for the analysis and resolution of some of the main questions relating to environmental and territorial sustainability, discussed by Jorge Olcina; the information society, analysed by Michael Goodchild; and a range of social, demographic educational questions considered Alexander Murphy and Virginie Mamadouh. As the title of this Part suggests, these chapters consider Geography's potential as a 'dream discipline', the 'science of the twenty-first century', that can make valuable contributions to the challenges of the present and offer a vision of a better and more secure world. The volume closes with a critical concluding essay by IGU Past President Ronald Abler.

This volume includes contributions from 35 authors based in 16 countries from all regions of the world. They include physical geographers, human geographers, and specialists in Geographical Information Science. As such, the volume mirrors the richness and diversity of contemporary international geographical inquiry. We hope these essays will be of interest to all those concerned with the past, present, and future of the IGU and of international Geography.

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Part I

Geography as International Science: Historical Perspectives on the IGU



Internationalising Geography, 1871–1945

Michael Heffernan

Abstract

This chapter provides a critical commentary on attempts to internationalise the discipline of Geography before and after the establishment of the International Geographical Union in 1922. Drawing on previously unused archives, the chapter analyses how a liberal geographical internationalism was created and performed at ten International Geographical Congresses, from Antwerp in 1871 to Rome in 1913, in an ultimately unsuccessful attempt to challenge the intellectual influence of nationalism and imperialism. The early history of the International Geographical Union and the controversies associated with the International Geographical Congresses in Cairo (1925), Cambridge (1928), Paris (1931), Warsaw (1934) and Amsterdam (1938), discussed in the second and third sections of the chapter, illustrate how Geography's fragile internationalism was repeatedly compromised through the interwar period.

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Keywords

Internationalism · History of Geography · International Geographical Congresses/Union · Late nineteenth and early twentieth centuries

2.1 Introduction

Science is essentially international, and every worker finds, from time to time, the need of freeing himself from the intellectual preoccupations of his fellow-countrymen. This is especially the case with geography, which, of all the branches of knowledge, requires most to be studied from the standpoint of a citizen of the world.

This quotation, from the personal recollections of British geographer Charles Arden-Close (1947, 144), expressed a widely-shared view about Geography's international affinities after World War Two. Geography's internationalism, measured by the discipline's enthusiasm for international congresses, organisations and research projects, waxed and waned in the decades before Close wrote these words, in productive tension with the competing ideologies of nationalism and imperialism that exerted more obvious and extensively researched influence (Bell et al. 1995; Godlewska and Smith 1995; Driver 2001). This chapter provides a brief history of Geography's internationalism from the 1870s to the 1940s in the belief that the discipline's international future can only be assured by a critical engagement with its contested international past.

2.2 Internationalism Performed: International Geographical Congresses, 1871–1913

Geography was one of the first sciences to embrace the spirit of internationalism, barely a generation after the first geographical societies were established in Paris (1821), Berlin (1828) and London (1830). The ten International Geographical Congresses (IGCs) organised between 1871 and 1913 reflected a growing enthusiasm for international scientific conferences whose number increased from 40 in the 1870s to 200 by the 1900s (Table 2.1; Feuerhahn and Rabault-Feuerhahn 2010; Fox 2016, 19; Rasmussen 1990; Robic 2010, 2013; Schroeder-Gudehus 1990).

These early IGCs attracted between c. 400 and c. 1500 delegates, the latter figure reached only at the London and Berlin congresses in 1895 and 1899. The first IGC, organised in Antwerp seven months after the Franco-Prussian war, provided a geopolitical template for subsequent congresses by emphasising how international scientific collaboration could improve otherwise tense relations between rival nation-states. International collaboration was never the unchallenged motivation, however, and most IGCs reflected local and national ambitions, often forcefully expressed during the debates at every congress about the location of the next meeting.

Most early IGCs were organised by geographical societies whose number, size and wealth increased exponentially in the late nineteenth century. Surviving photographs suggest IGCs delegates were mainly though not exclusively male (Robic and Rössler 1996b). Financial support was often provided by the municipal authorities of host cities, anxious to associate themselves with prestigious international conferences. The IGCs in Antwerp (1871), Berne (1891), and Geneva (1908) benefitted from a conviction, equally prevalent in Belgium and Switzerland, that small, politically neutral countries were the natural

custodians of modern internationalism (Herren 2017; Herren and Zala 2002; Laqua 2013). These three IGCs attracted fewer than 600 delegates each but were among the most international in terms of nationalities represented.

Delegates at the 1871 Antwerp IGC were invited to consider 87 questions ranging from the general ('What are the best ways of teaching geography?') to the highly specific ('What would be the consequences of creating a man-made inland sea in the northern Sahara?') (Briend 1996, pls I-VIII). Subsequent IGCs adopted a similar approach, with questions linked to continually changing congress themes. The c. 50 questions circulated for the 1881 Venice IGC included inquiries about the geography of nervous ailments and the nature of geographical causality, the latter prompted by post-Darwinian debates about the influence of the physical environment on human activity (Arden-Close 1947, 151).

As the IGC series became better established, local organising committees arranged increasingly elaborate social events, partly to encourage media interest. The tradition of inviting heads of state, royal patrons and aristocratic grandees to gala events began at the 1881 Venice IGC where the opening ceremony was attended by King Umberto I and Queen Consort Margherita. At the 1889 Paris IGC, delegates were entertained at the private residence of Prince Roland Bonaparte, traveller, anthropologist and photographer whose fabulous wealth derived not from his famous family but from his wife's controlling stake in the Monte Carlo casinos. For the 1895 London IGC, Queen Victoria and the Prince of Wales were the official patrons and the Duke of York (later George V) presided at the opening ceremony. Prince Albrecht of Prussia, cousin of Kaiser Wilhelm II, performed a similar role at the 1899 Berlin IGC.

Several IGCs were associated with public commemorations, anniversaries and urban expositions. The 1871 Antwerp IGC, the brain-child of Charles Ruelens, keeper of the Royal Library in Brussels, was part of a campaign to promote the importance of Flanders in the history of cartography which focused initially on two proposals, conceived separately in 1869, to erect statues of Abraham Ortelius in his native

¹The proceedings of the IGCs discussed in this chapter were published in various formats and with titles too lengthy to repeat. Bibliographical details are listed in Briend 1996, 321-323.

Table 2.1 International Geographical Congresses 1871–1938. The varying durations reflected differing approaches to field excursions, some of which took place during the proceedings, especially in earlier congresses, though most were arranged afterwards and are excluded from these dates

Year	Host city
1871 (14–22 August)	Antwerp
1875 (1–11 August)	Paris
1881 (15–22 September)	Venice
1889 (5–10 August)	Paris
1891 (10–14 August)	Berne
1895 (26 July-3 August)	London
1899 (28 September–4 October)	Berlin
1904 (8–22 September)	Washington DC, and other US cities
1908 (27 July-6 August)	Geneva
1913 (27 March-4 April)	Rome
1925 (1–9 April)	Cairo
1928 (18–25 July)	Cambridge
1931 (16–24 September)	Paris
1934 (23–31 August)	Warsaw
1938 (18–28 July)	Amsterdam

Antwerp and Gerardus Mercator at his birthplace in nearby Rupelmonde (Shimazu 2015).

The 1889 Paris IGC, overseen by Ferdinand de Lesseps, architect of the Suez Canal and president of the Paris Geographical Society (SGP), was one of hundreds of international scientific conferences that took place in the French capital during the Exposition Universelle, a six-month celebration of the French Revolution's centenary that attracted more than 32 million visitors (Rasmussen 1989). The Paris Exposition 'served as an unfailing source of amusement and recreation' for the 530 IGC delegates whose programme included visits to exhibitions of Bonaparte's disturbing photographs of indigenous peoples (Morgan 1889, 552).

Delegates at the 1904 IGC in the United States assembled at Hubbard Memorial Hall in Washington DC, the National Geographic Society's newly-built headquarters, before travelling by chartered train to Philadelphia, New York, Niagara Falls, Chicago, and Saint Louis, where their programme was absorbed into the International Congress of Arts and Sciences, the intellectual centrepiece of the 1904 World's Fair to mark the centenary of the Louisiana Purchase. The 1904 IGC was intended to symbolise the westward advance of the American frontier and some delegates continued their journey to Santa

Fe, the Grand Canyon, the Rocky Mountains, San Francisco and Mexico.

Most IGCs made their own contributions to urban expositions in the form of public exhibitions of maps, globes and instruments of survey and exploration. The tradition began at the 1871 Antwerp IGC with a modest exhibition celebrating the Flemish origins of modern cartography (Briend 1996, pl. III). For the 1875 Paris IGC, a more ambitious and politically contentious exhibition was organised in the Palais de l'Industrie, created for the 1855 Exposition Universelle. This featured hundreds of 'objects connected... with the science and practice of Geography' supplied by commercial and educational companies in the hope of winning official prizes.² Pride of place was given to a huge wall-map of France, roughly 10 m square, on which the 'lost provinces' of Alsace-Lorraine, ceded to the new German Empire four years earlier, were defiantly represented as part of 'la mère patrie', albeit with a dark shaded border (Dunlop 2015, 152–3, pl. 8).

²Quoted in a parliamentary question by Richard Monckton Milnes, Baron Houghton, to Foreign Secretary Edward Stanley, Earl of Derby, asking the British government to fund a representative to take charge of the British exhibits in Paris. See *Hansard (House of Lords)* 28th May 1875, vol. 224, cc 1005-7.

The 1875 map exhibition opened two weeks before the IGC and continued for a month afterwards, a tactic repeated at the 1881 Venice IGC. The success of these exhibitions, which were widely reported in newspapers, prompted mutterings of discontent that the scientific work of both congresses had been overshadowed by commercial ventures (Arden-Close 1947, 151). In response to these concerns, the cartographic exhibitions at the 1889 Paris IGC were self-consciously educational and scientific. Historical maps from French and European libraries were displayed in the Palais des Arts Libéraux, one of the cavernous Exposition buildings, alongside richly coloured demographic and medical maps of France prepared by Victor Turquan, the new head of the French Statistical Bureau.

The desire to incorporate international scientific conferences into urban expositions partly explains the irregular sequence of IGCs before 1914. The 1891 Berne IGC took place just two years after the 1889 Paris IGC under pressure from the Swiss government, determined to attract international conferences to its federal capital during the 700th anniversary celebrations of its foundation. Conversely, the 1913 Rome IGC, originally scheduled to take place during the city's Esposizione Internazionale d'Arte in 1911 to mark the 50th anniversary of Italian unification, was repeatedly postponed, thereby undermining the original rationale to locate the congress in the Italian capital.

Only 400 delegates attended the 1913 congress, confirming a growing scepticism among serious-minded university geographers that IGCs prioritised social events and commercial ventures over scientific discussion. Some argued that congresses should avoid large capital cities where social and cultural distractions were many and varied. Recalling the 1913 IGC, Close noted that 'even those who knew Rome fairly well could not resist the temptation of prowling about the city when they should have been attending to the affairs of the Congress' (Arden-Close 1947, 169).

The failure of early IGCs to convert highsounding resolutions into sustainable long-term projects prompted an important organisational change at the 1891 Berne IGC when commissions were created to develop international research projects between congresses (Collignon 1996, 117). One of the most important commissions was established in response to a lecture at the Berne congress by Albrecht Penck, professor of Geography at the University of Vienna and later the University of Berlin, who challenged national cartographic agencies to collaborate in the compilation of a new 1:1 million International Map of the World (IMW) based on common conventions and symbols (Penck 1892).

The IMW was endlessly discussed at successive IGCs but little was achieved before two important conferences, in London in 1909 and Paris in 1913, secured the necessary international agreements, despite the withdrawal of the United States on the eve of the second conference (Robic 1996b; Pearson et al. 2006; Pearson and Heffernan 2015; Rankin 2017). The outbreak of World War One halted progress on the IMW and other IGC initiatives, including a proposal at the 1913 Rome IGC to establish a World Union of Geographical Societies, a recognition that Geography's internationalisation required a permanent co-ordinating organisation (Arden-Close 1947, 169).

2.3 Internationalism Interrupted: World War One, the International Research Council, and the International Geographical Union

Geography became a science of war in most belligerent nation-states between 1914 and 1918. Dozens of Germany's most distinguished scientists, including Fritz Haber, Ernst Haeckel and Max Planck, signed the 'Manifesto of the 93' in October 1914 expressing full support for the German cause (MacLeod 2018). As Haber later wrote, 'the duty of the scientist is to humanity in peacetime but the fatherland in war' (Harris 1992).

The geographical societies in London, Paris and New York, home to substantial map collections and specialist cartographic facilities, were partially converted into military and strategic research centres linked to government departments (Heffernan 2000a). Existing geographical projects, including those originally conceived as international collaborations, were made to serve narrower national objectives associated with the war effort. British cartographers in the Royal Geographical Society (RGS), led by the society's waspish secretary, Arthur Hinks, re-configured their hesitant pre-war work on the IMW into a new project to prepare an outline 1:1 million base-map of Europe and the Middle East for future peace negotiations (Heffernan 1996).

Longstanding personal friendships and professional collaborations were broken, sometimes permanently. Sven Hedin, the Swedish explorer of Central Asia, previously feted by the RGS and the SGP and awarded an honorary knighthood by the British government, was expelled from both geographical societies early in the war following his vocal support for the German cause. Shortly after he was awarded the RGS Founders' Medal on the eve of World War One, Penck was arrested as an enemy alien and placed under house arrest in London until January 1915 (Heffernan 2000b).

Geography's mobilisation continued into the post-war period when some of the discipline's most distinguished figures were recruited as scientific experts to advise national delegations at the Paris Peace Conferences. Isaiah Bowman, Director of the American Geographical Society (AGS) in New York, was Chief Territorial Specialist to the US delegation, and Emmanuel de Martonne, professor of Geography at the Sorbonne, played a similar role for the French delegation. Both men were prominently involved in wartime American and French geopolitical 'think-tanks', the House Inquiry and the Comité d'Études, based in the AGS and the SGP respectively (Heffernan 1995, 2001, 2002; Lowczyk 2010; Prott 2014; Reisser 2012; Smith 2003, 113-80; Souton and Davion 2015).

Delegations from aspiring nations seeking independence from old European empires also relied on geographical experts at the Peace Conferences. Jovan Cvijić was an eloquent advocate of Serbia-Yugoslavia and Eugeniusz Romer played a similar role for the Polish delegation. Countries hoping to avoid dismemberment also drew on geographical experts. The Budapest geographer Pál Teleki, later the country's Prime Minister, was a prominent member of the Hungarian delegation (Crampton 2006; Győri and Withers 2019; Seegel 2018; Warmoes et al. 2016). The small, hastily assembled German delegation, to whom peace terms were dictated, had no scientific advisers to contest putative territorial changes. The German academic advisers, sociologist Max Weber and historian Hans Delbrück, focused on challenging the 'war guilt clause' in the Versailles Treaty that insisted Germany and its allies bore sole responsibility for the war.

The Peace Conferences confirmed the wartime impression of Geography as a science of territory, land and power. Some geographers celebrated this new-found political importance but others were concerned by the discipline's renewed association with nationalism and imperialism. From their perspective, a reformed international Geography was necessary to reflect the 'esprit de Genève' embodied in the League of Nations and other international organisations. The International Committee on Intellectual Cooperation (ICIC), established in 1922 and directed by luminaries such as Henri Bergson, Albert Einstein, Marie Curie, Thomas Mann and Gilbert Murray, sought to encourage international collaboration in the arts and sciences, a project later co-ordinated from the Paris-based International Institute of Intellectual Cooperation (IIIC) (Renoliet 1999). This included programmes for a new university science of International Studies and reviews of school textbooks in History and Geography to persuade reluctant education ministries to emphasise international peace and cooperation in national curricula (Fleure 1934; Unstead 1934; McCarthy 2011).

Unfortunately, the International Research Council (IRC), created by the Versailles Treaty to facilitate international scientific collaboration, undermined these ambitions by limiting the