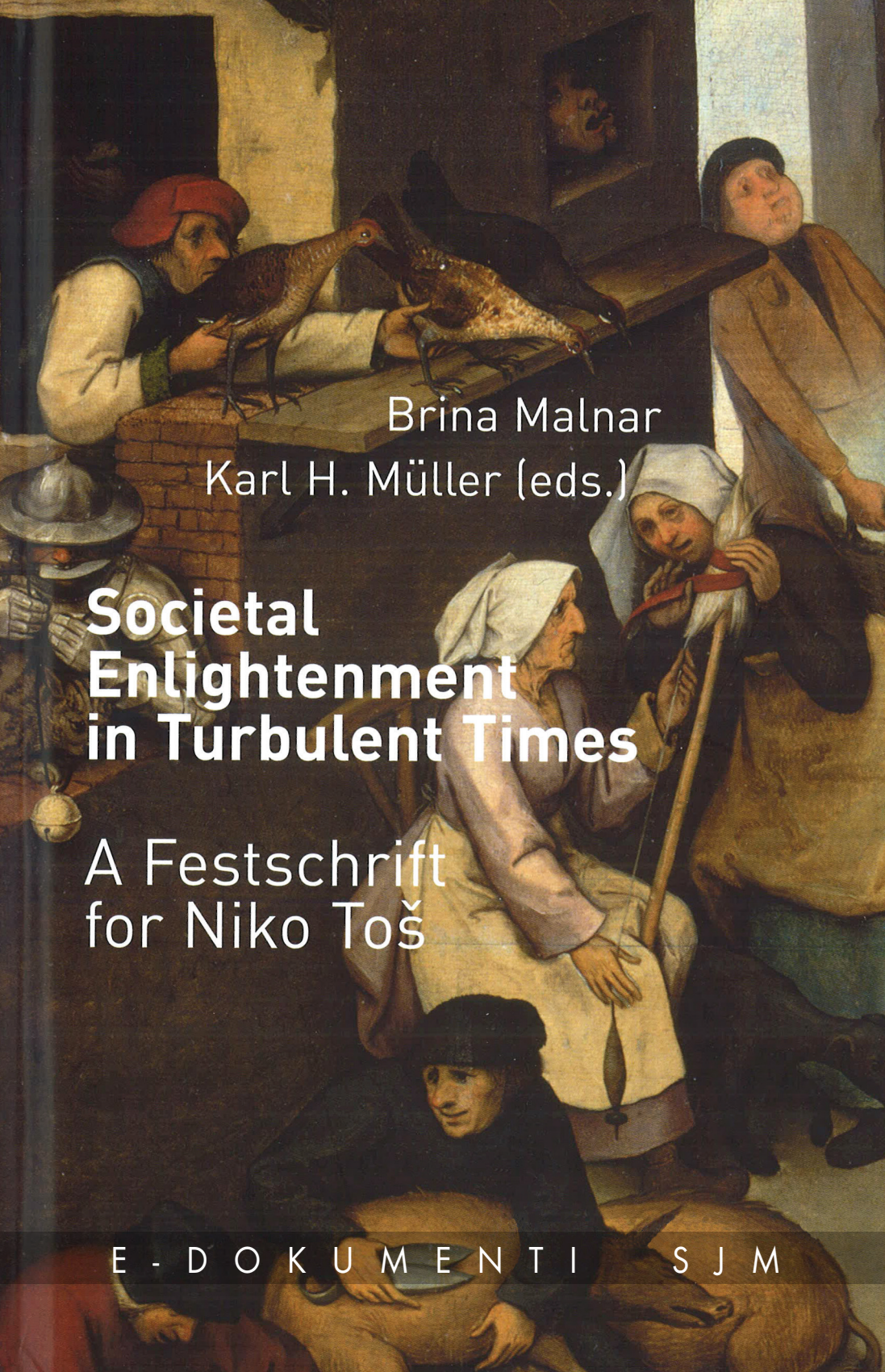




Brina Malnar
Karl H. Müller (eds.)

Societal Enlightenment in Turbulent Times

A Festschrift
for Niko Toš

E - D O K U M E N T I S J M

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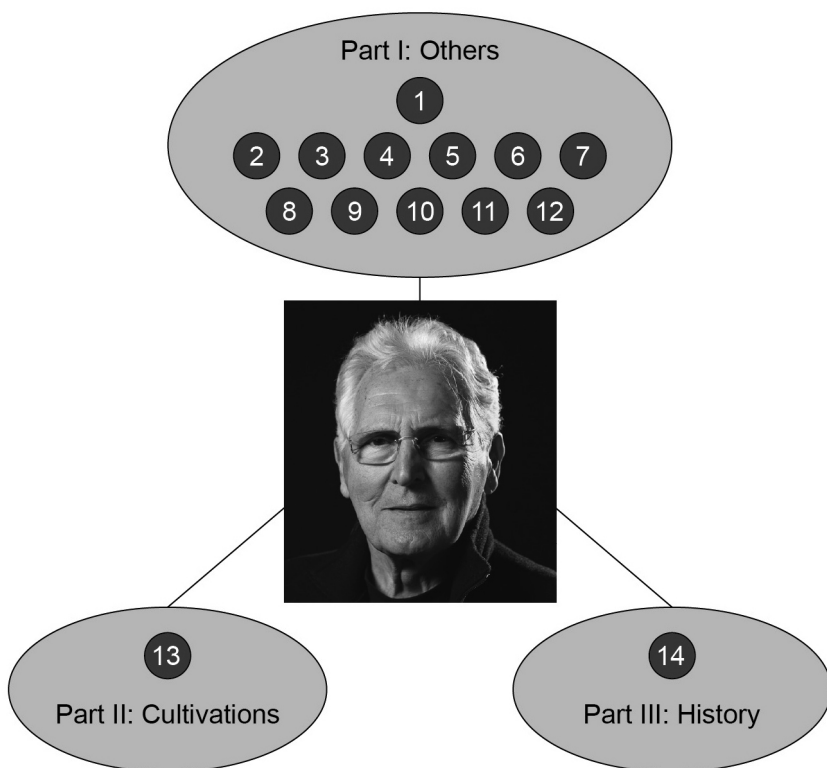
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I thought it advisable to explain housing and gardening
and indeed all kinds of planning as elements of the
whole social fabric, not only of Austria but also of
mankind. The museum gave information to all kinds
of questions. From the history of mankind in general it
led up to the history and social structure of Austria and
Vienna.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual
Autobiography*

Acknowledgements

This *Festschrift* is centered on the milestones and achievements of Niko Toš for almost sixty years, from his start at the Institute of Sociology at the University of Ljubljana in 1960 to the present time. The current *Festschrift* contains three groups of contributions which, in combination, should be able to produce a fuller picture of the work and the lifelong achievements of Niko Toš throughout very turbulent years and decades.

- The first part covers the usual domains of a *Festschrift*, dedicated to a single person. Part I presents a broad range of contributions for Niko Toš from friends, co-workers and colleagues in Slovenia, from the European scene, especially from Germany and Austria, and across the Atlantic from the United States.
- Part II leads into the full range of scientific activities and into the cultivation of a very rich multiplicity of academic fields and domains which received their strong impetus and impacts from Niko Toš for more than fifty years.
- Finally, the third part presents a very comprehensive and detailed account of the empirical research work of Niko Toš from its very beginnings in the year 1960 up to the last years in the “Public Opinion and Mass Communication Centre” (CJMMK) within the Faculty of Social Sciences in Ljubljana. Thus, Part III presents a detailed account of the work and the publications undertaken by Niko Toš during the past almost sixty years.

This *Festschrift* for Niko Toš is accompanied by excerpts from the visual autobiography of Otto Neurath (Neurath 2010). Otto Neurath was born in Vienna in 1882, died in the United Kingdom on December 1945, acted as a catalyst for and within the group of philosophers, physicists, logicians,

mathematicians and social scientists better known as the “Vienna Circle”.¹ Otto Neurath lived through the most turbulent times of the 20th century, starting with the Soviet experiment in Munich 1919, a period of social-democratic enlightenment in Vienna until the rise of Austro-fascism in 1934, and continuing with a migration to the Netherlands until the Nazi occupation in 1940, an escape to the United Kingdom and a life in the United Kingdom during the period of the Second World War.² But despite enormous societal changes, transformations and disruptions Otto Neurath kept his course in advancing new forms and media for communicating and interacting with his society and provided illuminating accounts on the general methodology of science (Neurath 1981), on social science methodology (Neurath 1970), on theoretical sociology (Neurath 1931, 1998), on empirical social research (Neurath 1937), on visualization (Neurath 1933, 1939, 1991) and on a statistical novel (Brunngraber 1999).

It is essential for this *Festschrift* to emphasize that Niko Toš experienced high societal turbulences throughout his career as well. Part III of this book offers an intellectual biography which begins with Niko Toš as an empirical social researcher within the former Yugoslav Republic under the rule of Josip Broz Tito. After Tito's death in 1980, Niko Toš turned into a “Slovenian” sociologist during the period of a rapid dis-integration of Yugoslavia and the growing dominance of Serbia under Slobodan Milošević. In 1991 Slovenia declared its independence which was followed immediately by the Ten Days War from June 27, 1991 to July 7, 1991 as well as by the much longer wars for independence of Croatia (1991–1995) and Bosnia (1992–1995). In 2004 Slovenia joined the European Union and in 2007 Slovenia was the first formerly “Eastern” country to become a member of the Eurozone. Throughout these turbulent decades Niko Toš continued to pursue his work in empirical social research, his permanent empirical observations of developments and changes within the Slovenian society and his very successful initiatives and attempts to link social research in Slovenia with international and global initiatives and programs.

Over the years and decades Niko Toš became also a very close friend to us as editors of this *Festschrift*. As Table I.1 demonstrates we produced a series of common articles and book-projects on social research in Slovenia, on social science methodology or on societal evolution which started already in the year 1995.

1 With respect to the Vienna Circle, see especially Stadler, 1997 or Sigmund, 2015.

2 On Otto Neurath and his comprehensive and far-reaching research programs and encyclopedic initiatives, see, for example, Cartwright & Cart & Fleck & Uebel, 1996, Kräutler, 2008, Müller, 1989, 1991, 1991a, Nemeth, 1981, Nemeth & Neurath, 1994, Nemeth & Stadler, 1996, Sandner, 2014, Schmidt-Burkhard, 2017 or Zolo, 1989.

TABLE I.1 **Common articles and books with Niko Toš, 1995–2017**

Niko Toš & Brina Malnar (1995), "Projekt slovensko javno mnenje – primer infrastrukturne podatkovne baze slovenske sociologije", in: <i>Teorija in Praksa</i> . Vol. 32, No. 9/10, 835–846
Ivan Bernik & Brina Malnar & Niko Toš (1996), „Die Paradoxa der instrumentellen Akzeptanz von Demokratie“, in: <i>Österreichische Zeitschrift für Politikwissenschaft</i> . Vol. 25, No. 3, 339–356
Niko Toš & Peter Peter Mohler & Brina Malnar (1999)(eds.), <i>Modern Society and Values. A Comparative Analysis Based on ISSP Project</i> . Ljubljana & Mannheim: Faculty of Social Sciences & ZUMA
Niko Toš & Karl H. Müller (2005)(eds.), <i>Political Faces of Slovenia. Political Orientations and Values at the End of the Century – Outlines Based on Slovenian Public Opinion Surveys. Preface by Janez Potočnik</i> . Wien:edition echoraum
Niko Toš & Karl H. Müller (2009)(eds.), <i>Three Roads to Comparative Research: Analytical, Visual and Morphological</i> . Wien:edition echoraum
Lucka Kajfež-Bogataj & Karl H. Müller & Ivan Svetlik & Niko Toš (2010)(eds.), <i>Modern RISC-Societies. Towards a New Paradigm for Societal Evolution</i> . Wien:edition echoraum
Niko Toš & Karl H. Müller (2011)(eds.), <i>Primerjalno Družboslovje. Metodološkim in vsebinski vidiki</i> . Ljubljana:Dokumenti SJM
Karl H. Müller & Niko Toš (2012), <i>Towards a New Kind of Social Science. Social Research in the Context of Science II and RISC-Societies</i> . Wien:edition echoraum
Karl H. Müller & Niko Toš (2012), "New Cognitive Environments for Survey Research in the Age of Science II", in: <i>Društvena Istraživanja. Journal for General Social Issues</i> . Vol. 21, No. 2, 315–340
Karl H. Müller & Niko Toš (2012), "The Organization of Modern Societies: Core-Periphery or Vertically Stratified?", in: <i>Teorija in Praksa</i> . Vol. 49, No. 3, 566–587

Special thanks go to a small group of persons who contributed to this volume in tangible ways and mainly through discussions, dialogues, long talks and a considerable amount of glasses of light white wines from Slovenia and from Southern Styria.

- The editors would like to thank all the contributors of this *Festschrift* and express their thanks plus a hope that a tight band of links and contacts will hold this group together in the future as well.
- In terms of scope and the intensity of his work special thanks go to Anton Amann who made significant contributions in Part I of the *Festschrift* by focusing and, thus, generating, to use a famous phrase from Robert Musil, a *Parallelaktion* between the developments of social research and social science research infrastructures in Austria.

- Our special thanks go to Ivana Kecman who acted and still acts as Niko's long-time administrative support and who compiled a very comprehensive overview on the studies and publications of Niko Toš.
- The core production unit for this *Festschrift* was, once again, cantered around Gertrud Hafner who managed the current volume in her usual competence, deep reliability and in a very rapid completion and delivery time.
- DI Armin Reautschnig was responsible for the visual support and for the diagrams of this *Festschrift*.
- Werner Korn is apparently still able to cope with our book productions in meanwhile two book series, namely in "Complexity, Design, Society" and "Observing Social Sciences | Sozialwissenschaften beobachten", within *edition echoraum*, his Vienna-based publishing company.
- Finally, the two editors must acknowledge themselves respectively for staying on course despite very difficult personal times for both of them, due mainly to health issues with significant impacts and ramifications and, in the case of Brina Malnar, due also to tragic events within her family.

We hope that we were able to produce and to deliver an innovative and scientifically interesting *Festschrift* that matches the multiple and sustainable achievements of Niko Toš for the rapid development of the social sciences in Slovenia. As usual, we as editors bear full responsibility for all shortcomings and errors in the present volume, but also, so our hope and expectation, for some new perspectives on the long-term evolution of sociology within rather unique national contexts like Slovenia over more than a past half century.

Ljubljana and Vienna, January 2018

Brina Malnar | Karl H. Müller

People who visit an exhibition are often overwhelmed by the vast quantity of material on view and the lack of system in its arrangement. Many go away blaming themselves for not having gained a better grasp of the information it is intended to convey but those who analyse exhibitions seriously as a means of communication consider that the way in which they are set out is often a visual offence.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

Goals for “Observing Social Sciences | Sozialwissenschaften beobachten”

The new book series “Observing Social Sciences | Sozialwissenschaften beobachten” started in the year 2013 with a German *Festschrift* for Anton Amann under the title “Alter und Gesellschaft im Umbruch” (Ageing and Society in Transition) and was focused mainly on social gerontology, Anton Amann’s main area of research. The current volume is already Nr. 7 in the new series and the second *Festschrift* on the life time achievements of a highly respected, older social scientist. In a nutshell, the main goals for this book series can be summarized in the following way.

- First, the series is organized in a bi-lingual format with books in English and in German as well as in a multi-national way with authors mostly from Austria, Slovenia, the United Kingdom and the United States.
- Second, the series places a special emphasis on the social sciences and closely related fields like health issues, environmental problems or societal transformations and evolution.
- Third, the *differentia specifica* of this series lies in its focus on second-order science and its impact on the traditional social sciences. The series wants to explore the frontiers of second-order science which change currently from a vast and mostly unexplored area into more and more explored, cultivated and expanding domains.
- Fourth, the series will try to produce significant advances and breakthroughs in second-order science in its relevant aspects like theory, methodology or successful empirical investigations which cover new territories and open new cognitive horizons.
- Fifth, the series will be open to a second main theme, aside from its focus on second-order science, namely on grand challenges, transformations and deep or structural changes across science and society. The previous volume with

its special emphasis on the potential impacts of Turing societies falls clearly under the second series topic.

- Sixth, the present series, like its forerunner series under the name of “Complexity, Design, Society”, aims at Radical Constructivism as a common epistemological background, framework or platform which unites or integrates the actual scientific production or work processes.
- Seventh, the book series attempts to enhance the increasing potential for inter, trans- and post-disciplinary cooperation across the social sciences, the life sciences and other large-scale science fields. Moreover, the series will exhibit new linkages and re-combinations of basic and applied research and, additionally, the shifting boundaries between the contexts of discovery and the contexts of justification.

In this sense, the seven goals for “Observing Social Sciences | Sozialwissenschaften beobachten” comprise a complex set of inter-woven targets which, in turn, should be used as the main evaluation criteria for the present volume as well.

Vienna, January 2018

Brina Malnar | Karl H. Müller | Niko Toš
 Editors of “Observing Social Sciences |
 Sozialwissenschaften beobachten”

Different kinds of material gave information about types of settlements and the technique of building houses, since a large number of the members of co-operative housing societies actually worked with the builders. The visitor could look at parts of real walls constructed with various types of bricks, he could study simplified technical drawings and also photographs of houses and furniture.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

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The authors of the *Festschrift* include the following list of contributors (in alphabetical order and, whenever available, in short self-descriptions¹).

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1 Each of the authors of the *Festschrift* was asked to provide a self-description which was supposed to be longer than four lines and shorter than eleven lines. Longer self-promotions were reduced, shorter self-representations were increased and missing self-accounts were substituted by a minimal external note of five lines by the editors.

postgraduate courses related to comparative secondary analysis and on research data life cycle and data management issues. She is active in international networks of social science infrastructure. Her research interests include international comparative analysis of social and political attitudes, quantitative analysis of survey data, survey methodology, and promotion of secondary analysis of data in archive holdings. Currently she is engaged as a researcher and as a member of the Slovenian Social Science Data Archives, a Service provider for Slovenian membership in Consortium of European Social Science Data Archives (CESSDA).

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Janez Štebe, Ph. D., is Assistant Professor at the Faculty of Social Sciences, University of Ljubljana, where he has been teaching on various graduate and postgraduate courses related to comparative secondary analysis and on research data life cycle issues. He is active in international networks of social science infrastructure. His research interests include international comparative analysis of social and political attitudes, quantitative analysis of survey data, survey methodology, and promotion of secondary analysis of data in archive holdings. Currently he is engaged as a researcher and as a head of the Slovenian Social Science Data Archives, a Service provider for Slovenian membership in Consortium of European Social Science Data Archives (CESSDA). He also takes part in other projects and events in an area of Open data access in Slovenia, Balkan region (SERSCIDA project, SEEDS) and EU (CESSDA SaW and SERISS, both current H2020 projects).

Ivan Svetlik

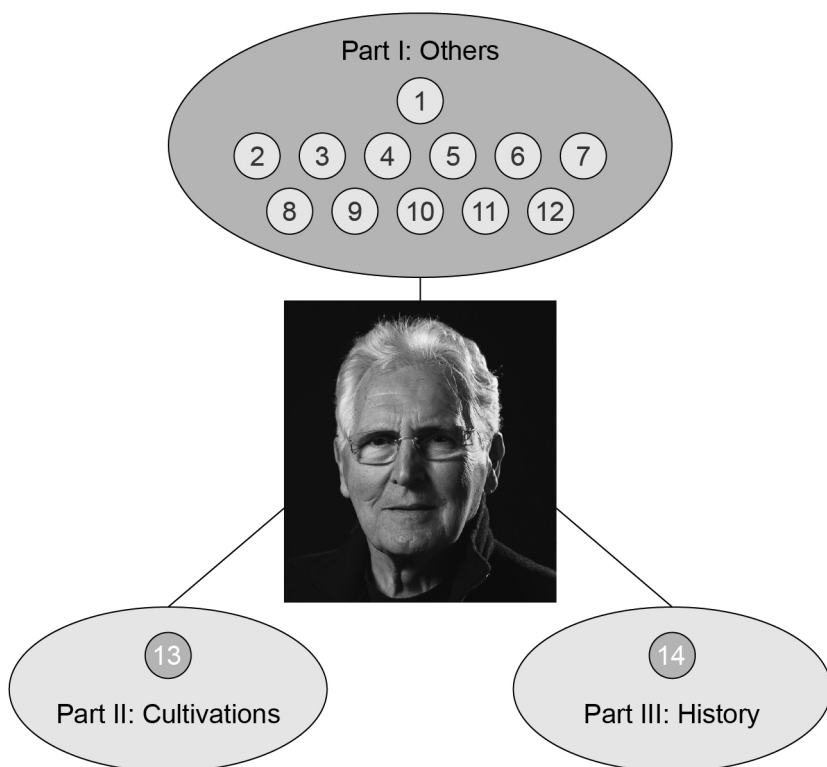
Ivan Svetlik, born 1950, is Rector and Professor of Human Resources and Social Policy at the University of Ljubljana, Slovenia. He was minister of labour,

family and social affairs of Slovenia (2008–2012) and was a member of the editorial committee of the European Journal on Vocational Training edited by CEDEFOP. He has been involved in the country's labour market, social security, education and training reforms and in consulting in these fields in the Balkan countries and in HRM in companies. His main research topics and interests are: work, employment, education, human resources, social security, quality of life. He published over 400 articles, book chapters and books.

Paul M. Zulehner

Paul M. Zulehner, born 1939, received his degree of Doctor of Philosophy in 1961 and of Doctor in Catholic Theology in 1965. He ordained as a priest in 1964 (Vienna's Archdiocese), studied in Konstanz with Thomas Luckmann, in Munich with Karl Rahner and became a university lecturer in Pastoral Theology and Pastoral Sociology with a Habilitation in Würzburg with Rolf Zerfaß in the year 1973. After teaching in Bamberg, Passau, Bonn and Salzburg he held the position of a Chair of the Faculty of Pastoral Theology, the oldest in the world in the year 1984. For many years he acted as theological advisor of the current chairman at the Council of the Congress of the European Bishops' Conferences and was member of the Advisory Committee of the Austrian Academic Society, member of the European Academy of Science and the Austrian Academy of Science.

Part I
Others on Social Research and Social Science Research
Infrastructures. Slovenian and International Perspectives



A continual chain of visual links connected the single items in such a way that visitors felt at home with, and not overwhelmed, by the material presented.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

The German author Werner Zillig describes in his novel “Die *Festschrift*” (Zillig 2004) the history of producing a *Festschrift* as a permanent war along two frontlines, namely with operating systems, text editors and special printing formats as the first hostile frontier and with academic traditions and sensibilities within German universities as a second frontline. According to Zillig, this permanent war along two frontlines can never be won, but in the best of all circumstances a temporary cease-fire can be reached, where the final product – the *Festschrift* – can find its way in an extremely lucky moment of truce into the domain of submittability and, thus, into a wider sphere of a broader public and wider circulation.

Additionally, Franz Kolland and Karl H. Müller place the academic quality of a *Festschrift* directly into a critical framework from Pierre Bourdieu (1992, 2002).

Mit leichter Bourdieuscher Ironie können Festschriften als ein typisches Produkt des universitären Systems betrachtet werden, welches das symbolische Kapital der *festschriftlich* Geehrten vergrößert und deren ökonomisches Kapital unverändert belässt. Für die TeilnehmerInnen an *Festschrift*editionen, die in der Regel jünger sind und zum signifikanten Teil niederere Positionen im Wissenschaftsraum beziehen, stellt sich die Situation noch ein Stück trister dar, da die Beiträge in *Festschriften* generell nicht im Rufe stehen, als Fundgruben innovativer und neuartiger Perspektiven zu fungieren. Und so werden in vorausseilender Erfüllung dieser Vermutung *Festschriften* gerne zu Orten einer nicht nachhaltigen Wiederverwertung oder einer strategischen Proliferation von B-Artikeln (Kolland & Müller 2013:9p).

Despite these warnings we collected for Part I the usual contributions that have become typical for an academic *Festschrift*. However, the selection processes for Part I were based on a small set of rules and principles¹ which provided useful guidelines for choosing relevant persons as well as articles for this *Festschrift*. As an introduction to Part I, these rules and principles can be summarized in the following way.

1 Nicholas Rescher separates rules from principles by the criterion of generality. Rules ... are generalized procedural instructions ... They specify what is to be done in certain circumstances ... Rules have a limited jurisdiction ... (Rescher 2010:1–3, *passim*) Unlike rules, principles do not prescribe particular actions or courses of action but mandate directions of procedure. They do not specify concrete steps but generalized objectives ... Principles are accordingly more abstract and general than ordinary rules. (Rescher 2010:74p).

- First, Part I was characterized by a simple rule of proximity and co-operation for selecting the authors of this *Festschrift*. It was required to have established some links of cooperation or friendship with Niko Toš in the past. The selected group of persons within Part I had established closer contacts or links to Niko Toš in the past in a wide variety of ways, ranging from few meetings on special occasions up to many years of intensive contacts and co-operations.

According to the first rule, Part I of this *Festschrift* turns out to be fundamentally *incomplete* with respect to its composition of persons. The list of contributors for Part I is highly incomplete with respect to Niko's closest area, namely Slovenia itself which is only represented in a highly restricted form, with the rector of the University of Ljubljana, prof. Ivan Svetlik, with several members from his staff at the Public Opinion and Mass Communication Centre Center (CJMMK) and, in Part III, with three social scientists and members of the Slovenian Academy of Science. But the wide range of contacts and links to the Faculty of Social Sciences at the University of Ljubljana and to other social science institutes and research organizations in Slovenia are not adequately represented through Part I.

More contributors could have been accepted and selected from Niko's collaborations and co-operations with former Yugoslavia, especially from Croatia or Serbia. Moreover, for decades Niko held close contacts with an Austrian or, more specifically, with a Viennese connection which included Karl Blecha, Ernst Gehmacher and Heinz Kienzl who played an important role in promoting the early stages of empirical social research and sociology in Austria and to re-introduce the works of Paul F. Lazarsfeld or Marie Jahoda within their original habitats.

Additionally, the list of contributors could have been widened considerably with other persons from Germany, most notably from the former ZUMA, the *Zentrum für Umfragen, Methoden und Analysen* in Mannheim, from the University of Cologne or from the *Wissenschaftszentrum* in Berlin. Potential contributors to this *Festschrift* could have come from Brussels and the European Commission, from the United Kingdom or from other Western and Northern European countries.

Finally, the article by Rogers J. Hollingsworth, his wife E.J. Hollingsworth and David Gear indicates however, that the list of intensive personal contacts of Niko Toš has reached a global dimension and extends to the West Coast of the United States of America.

Thus, according to the first rule, the actual contributors to this *Festschrift* can qualify themselves as rather lucky because they find themselves among the happy few and among a very special group of authors who passed a considerable number of highly selective tests. They remained and stayed within this small set

of chosen and special persons who stayed on course, despite all odds.

- Second, the topics and themes of this *Festschrift* were to be located, as another rule, within the wider areas of competence and publications that have become characteristic of Niko Toš' publications as they are described in detail in Part III of this volume. Thus, the small and highly selective group of former co-operators with Niko should turn out as sufficiently motivated to produce contributions which come rather close to the scientific domains in which the obvious focus of this entire volume was also active and highly productive in all these years, namely in fields like sociology of values and of religion, survey research, comparative analyses, social science research infrastructures, science studies, science policy, etc. As it turned out, the contributions of Part I play exactly in these areas, mentioned in this paragraph.
- Third, the articles of this segment of the *Festschrift* were not required to follow a special format. Instead, the Paul K. Feyerabend-rule of "Anything goes" (Feyerabend 1975, 1976, 1978, 1979, 1984) prevailed and the articles of Part I cover a wide range of formats and extend from a short story on specific thematic encounters up to a rather comprehensive account on research infrastructures in the social sciences in a country outside Slovenia, namely in Austria.
- Fourth, this part of the *Festschrift* does not aim to reach a particularly systematic or systemic state with respect to its underlying themes or topics namely sociology, the social sciences or social science research infrastructures. Part I of this *Festschrift* offers no substitute for a comprehensive framework for research infrastructures in the social sciences or for a present day methodology for the social sciences (Ader & Mellenbergh & Hand 2008; Dickmann 2007; Gerring 2011). Additionally, this *Festschrift*, by accident and not by any form of necessity, turns out to be totally free of sociological theory or of recent developments in social science modeling.
- Fifth, another rule of "Anything goes" was used for the inclusion of the special relations between the authors of Part I and Niko Toš. No requirements were imposed on the contributors to demonstrate or to exhibit their direct links with Niko in the course of their articles. In fact, many of the contributions in Part I can be qualified as "stand alone" publications which could have become elements of very different books, journals or other external editions as well.
- Sixth, no restrictions were imposed on the authors to follow the life-long strategy of Niko Toš for exploring and cultivating critical research.² But at

2 On the complex notion of critical research, see especially the introduction to Part II and the references for this multi-dimensional topic.

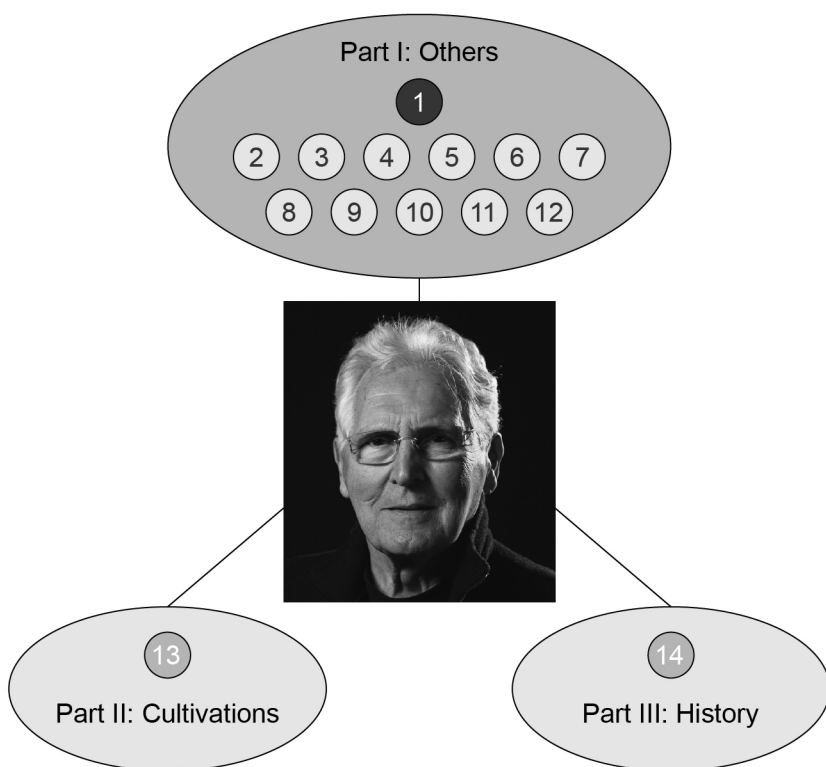
least some of the authors of Part I of this *Festschrift* tried and explored this strategy and offered deeper insights for the social sciences and for social science research infrastructures.

- Finally and seventh, the versatility as well as the rich multiplicity of topics, fields or interests of Niko Toš did not play a significant role among the basic rules and principles, relevant for Part I of this *Festschrift*. But this missing rule and its consequences were a substantial reason for including Part II as well as Part III of this *Festschrift* in which these aspects and perspectives should become the major focus of attention.

The subsequent articles of Part I should be seen in the light of these basic rules and guidelines. The articles of this *Festschrift* remain a living sign of the vitality of its underling center of gravity, namely of Niko Toš.

1

Tribute to Prof. Emeritus Dr. Niko Toš Ivan Svetlik



We started a central museum, mainly open in the evening,
so that people who were working all day could visit it.
Branch exhibitions in Vienna and travelling exhibitions
in Austria and abroad were added and attracted many
people who would hardly have read books on the subject
presented, not even books with pictures.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual
Autobiography*

I would like to make this introduction in the form of a personal note. Professor Toš was my teacher, later on he has become my colleague and friend. My first contact with him was established soon after I became a student of sociology at the then High School of Sociology, Political Science and Journalism 47 years ago. As a young and ambitious researcher involved in the development of empirically founded social sciences he taught students methodology and methods of social research. In this role, he was teaching students how to observe social phenomena and how to compile relevant data for social analyses. As a scientist he was also opening eyes of young students to look around, identify relevant social issues and respond to them if not otherwise by making critical observations and reflections. I remember his extensive research on labour migration at the beginning of the 1970ies into which he involved a great number of students. He sent students to Germany to make interviews with migrant workers from the Balkans. Professor Toš paid to me and my colleague a train trip to the students' conference on migration, which was held at Groningen University in Holland. Another example was engagement of students in questionnaires' coding and cards punching when the first computer was available at the University for the research data processing. Professor Toš has always been at the forefront of modernisation of data analyses. The attitude of professor Toš towards students has always been in line with open door policy, friendly and sometimes a bit paternalistic. Young students perceived him as a father who did not care only about their study progress but also about their personal wellbeing. He openly shared his ideas encouraging students and colleagues to address them in their research work. This happened in particular after he firmly established, together with other fellow researchers, the Public Opinion and Mass Communication Research Centre. There has always been many data inviting students and researchers to process and analyse them. Several PhD theses and other degree works have been prepared on the basis of data generated and arranged in his research centre under his or his colleagues' mentorships. Professor Toš supported many young graduates in their professional careers by opening the door to potential employers. Especially he assisted young researchers

and assistants in their academic career development. I remember his personal support to me when my mentor was expelled from the Faculty of Sociology, Political Science and Journalism in the middle of 1970ies for political reasons although Professor Toš himself was accused of Western empiricism. During my academic career at the Faculty we have become colleagues and friends. He could have been critical and supportive at the same time. We met in several of his roles, such as research projects' leader, chair of Sociological Department, president of Sociological Association of Slovenia, president of Sociological Association of Yugoslavia, Chair of the Centre for Public Opinion and Mass Communication Research, Dean of the Faculty of Sociology, Political Science and Journalism and others. I clearly remember his professional engagement in organising research projects and conferences on social conflicts, social crisis and social stratification in Yugoslavia in the 1980ies. Those events demonstrated high intellectual power of social scientists at that time.

As a researcher professor Toš perfectly managed his job. He was excellent in selling the ideas to potential users of research results and therefore he was among most successful in obtaining financial resources for research. He showed a lot of sociological imagination in the project design, in addressing relevant social issues and elaboration of research instruments. His team could seat days and nights together to construct and test relevant questionnaires. He was proficient organiser of research teams, as well as of data collection and processing. As a brilliant research manager, he provided new premises and equipment for his research centre in the middle of 1990ies. It was my pleasure that, as a dean of the Faculty of Social Sciences, I assisted him in this project by convincing faculty fellows about the advantages of the investment.

As a researcher of public opinion professor Toš could not avoid dealing with political issues. Although addressing all sorts of politically sensitive questions he never openly step out of a professional circle. Having hands over the information about what different segments of the public thought about political, cultural, social, economic and other questions, he was highly desired counsellor to politicians and public opinion makers. He was speaker to the various media. However, he never took a political role. This does not mean that he would not feel closer to those left than those right from the centre. As a lawyer by profession he developed a sensitive attitude towards social justice which he demonstrated in relation to his fellow workers and in professional and public debates.

One could have expected that at the turnover of the systems at the beginning of the 1990ies professor Toš reached the peak of his professional career. That would be a sheer mistake. The transition period challenged him in various respects and meant a revival of his career. It seems that in this period he started to do everything that he could not do before. He placed himself and his research

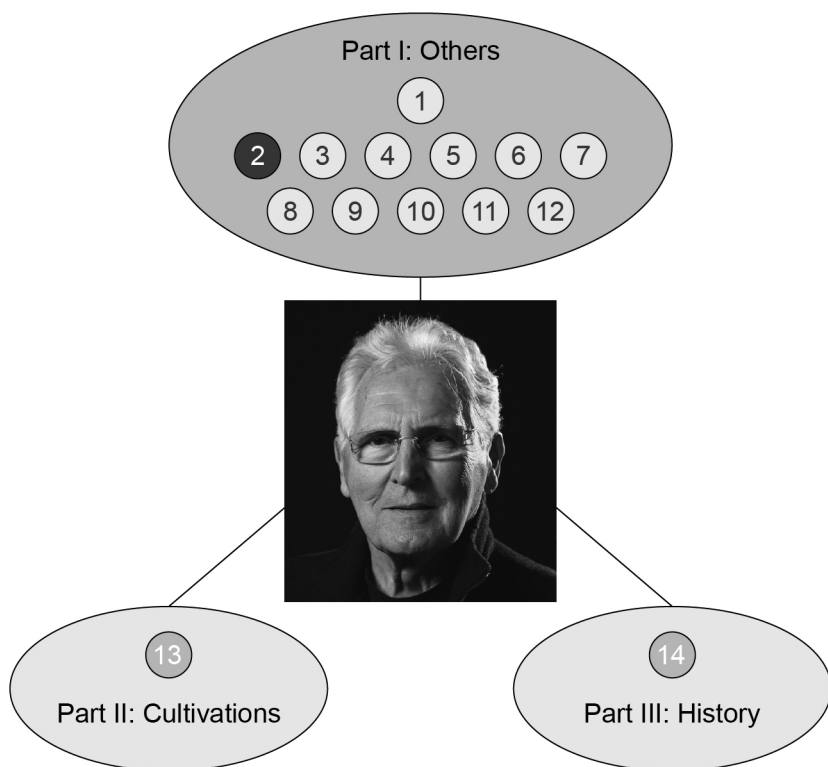
centre into the international research arena by joining large international projects, such as European Value Study and World Value Study. Although with some difficulties he succeeded to maintain longitudinality of this research. Needless to add that his public opinion research, which started in the 1960ies and continues represents the longest time series of social science research data in Slovenia, and also one of the longest in the wider area. This brought professor Toš and his research team at the forefront of social research with strong accent on longitudinal and comparative analyses. A series of international and national articles, books and other publications were produced on this basis. Professor Toš, who helped many colleagues and young academics to promote their research work in various books' editions, could this way presented also his rich research results.

There are not many academics, who showed such a vitality and intellectual power throughout the entire five decades career as professor Toš did. Looking backward we can consider him a founder of modern empirical social research in Slovenia. He was one of the creators of modern social sciences in the country in the fields of research and teaching. He contributed to the development and placement of sociological and other social science professions into the economic and social lives. He did a great job linking his and other national social science researches with the international social science community. For all this and also for the period of diversity of the Centre for University Development University of Ljubljana awarded him a title of professor emeritus. I had a great pleasure and honour to extend him this bill in December 2015.

2

Social Research in Austria from Its Early Days to the Late 1970s

Anton Amann



I remember a public health exhibition in which a chart showed a very big Red Indian and a very small European. The written explanation informed one that the managers of the exhibition were anxious to impress on visitors that there is a much higher mortality rate from tuberculosis amongst Red Indians than amongst Europeans.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

2.1 Early Beginnings with a Pale Shape¹

We would like to start with a paradox. Quite a number of works which were published between the middle of the 18th and the first years of the 20th century, which do not contain the word sociology, are much closer to that which counts as sociology than certain books which appeared between 1910 and 1930 under the headings of sociology, sciences of society or social theory (Rosenmayr 1966: 11; Amann 1987). That paradox is obvious first of all in the literature which can be said to be of sociophilosophical or early sociological character. Nevertheless, social research did exist. A whole range of documentations and studies was produced relating to burning problems in the field of living conditions of people expressed in the catch word “Soziale Frage”.

The reconstruction of the main lines has to start with the role of population censuses in Austria in order to find out what had been counted and why it had been done. That question is of importance because all authors of the 19th century writing about societal conditions had to rely upon what was produced by the censuses. Their origins are to be found in the 18th century, the period between 1770 and 1850 being of special importance because the principles and goals of counting remained almost the same over that time. The censuses from 1754 and 1762, carried out under the empress Maria Theresia in the whole territory of the state were guided by a clear intention: to create an objective measure about the economic and social powers of each province and to get insight into the number of inhabitants, the extension of their land holding and the force of the craft and industry (Großmann 1916:418, quoted after Durdik 1973:227). For the census of 1754, there existed a system of double counting by the church and

1 The first section of this article is partly based on Amann (2012). By the term “social science infrastructure” we understand all scientific means/networks with a catalytic function of enabling research (zero order science) and all research procedures with an exploratory function (first order science). For conceptualization and terminology see Müller (2016).

state agencies. Both countings should be compared and as experience showed: the counting of the church agencies was more precise.

If we look at other activities than the official ones undertaken by the state, we see an array of different efforts. In Vienna there existed a School of "Topographers" (Rosenmayr 1973) which reached its peak with F.X.J. Schweickhardt (1794–1858) and W.K.W. Blumenbach-Wabruschek (1791–1847). Their studies aimed at an assessment of the economic and military potential in the monarchy for the sake of administrative planning (Rosenmayr 1973:37). But much earlier, J. M. Freiherr von Liechtenstern had already published on "Die Grundlinien einer Statistik des österreichischen Kaiserthums, nach dessen gegenwärtigen Verhältnissen" (Liechtenstern 1817). His book can be conceived as a description of the societal and state conditions at that time – although not using an explicit notion of society. The data he used were of geological, geographical, demographical, and economical nature. That was, in the words of A. Meitzen, "unconscious empiricism". The sources on which v. Liechtenstern could rely upon were the early censuses carried out in Austria (beginning with 1754 and 1762).

The book of v. Liechtenstern was by no means the only one which can be used to evaluate the state of "social statistics". The beginning of modern administrative statistics falls in Austria in the middle of the 18th century. The most important reason might then have been a planned consolidation of the state system after the War of the Austrian Succession. About the middle of the 19th century, there appeared a real flood of publications within which data from censuses played an important role (Durdik 1973). An important field of application of statistical information was the reforming of the economy and its central steering on behalf of the state's finances. The biggest part of statistical publications was devoted to what then was called "Tafeln zur Statistik der österreichischen Monarchie". Additionally there was what we could call a private-statistical literature, descriptions of country and people, expertise of the state ("Staatskunde") etc. All these publications stood in the cameralistic tradition (fiscal accounting) of the 17th and 18th century.

An other type of study in this time has to be mentioned: the works of civil servants who, led by their comprehensive and detailed knowledge of the state's administration tried to describe ways of reform. I. Beidtel with his "Geschichte der österreichischen Staatsverwaltung 1740–1848" (reporting mainly on the Metternich system) might be called the ideal type of such efforts (Beidtel 1896/98), although he can not be taken as a forerunner of social research or sociology.

In the literature of that time, there is no conception of society in the modern sense and there is only a vague idea that empirical analysis needs a set of methodical

procedures. However, a preliminary but cautious assessment of the publications between the end of the 18th and the end of the 19th century leads to the following list of more or less binding procedures or techniques which served to explore the world:

- the use of statistical data (census)
- site inspection for detailed documentation
- the use of questionnaires on family structure, sanitary conditions, and labour
- participant observation
- political reportage
- reports of political travel.

When does the development begin which shows first the marks of social research in the above mentioned sense? It is in the second half of the Nineteenth century, that analyses were started to detect the roots of social problems in order to find solutions and improvement of the social conditions by using statistical data, participant observation, questionnaires, and descriptions of the household- and family structure. Although most of these publications still stood in the tradition of the cameralistic *Staatskunde* we can find the first elements which allow us to speak of the beginnings of social research.

According to the German political scientist A. Achenwall who had proposed a difference between the philosophical study of the state and a historical-statistical science of the political field (“*Staatslehre*”) in Austria a similar notion took also place. In this time, the specialisation and delimitation of statistics as an academic discipline began to develop which had started as a historical description and became a mathematical-calculative method afterwards. Especially in the second half of the nineteenth century, in Austria there arose two methodological discourses: one about the relations between sociology and statistics and a second one about studies of social problems on the basis of empirical data. First studies on social problems on the basis of statistical data appeared: B.v. Neumann-Spallart, N. Reichesberg, E.v. Philippovich, and St. Sedlacek need to be mentioned here.

Around 1870 we find the early publications on housing conditions which are still based on economical reasoning and a policy orientation (Sax 1869; Ratkowsky 1871). Industrialisation, migration from the eastern countries to Vienna, and the extremely high prices on the estate market had led to severe problems. The bad housing conditions, especially among lower class populations, were a dramatic issue. Until 1890 the situation became of extraordinary importance and subject to the first systematic studies. In 1894, E.v. Philippovich, Professor of economics at the University of Vienna, published the first study which could be called a social research study in that field (v. Philippovich 1894).

Before we go into details it might be interesting to have a look on the context of that research in the way how v. Philippovich has seen it himself. He starts the introduction into his book with a harsh criticism of the Austrian housing politics and its failures and shortcomings. According to his point of view Austria had not been able at all to make use of the experience in other countries like France or England. For him that was the more astonishing since in the course of the World Exhibition of 1873 in Vienna the property costs, the rental fees, and the shortage of housing had already reached a peak. The census of 1880 had only brought a few data on housing which were analyzed afterwards by M. Steiner (Steiner 1884). A change to the better came along with the census of 1890 insofar as comprehensive and carefully managed observations were interrelated to the census. The census data itself were analyzed in a very detailed way by the Statistical Central Commission and reported by St. Sedlacek (Sedlacek 1893). Thus, we have the starting point of v. Philippovich. His analysis combined statistics on housing conditions of 1890, documented visits to small and poor, even miserable flats, statistics on mortality in relation to household conditions, and the results of standardised questionnaires which were used to document physical conditions of housing (sanitary items) and the health status of the inhabitants. The focus of his research interest was the one- and the two-rooms housing arrangements because they showed the highest density of dwellers and the worst hygienical conditions. The visits were taken on a sample basis (101 flats), they were prepared in a way that a confidential person (*an intelligent worker*) made contact with the persons/families to be investigated. These visits had the character of a participating observation with a list of items to be observed which had been prepared in advance. One task was to apply the housing criteria of the sanitary commission and to state whether there were deficits. Indeed, there were. Only three out of the 101 flats reached the minimum standards of the commission, 100 to 120 persons had to share 3 toilets. In the frequency distribution of housing arrangements in 25 city areas the most frequent were one-room-flats with three and more persons living there. In Vienna the smallest flats made up 44 % of all housing arrangements and were dwelled by 35 % of the whole population putting, thereby, Vienna in a worse place than London at that time. One important insight of that research was that housing miserably is statistically not linked to certain districts but to certain housing categories and to social classes which was not common knowledge at that time. The whole report is a document of horrible living conditions which leaves the conviction that the pets of bourgeois and noble families were better kept than these workers. In 1900, there followed v. Philippovich's big study on housing conditions in the cities of the monarchy (v. Philippovich, Schwarz 1900).

On the turn from 18th to 19th century, when there was no sociology in Austria in terms of an academic discipline, and no notion of society which went beyond the (political) frame of the empery, there already started first developments of establishing empirical analysis of political issues. The early studies concentrated on assessing economic and military potentials, but already in the second half of the 19th century there arose what we could call the study of social problems. On the outset of the eighteenthcenturies, one of the main social and political topics was housing conditions. In that context, we can say, the first methodological elements became visible which allow us to speak of the beginning of social research within which we can discern between zero order science (censuses and documentations) and first order science (methodology driven research).

There is one remark left. If we speak of Austria we – given enough time – should speak of the monarchy because the development of the social sciences in the other countries of the monarchy played also a role in the whole concert and sometimes there were parallel actions in the different countries, as for instance, in the case of the foundation of the Leo-Society (1892 in Vienna and 1896 in Ljubljana (“Leone družba”), which was an attempt to fight in an organized way against the “dangerous” powers of the workers’ movement. Similar to L. Gumplowicz who was well known to some Slovenian intellectuals, may be because he taught in Graz, it could be the case with other scientists in other countries too (Jogan 1988). The network of different relations could be extended until the point where we say that W. Jerusalem probably was the only sociologist in Austrian in that time who was recognized and literally quoted by É. Durkheim.

2.2 Short Blossoming before Fascist Devastation

From the very beginning in the 19th century up to at least the middle of the 20th century, there is a fundamental characteristic of Austrian social research: it is the very strong connection of theory and empirical research with the actual social and political circumstances and the ideological institutions (catholic church and political parties). However, the time between the Great Wars was a period of very intensive conflicts which led the social sciences into almost all vicissitudes of the time, for instance, the struggle between catholic traditionalists (Othmar Spann) and austromarxists (Max Adler) (*cf.* Amann 1987:11–120).

One early format of empirical research in Austria was the “Enquete”, and there were some of them before the First War worth mentioning, all dedicated to social problems. From April 1st to May 21st 1896, there was held the “Enquete über die Lage der Arbeiterinnen” with a forerunner in 1893 (Boschek 1930:13). Two other enquetes dealt with the topic of Children’s protection (“Schriften

des Ersten Österreichischen Kinderschutzkongresses ... 1907"; "Schriften des Zweiten Österreichischen Kinderschutzkongresses...1913"). It is of historical interest to see that already for the first enquete a comprehensive questionnaire was in use which was answered by official institutions in the whole monarchy and that 733 expert reports were gathered besides a lot of other materials.

The "Sociological Society of Austria" was founded in 1907 by, among others, M. Hainisch, M. Adler, R. Goldscheid, C. Grünberg, W. Jerusalem, K. Renner, L. Hartmann, L.v. Brentano und J. Redlich. The intention of the members was to establish a sociological curriculum in Austrian universities and to diffuse sociological knowledge in society – they were not very successful in their ambitions, although they gained some reputation by editing the series: "Soziologie und Sozialphilosophie – Schriften der Soziologischen Gesellschaft in Wien". Today well known books were published in that series, as for instance, W. Jerusalem: "Einführung in die Soziologie" (Bd. 1), R. Mayreder: "Der typische Verlauf sozialer Bewegungen" (Bd. 4), M. Adler "Soziologisches Denken im Altertum" (Bd. 6). The whole matter is of symbolic character for the situation of sociology until 1938 – there was none or at least only a cognitive orientation of such a type (see: Amann 1987; Fleck 1987; Müller 1988). Looking back from a later point of time one should, for that period, rather speak of social sciences in a generous understanding admitting that economics, social psychology, sociology, logical positivism, phenomenology etc. altogether formed a corpus of scientific innovation and expansion, however, mostly outside the universities.² It is easy to see that people like O. Neurath or J. Schumpeter had a vision of the social sciences which was at almost no point limited by a too narrow understanding of a discipline. A today's sociologist could read J. Schumpeter's "Geschichte der Ökonomischen Analyse" (1965) and learn that sociology, economics, and history of economics are studied simultaneously with best success, and with O. Neurath he would see that his system of the "Wirtschaftslehre" starts with the sociological concept of "Lebenslage" (Neurath 1917).

The history of the social sciences in the last decades of the Habsburg monarchy and in the first decades after the World War (albeit the interruption and change in that time) is characterized by the profiling of certain disciplines when we take into account their cognitive and not so much their social identity. Economics

2 Our impression is that this picture of the important intellectual character of Vienna's sciences in the time between the great wars is still in the heads of most of the observers. That racists and antisemites as well as ultra-conservatives started already in the 19th century to keep all people as far as possible outside the universities who would bring about change and progress is notoriously overseen (cf. Hanak-Lettner 2015). "It was simply hell" said B. Kreisky concerning his study at Vienna University from 1929 onwards.

emancipate from law and cameralism, sociology remains an appendix of social philosophy and economics but creates social research as a quasi-autonomous branch with strong affinity to societal usage. Th. Surányi-Unger³ wrote in 1930: “Sociology in Austria has always developed in the wake of economics; economic changes are mirrored rather consistently in Austrian sociological thought” (Surányi-Unger 1930:267). Logical Positivism goes in opposition to traditional philosophy and metaphysics, sociology of law with an emphasis on the interconnection of law and society separates from traditional dogmatic law, etc. All these developments can be ordered more or less according to three theoretico-political directions within which their representatives stood: a) austro-marxists with M. Adler, H. Bauer, O. Bauer, R. Carnap, R. Goldscheid, M. Jahoda, P. Lazarsfeld, K. Leichter, O. Neurath, K. Renner, H. Zeisel, E. Zilsel u. a.; b) austro-liberals with F. Hayek, L. Mises, O. Morgenstern, F. Machlup, K. Popper, J. A. Schumpeter u. a.; c) austro-fascists with O. Spann and his circle (*cf.* Müller 1988:53). Most of these names and many others stand for a period of highly innovative und productive scientific developments in Austria, nota bene: cognitive identity as we said.

However, if we look at the social identity or the institutional aspects especially in the case of sociology we see a somehow contradictory picture. The contradiction lies in a remarkable discrepancy between a flourishing intellectual production outside the university on the one hand and a weak and even deteriorating institutional development within the university on the other hand. The patterns of the degressive development of the academic market during the First War are known. From 1913/14 to 1917/18, the number of all university teachers fell from 2.254 to 1.206. In the years to come, the Austrian Republic took over all university professors who declared their faith in “Deutschösterreich”, for example almost all former members of the University of Czernowitz, into the status of a civil servant of the Austrian State and then – sent them into retirement. The reduction of the number of civil servants and the general saving politics of almost all governments of the First Republic led to a stagnation in the number of university teachers (Fleck 1987:188).

In 1931 and/or 1935, there were in Austria according to “Kürschners Deutscher Gelehrtenkalender” 16 men who defined themselves as sociologists, among them two ordinary professors, four extra ordinary professors, six “Privatdozenten”, and four “Privatgelehrte”. It should be mentioned that the contribution of other disciplines to the development of sociology was important. Some economists who taught at the university during the First Republic, for instance F.v. Wieser,

3 He belonged to the periphery of the so called “Spann-Kreis” (named after its spiritus rector. O. Spann) and had some affinity to Germany resp. the Union of Germany and Austria.

Friedrich A.v. Hayek, L.v. Mises, O. Morgenstern, or J. Schumpeter, had much more affinity to modern sociology and its central research questions than the representatives of the discipline themselves (Fleck 1987:191/195). Until 1938 none of the *veniae docendi* at the “Rechts- und Staatswissenschaftliche Fakultät” in Vienna was named sociology or had the label sociological. Some people whom we are used to see as the important forerunners or even founding fathers and mothers of sociology resp. social research, for instance, M. Jahoda, F. Kaufmann, P.F. Lazarsfeld, K. Leichter, O. Neurath, A. Schütz or E. Zisel are not even mentioned. That leads to the question where sociological thinking and researching became established.

The culture of bourgeois-liberal circles and salons and the social-democratic associations and educational circles were still alive in the 1920s and 1930s in Vienna and their part on the development of sociological thinking and research activities was far more important than that of the universities. For many intellectuals, writers, scholars, and political thinkers these circles gave the almost one and only opportunity for disciplinary communication – because of the very limited access to university because of massive ideological barriers, we have to say (Amann 1987:221 ff.). An overview of all the relevant circles, discussion groups etc. shows more than 20 of them in Vienna and the names of their members leave the impression of a convent of all great figures in social sciences, mathematics and logics, philosophy, pedagogics, history, and political sciences (Stadler 1984; Amann 1987; Müller 1988). One aspect which is still waiting for research in more depth is the communication networks which operated between these circles and we are convinced that it was the high density of mutual effects between the different groups which contributed to the innovative and partly complex thinking patterns we know from that time and which had considerable influence on later developments, at times when in Austria the people who had had these ideas were driven away or killed. It suffices to mention here some examples: phenomenology and social science methodology (A. Schütz, F. Kaufmann); sociology and philosophy of law and the society (H. Kelsen, K. Renner); empirical research in women’s labour (K. Leichter); standard of living and indicator research as well as visualization of statistical relations (“International System of Typographic Picture Education”) (O. Neurath), foundation of a special type of social research organization as well as methodology of sociography (P. Lazarsfeld, H. Zeisel, M. Jahoda).

It has been stated repeatedly that the characteristics of that time in the Austrian social scientific world mean that the successful developments went on outside the university, that the discipline was shaped first of all by younger people, and that there was a deep gap between social philosophy and empirical sociology which must be overcome. The question of what then made the upcoming of empirical

sociology successful leads immediately to a next question: what characterizes the transition from social philosophy to empirical sociology? In a retrospective view we see several elements. There was first a shift in the emphasis from an historical interest in institutions and ideas to concrete and actual behaviour of people in certain situations. Secondly, there was a tendency not to study one section of human affairs alone but to relate different sectors. According to these aspects there was third a preference for studying repeatedly occurring situations and problems, and finally, there was a political interest which had no great ambition for the study of historical events long ago. In other words: the idea of use of knowledge came into the foreground.

The time which gave way to the first steps in social research in Austria was the time when the Danube Monarchy was about to see its final stage coming. That is by no means surprising since we can see that the cases in which an extra university sociology as a research strategy became successful were those where the pressure of social problems was the pushing factor behind all efforts. The idea of social research and sociology as an embracing discipline has developed in Austria in the context of social and political struggles. Clerical-conservative and liberalistic, individualistic and collectivistic, nationalistic-patriotic and freethinker groups fought against each other already in the 19th century (Langer 1988). The early developments (until about 1900) of social research were on the conservative side. The notion of applied research is evident in the early beginnings already. That is shown by investigations into housing conditions and in poverty and poor relief as well as women's employment (among others: Rausch 1891; Mischler 1899). The discussions and investigations which took place after 1918 and within which the idea of using social scientific knowledge to solve severe societal problems had high value were mainly on the social-democratic side. Three impressive examples can demonstrate that consideration.

Handbuch der Frauenarbeit in Österreich (Handbook of women's labour in Austria)

The Handbook (Kammer für Arbeiter und Angestellte 1930) is irresolvably linked with the name Käthe Leichter and it stands for the first big effort to document all the backgrounds, varieties, and conditions of the life of working women since the 19th century, the fact why it should be called a study or an investigation rather than a handbook. There is no study before World War II in Austria which has treated the topic in such richness. As early as 1868, the Chamber of Commerce was established in Austria, but only in 1920 the Chamber of Workers could follow. It was the Chamber of workers then where the topic of women's labour stood in the centre of political and research interests

and, therefore, the department of women's labor was founded, in 1925, of which Käthe Leichter became head. Concerning the handbook and its material she was responsible for content, correspondence, and editing. In 1934, when the austro-fascist system started to rule and the social democrat's institutions were brought to enforced conformity (*Gleichschaltung*), Käthe Leichter as well as Fritz Brügel, the chamber's librarian, were expelled. 1940, Käthe Leichter fell in the hands of the Gestapo, was deported to Ravensbrück and murdered.

A rich variety of data and experiences is to be found in the study/handbook, altogether analyzed under the leading aspect of development which, in turn, is seen as the struggle for a better society. The handbook is divided into six parts: historical development of women's labour, situation of the different types of work/occupations, special problems and working conditions, protection of working women in legislation and administration, women in the labour union, and working women in public life. It consists of more than 60 contributions all of them written by women exclusively (674 pages).

Why should that handbook be understood as a contribution to social research? There are three reasons which make such a decision plausible:

- a) the kind of material and its production:
 - the materials reach from
 - census data and
 - social statistics over
 - reports of labour- und commerce inspectorates
 - self-reports of female workers to
 - empirical descriptions of political organisations and movements
 - law and jurisdiction and
 - three special investigations among working women carried out between 1926 and 1928;
- b) the organization of the study:
 - the analysis is more than a plain description insofar that many data are brought into a frame of historical explanation (for instance, the steep rise of the number of female steel workers between 1910 and 1923 because of war demand) and statistical data are linked with everyday experiences for the purpose of understanding the abstract relations.
- c) the linking of a burning social problem with the idea that special information can contribute to answer some of the questions This point refers to a fact already mentioned: one of the inherent characteristics of Austrian sociology from its early beginnings is the close relation of research and theory to the social and political reality full of conflicts (Knoll, Majce, Weiss, Wieser 1981:59). Thus, the general aim of the study could be described as an effort to demonstrate that social research is necessary to base political decisions on systematically

gathered knowledge and that it is an instrument to decipher social problems. We consider that handbook/study an underestimated example in describing the development of social research in Austria until World War II.

Österreichisches Gesellschafts- und Wirtschaftsmuseum (Austrian Museum of Society and Economy)

The importance of that museum lies in the intersection of utopian thinking for the sake of social reform, the design for a new concept of the social sciences, and the certainty that enlightenment and education of the deprived is the only way to change society to the better – altogether in one man: O. Neurath. In his view it is the duty of a modern democracy to inform their people in a proper way about production, emigration, infant mortality, trade with goods, unemployment, the struggle against tuberculosis and alcoholism, ways of nutrition, the importance of sports, physical and mental education, school organization forms and supply of the society with schools, etc. This, however, is not possible by presenting abstract relations of social and economic facts it is necessary to make them perceptible -by pictorial education (information graphics and design). So O. Neurath tried to simplify statistical tables by developing pictorial charts in which he used symbols to express the figures of the table. During his time in the Vienna Museum he called that system to design pictorial charts “Wiener Methode der Bildstatistik” (Vienna Method of Pictorial Statistics), and only after migration it became the more internationally oriented term “ISOTYPE”, an acronym of “International System of Topographic Picture Education” (Jansen 1996:144). For collaboration he won the graphic artist Gerd Arntz from Cologne who was primarily responsible for the reductionist type of the pictograms; he came to Vienna for the first time in 1928, following an invitation of O. Neurath, and then went there for good in 1929. In his own words: I had to push through my way of presenting a human figure, I had to impose it the others, so to say, to argue and to defend, sometimes against O. Neurath too (Arntz 1982:31, own translation). It is worthwhile to explain at least in a short way what the logic of the process is of which O. Neurath had developed. In a first step statisticians had, under the guidance of O. Neurath, to gather and arrange the statistical figures by which frequencies and relations are usually described; the so called “transformers” had then to select and reduce the numbers for themes and comparisons, accompanied by education professionals. Altogether they had to be acquainted with the social view points and they had to have an impression of the end product which should serve to leave an effective impression with the spectators (Arntz 1982:32). Important is to see that the same symbol was always used to express the same object or the same number of objects respectively.

The Wiener Methode and later ISOTYPE was widely used and distributed between Europe, the USA and UdSSR before World War II. P. Neurath wrote remembering his Father, that, when he died on December 22, 1945 in Oxford, he was working as director of the ISOTYPE Institute and that he was preparing his own "Visual Autobiography" that, although still a fragment, was published after his death as "From Hieroglyphics to Isotypes" (Neurath 1996: 15). In the 1990s, A. Jansen could say that today ISOTYPE has almost been forgotten (Jansen 1996:145). That is hard to understand because many of the methodic definitions were valuable for modern infographics and could help to avoid thousands of infographics we are confronted with every day, overloaded with detailed information instead of presenting quality in terms of information. It might be a too general hypothesis that the forced removal of the Vienna Gesellschaftsmuseum to The Hague following the rise of Austrian fascism was responsible for ISOTYPE's failure in further success and that there could be found other reasons maybe connected with O. Neurath's understanding of the interplay between visualization method, societal aim of education, and the role of sciences. However, such evaluations are always of a relative significance. W. Johnston came to quite a different result when he wrote: Since 1945, historical and bourgeoisie museums like them O. Neurath had developed sprang like mushrooms all over the world, especially in Eastern Europe where propaganda and information is transferred simultaneously (own translation, Johnston 1974, 204). Nevertheless, it seems that in recent conceptualizations of "Visual Data Analysis" O. Neurath's basic ideas come to renewed use again (Müller, Reautschnig 2013).

Die Arbeitslosen von Marienthal (The Unemployed of Marienthal)

Today, the Unemployed of Marienthal is regarded as one of the classical studies in social research because of the methodology used and the insights gathered in the economic, social and psychosocial effects of long term unemployment, and it is irresolvably linked with the names P.F. Lazarsfeld, M. Jahoda, and H. Zeisel as well as L. Schenk-Danzinger who seems to be almost forgotten in actual publications about that study. In resuming it we rely upon the concise overview of R. Müller (2012) using parts of his text literally.

According to R. Müller the study was carried out by fifteen collaborators of the Austrian Research Unit for Economic Psychology ("Österreichische Wirtschaftspsychologische Forschungsstelle" founded by P.F. Lazarsfeld with the strong support of K. Bühler) briefly Research Unit in Vienna (and another two non-scientific collaborators for political contacts only) under the direction of P.F. Lazarsfeld. It is said that he began working on the conception of that

project in 1930 – in the same year in February the last workshops of the textile factory of Marienthal were shut down. The project was started in the first week of November 1931. The major part of the field work was carried out by L. Schenk-Danzinger who was staying on site for six weeks from the beginning of December 1931 until mid-January 1932, officially supervising a winter relief action called Winter Aid (“Winterhilfe”) (distributing second hand clothes), which was managed by the Viennese physician P. Stein. During the core time of the project members of the research team met once or twice a week at the Austrian Research Unit for Economic Psychology to share their experience, discuss observations and plan the next steps of the project. A total of about a hundred and twenty working days were spent in Marienthal, and material weighing around thirty kilos was collected.

The evaluation of the empirical material was partly carried out at the time of the field research, partly in early summer of 1932 at the Austrian Research Unit for Economic Psychology in Vienna. Like the field research, the evaluation was also conducted within the team. It may be assumed that P.F. Lazarsfeld had a major part in it, being director of the overall project and statistician at the Institute of Psychology at Vienna University and its associated Research Unit. The authors of the study highly appreciated L. Schenk-Danzinger as a relevant informant.

In the summer of 1932 Marie Jahoda – at that time still married Lazarsfeld – wrote the main part of the study within a few weeks. At about the same time H. Zeisel who was only marginally involved in the study, was obviously working on his history of sociography, a paper which was apparently written rather hastily as can be seen from the numerous mistakes and from the corrections in later editions made by the author himself.

The book was published in June 1933 at S. Hirzel’s publishing house in Leipzig under the title “Die Arbeitslosen von Marienthal”, although originally its title should just have been “Marienthal”. It is interesting to note that the authors’ names “Marie Jahoda-Lazarsfeld” and “Hans Zeisl” (at that time he spelled his name this way) – did not appear on the cover but only inside the book. As M. Jahoda testified later, it was a concession to the National Socialists who had just risen to power in Germany: the authors’ names would have been too Jewish for the publisher. The book probably disappeared from the market soon afterwards and the remainder of stock was destroyed by the publishing house. However, the first edition of the Marienthal study has become a bibliophilic rarity. It needs to be mentioned that the book was neither burnt nor put on a list of banned literature by the National Socialists.

The fact that unemployment was of topical interest at the time of the study and has remained so ever since may be a significant reason for its success, an aspect particularly emphasised by Marie Jahoda. This, of course, also includes

the conclusions of the Marienthal study. One of them, “the weary community”, was a particularly hot topic, running counter to the popular notion held in the socialist parties of an unemployed person being a revolutionary.

The other reason for the worldwide circulation of the Marienthal study is undoubtedly based on its methodological approach emphasised by P.F. Lazarsfeld: the diversity of applied methods and their specific combination. Non-reactive techniques (statistical evaluation, analysis of documents, methods of observation) were confronted with reactive techniques (participant observation, action research, surveys, tests). Another interesting aspect is the exploitation of exceptional sources for research in social sciences (*e.g.* user file of workers’ library).

At least till that time, there is still another reason for the particular significance of this study among projects of social sciences. “We made it a consistent point of policy that none of our researchers should be in Marienthal as a mere reporter or outside observer. Everyone was to fit naturally into the communal life by participating in some activity generally useful to the community” (p. 5.). A typical example thereof was the clothes campaign organized by P. Stein as already mentioned. Other examples included a free two-month pattern design course which took place twice a week and was attended by about fifty women, a girls gymnastics course, or free medical consultation and treatment (partly including medication) offered every Saturday by a gynaecologist and by a paediatrician on site. Usually in connection with medical treatment free parent guidance was provided, advising women of Marienthal in parenting and domestic matters. Although these aid activities within the project served the purpose of establishing good contacts with the local community, they also reflect the remarkable code of ethics which the researchers of the Austrian Research Unit for Economic Psychology felt committed to.

Finally it should also be noted that the Marienthal study exhibits gender equality both among the researchers and the researched which was not only in those days quite remarkable. The unemployed cited in the book divide almost evenly into male and female. Moreover, plenty of space is allowed for the presentation and analysis of the effects of unemployment on women. Another characteristic feature is the presentation of biographies of unemployed people at the end of the publication: out of a total of sixty-two biographies collected in the survey, the life stories of a married couple, and those of an unemployed man and an unemployed woman are printed there. Concerning the researchers involved in the Marienthal study itself, eight women worked with seven male colleagues. The main work of field research was done by Lotte Schenk-Danzinger, and the author of the main text of the Marienthal study was a woman, too: M. Jahoda.

After the Second World War, it has been said that empirical social research in Austria was imported from the USA and that there were no genuine roots

for that development in the country itself. We can use, again, a paradoxical consideration to show that the whole story probably went the other way round (Neurath 1988). What today in the world is coined “a typical american product”: namely, the organizational type of the institutes of social research at universities or institutes affiliated with universities was “invented” decades before by P.F. Lazarsfeld with the “Wirtschaftspsychologische Forschungsstelle” in Vienna (which opened in 1931/32 and was in its idea probably inspired by the “Österreichische Institut für Konjunkturforschung” of L. Mises which had already been founded in 1926) (Fleck 1990:161). Be the priority question as it may, P.F. Lazarsfeld brought that idea to the USA and developed it in the form and to the extent we know it today and in which it came back to Europe. Whereas that story relates to the institutional aspects of the development of social research other dimensions have to be seen in methodology and thematic research. The early studies carried out by P.F. Lazarsfeld in the USA which, however, had their roots and forerunners in Austria were devoted to radio listening, mass communication, market and consumer research, and voting behaviour. These projects are linked with the developing of special methods, as for instance, panel design, multivariate analysis, and latent structure analysis. What had to be imported in Austria was of quite different nature: it was a sufficiently high degree of professionalism in organizing big research projects fulfilling the requirements and using the granted money according to the terms. Ch. Fleck comes to the result in his studies about the transfer of knowledge and money from the big US-american foundations (Rockefeller, Ford) to Europe that in Germany and Austria there was a remarkable inability among scientists to carry out research projects successfully and in time. It seems that they had not learned that cultural technique of scientific work during the Nazi-Period (Fleck 2007:456). P.F. Lazarsfeld is reporting a similar experience when he speaks about the pre-history of the Vienna Institute for Advanced Studies. When he stayed in Austria, in 1958, to sound out the situation for founding such an institute by support of the Ford Foundation his impression was: “However, I did not find younger people who would live up to the standards which the Ford Foundation had set up for the granting of these fellowships” (Lazarsfeld 1993:10).

2.3 Lines of Development Between 1945 and 1975

In Austria, the first associate professorship exclusively for sociology was established in 1946 at the Law Faculty of Vienna University. It was changed into a full professorship in 1950. A.M. Knoll held this chair until his death in 1963 (Rosenmayr 1966:26). Then, it took some time until the first sociological

studies were carried out. In a bibliography produced in 1969, and reaching back until 1950, only 12 books are mentioned which were published before 1960, and only three out of the 12 are obviously product of empirical social research (Rosenmayr, Höllinger 1969). The next two enlarged bibliographies followed in 1970 and 1974 (Rehberger 1970; Rehberger 1974). These bibliographies are more sophisticated using the “International Bibliography of Sociology” edited by the UNESCO as a classification system. They comprise all sociological books, articles in journals, textbooks etc. published in Austria or published by Austrian authors in other countries between 1960 and 1969 with the consequence that 654 publications could be found. The second bibliography is a continuation of the first with 501 new publications between 1969 and 1974. The classification system is the same. Whereas in the first listing only one textbook of sociology appeared there are five in the second, the number of publications on theory, methodology and statistics has grown and the main emphasis of publications lies on social structure, rural sociology and demography, on youth and old age, labour and education.

The time between 1950 and about 1970 saw a remarkable expansion in social research activities as well as legislative improvements. Studies which can be regarded as milestones in the early time until the middle of the 1960s are among others: a first comprehensive and well elaborated study on social stratification in Austria by H. Firnberg⁴ (1961), a broad empirical study on family ties and leisure time activities of younger workers (Rosenmayr 1963), and one of the first studies on voting attitudes and behaviour (Blecha, Gmoser, Kienzl 1964).

Concerning the production of socially relevant data we can say: from the 1950s to the 1970s, public interest in Austria was concentrated on data about economics (Wirtschaftsstatistik) and only with the begin of the 1970s more attention rose for data of social concern (Sozialstatistik). The main instrument used for many research purposes was the Austrian Microcensus established in 1967. It is a population survey to update census data continually and to describe the living conditions of people in shorter periods. As a consequence of the changed interest the official statistics developed two ways of organizing and presenting relevant data: on the one hand a system of social indicators was established and on the other hand the periodical publication of data handbooks containing tables and comments was started. In 1976, the Austrian Central Office for Statistics published the first collection of social indicators (“Beiträge zur Österreichischen Statistik”, Heft 428) and, in 1977, the first data handbook (“Sozialstatistische Daten”) appeared.

4 Quite a meager study on the same topic was published by E. Januschka (1938) with his clear appreciation of the lucky event (his conviction) that Germany had invaded Austria, thereby freeing the Austrians from the serfdom they had suffered before.

In 1970, sociological institutes at universities existed one in Graz (since 1965), three in Linz (since 1965, 1966, and 1966), one in Salzburg (since 1968), and two in Vienna (since 1950 and 1966) with altogether nine full professors. Most of the foundations have to be seen in connection with a legislative creation: in 1966, the first "University Study Law of Social and Economic Sciences" was passed in Austria enabling students to finish their sociological or economic education with the *Magister* (Master) *rerum socialium oeconomicarumque*.

Some of the first institutions founded after the War in Vienna were defined for the purpose of market- und opinion-research others had broader sociological topics in their research programs. 1948: The "Austrian Gallup-Institute" in Vienna was established by S. Beckert who had had contact with G. Gallup in the USA before. 1950: The "Fessel-Institute" was founded by W. Fessel as a Statistical Bureau. 1952: Followed the "Institute of Ecclesiastic Social Research". It was the first organization undertaking demographic, sociographic and empirical sociological studies after the Second World War in Austria and was founded by the Dutch Franciscan Father, L. Grond. A good many of the 77 reports and 40 memoranda published up to 1966 were devoted to parish studies. 1954: The "Social Science Research Centre" was established by L. Rosenmayr *within* the University of Vienna.⁵ 1957: "The Institute of Spatial Planning" started with social empirical studies. 1960: The "Austrian Institute for Youth Research" followed. 1963: The Vienna "Social Research Institute" was founded by K. Blecha and, 1965, changed into "Institute of Empirical Social Research" (Hebenstreit, Gmeiner 1990).

Of special importance is the foundation of the "Institute of Advanced Studies", in 1963, as a postgraduate training centre and research organization. It was P.F. Lazarsfeld (and O. Morgenstern) who were responsible for the relevant initiative and who established the links between the Ford Foundation and the Austrian officials. After a period in which it attracted not much attention from the university sociology, it began to grow the biggest social science institute in Austria with a monopoly in post graduate education and became a clear competitor to the universities. The Institute was meant to be a bridgehead (K. H. Müller) to the international methods and theories of the social sciences which, at that time, had not yet been adopted in Austria. It was seen as an intellectual left-liberal experimental station for advances in the research field and it could realize that by inviting a whole series of internationally recognized guest professors. Giving regular courses we find, among others, between 1963 and 1971: Ch. Bühler, J. Coleman, R. König, P.F. Lazarsfeld, H. Schelsky, F.A.v.

5 Other institutes were established within the university context in Graz (J. Mokre), Innsbruck (J. Schasching), Vienna (E. Lagler).

Hayek, M. Crozier, F. Redlich, A. Rapoport, L. Coser, P. Blau, and J. Galtung) (Hebenstreit, Gmeiner 1990). The three departments were sociology, economy, and political science and the institute produced some very important social scientific studies during that high times of sociology in Austria, as for instance, one on the living conditions in the country (Fischer-Kowalski, Buček 1980). Since 2016 post graduate education has been cancelled.

Towards the end of the 1970s, social research in Austria had changed its content and its form as compared to the early 1960s in two ways: an expansion of activities and, simultaneously, a consolidation of main topics in research, in the universities and outside, (on which we are not going to speak here) on the one hand, and a trend of growing self reflection and problem awareness in research on the other. In the 1970s, the first publications appear in which a critical perspective on research and its functions in society emerge partly inspired by ideas of the new rising western marxism. The role of social science research was seen in its function of the state interventionism of that time, in its potential to create awareness of problems which needed crisis management, in its change from a means of societal diagnosis to societal action guide, and in its function for the legitimization of politics and science alike (*cf.* Fischer-Kowalski 1974). Additionally it is the time when social research in Austria could begin to expand with higher speed because the institutional conditions improved remarkably inside and outside the universities. Many graduates went into public administration others founded their own small research institutes and many had a chance to work in jobs not central to their education – but they had an opportunity to be employed. Looking back from now, we come to the conclusion that with the end of the 1970s the development of social research in Austria had reached a state which was comparable to other European countries, that the international cooperations began to become fruitful, and sociology as a science had started to build up more and more features of an internationally oriented science infrastructure. One aspect has to be seen which is of interest from a sociology of science point of view: there were studies on the production and reception of studies parts of them written in a constructivist manner (Knorr, Haller, Zilian 1979; Knorr, Haller, Zilian 1981) having its roots in investigations carried out in the Institute of Advanced Studies in Vienna. In a way an idea had began to carry fruits in Austrian sociology which had been formulated by P.F. Lazarsfeld long ago: “If one wants to know what sociology is, one has to find out what sociologists do. If one wants to find sociologists one has to look for them among the large number of people who try to develop the social sciences” (Lazarsfeld 1990:11). From the side of sociological education we could say: Students should have a working knowledge of the background and the historical antecedents of social surveys and research, but this background is

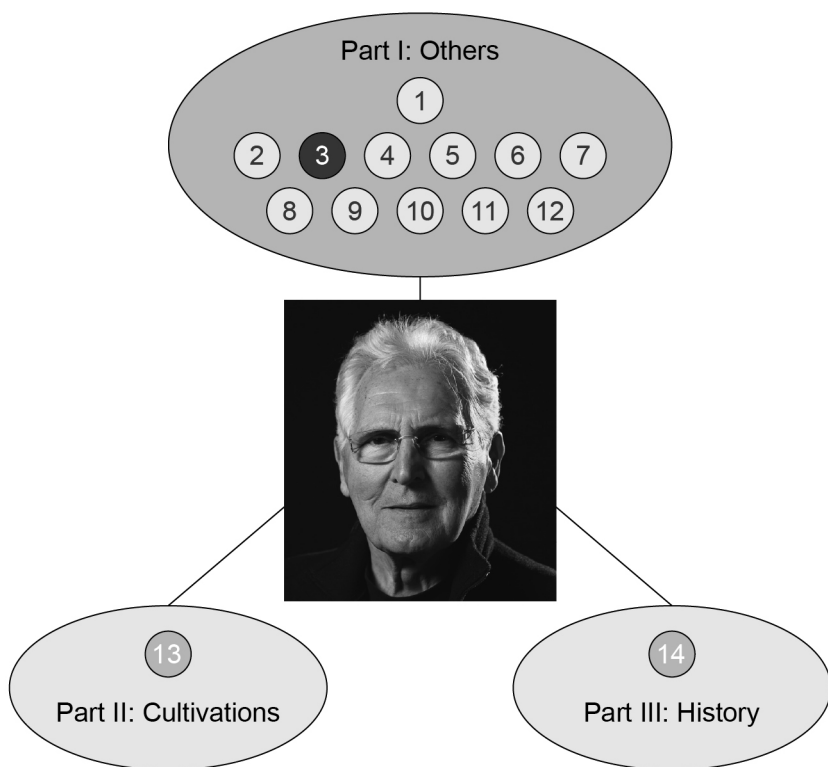
so complex, and the literature on social surveys and research – relating both to concrete studies and to methodology – is so extensive that the student will need guidance (*cf.* Young 1946:ix).⁶ To give that guidance had become possible too at that time.

6 This is Pauline Vislick Young (Poland: 1896 – California: 1977) who wrote one of the first reviews on “Marienthal”. It is worthwhile to know that she in her textbook of 1946 uses O. Neurath’s pictorial method with reference to publications of 1933 and 1937 and that in the bibliography of her textbook she makes reference to O. Neurath’s “Gesellschaft und Wirtschaft” of 1930 and his “International Picture Language” of 1936.

3

On Austrian Social Science Research Infrastructures

Anton Amann | Karl H. Müller



This new means of communication thus created is now called ISOTYPE from the initials of 'I-nternational S-ytem o-f TY-pographic P-icture E-ducation', the word is based on Greek roots and may be translated 'always using the same types'.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

This article has its focus on the co-evolution¹ and long-term developments of social science research infrastructures in Austria from the very beginnings of social science research infrastructures² in the 1950s and 1960s up to the present time and beyond. The article takes its starting point in a period in which research infrastructures were almost totally absent not only in Austria, but across the world, extends itself up to the present time in which Austrian research infrastructures for the social sciences are well embedded within a self-contained European system of research infrastructures across the social sciences and the humanities.

The Austrian history differs significantly from the situation in Slovenia where Niko Toš was in a unique position to initiate the formation of the Slovenian Social Science Data Archive ADP as an offspring of an extremely rich production of surveys and empirical studies conducted at his Public Opinion and Mass Communication Centre (CJMMK). In Slovenia, the most productive center for social science micro-data production and generation was at the same time to become the main builder of social science research infrastructure and the most active source of new micro data sets for ADP.

In Austria, most of the relevant stakeholders for social science research as well as the dominant scientific, administrative or political sphere showed very little or no interest in building, widening or advancing research infrastructures within

1 In socio-economic domains, including the realm of science systems and networks, the long-term dynamics of a societal ensemble must or should be always viewed within a larger context of other societal ensembles and an external environment so that any evolutionary analysis within socio-economic areas usually must be conducted as a co-evolutionary study.

In the current study the social science research infrastructures have to be conceptualized and analysed necessarily together with the social sciences. (On this point, see especially Müller 2014 and 2017a)

2 On research infrastructures in the social sciences, see different perspectives from DG Research and Innovation 2015 and 2017, the ESFRI-Reports 2006, 2008, 2011 and 2016, Jowell & Kaase & Fitzgerald & Gillian 2007, Kleiner & Renschler & Wernl & Farago & Joye 2013 or Müller 2005 and Kratochwil & Müller 2005, aside from the early pioneer views of Nasatir 1973, Scheuch 1966 or White 1977.

the Austrian social sciences.³ Here, the slowly growing tide of empirical social research or of theoretical sociology from the 1970s onwards was accompanied by little or no activities in social science research infrastructures⁴ and both domains were never able to start a self-enforcing virtuous circle, but remained in splendid isolation from each other.

Our contribution to this *Festschrift* will proceed in seven steps or stages and will include the following themes or topics.

- Initially, the article is focused on research infrastructures in the social sciences and discusses the issue what can be qualified as relevant components of social science research infrastructures.
- Subsequently, a small set of basic trends and patterns on the co-evolution between the social sciences and the research infrastructures in the social sciences will be presented with a strong regional focus on Austria.
- The next step provides a short history of social science research infrastructures in Austria from the 1960s onwards up to the present time and on its main episodes or temporal stages from the year 1963 up to 2017.
- Additionally, an overview will be offered on recurrent features and permanent characteristics in the Austrian system of research infrastructures in the social sciences which remained largely unmodified, but also unimproved throughout history.
- Furthermore, one of these recurrent features of the Austrian system of research infrastructures will be described with more details. This specific characteristic trait lies in a marked asymmetry between available program lines, ambitious plans and even roadmaps for the building and construction of social science research infrastructures and the extreme reluctance or foot-dragging to implement these programs or roadmaps within the Austrian contexts.
- Afterwards, a completely stranded and abortive masterplan, this time for an innovative push within the Austrian social sciences quite independently from the social science research infrastructures, will be laid out briefly, once again, only in its main unsuccessful details.
- Finally, a few medium or long-term future trajectories for the Austrian social science research infrastructures as well as their relations and patterns with the Austrian social sciences will be outlined.

3 On the poverty of the history of empirical social research and of the social sciences in Austria after 1945, see, for example, Amann 1986 and 1990 or Müller 1996.

4 An extensive qualitative study on the various dimensions in the understanding of the concept of research infrastructures among Austrian key players was undertaken more than ten years ago (see Kratochwil & Müller 2005).

According to this self-chosen set of targets or objectives, our non-magical and non-mysterious tour will start with a more general discussion on the scope and on the formations of research infrastructures for the social sciences neither in Austria nor in the European context, but on a global scale.

3.1 Research Infrastructures in the Social Sciences: A General Frame of Reference

While this section is not confined to Europe it will start with the European Strategy Forum on Research Infrastructures (ESFRI), an intergovernmental organization, which has provided two precious elements simultaneously, namely,

- on the one hand, a descriptive identification for the concepts of research infrastructures for the global science system and,
- on the other hand, a roadmap for the constructions of new and future research infrastructures across a rich diversity of science domains.

The subsequent specifications serve as a useful starting point for distinguishing research infrastructures both from research and from general infrastructure domains in science like large-scale facilities, libraries or information and communication technologies.⁵

In the context of the ESFRI roadmap, the term ‘research infrastructures’ refers to tools that provide essential services to the scientific community for basic or applied research. They may concern the whole range of scientific and technological fields, from social sciences to astronomy, going through genomics or nanotechnologies. Examples include libraries, databases, biological archives, clean rooms, communication networks, research vessels, satellite and aircraft observation facilities, coastal observatories, telescopes, synchrotrons, accelerators. They may be ‘single-sited’, ‘distributed’, or ‘virtual’. What we are dealing with are the necessary tools for the future to do science in many areas at the cutting edge. (ESFRI Communication 2004:1)

5 Lewis Pyenson and Susan Sheets-Pyenson (Pyenson & Sheets-Pyenson 2000) offer the intriguing argument that the research infrastructures in astronomy or medicine even preceded the so-called Scientific Revolution of the sixteenth and seventeenth centuries by several hundred years. Islamic observatories as large-scale facilities were built as early as the 9th and 10th century (Pyenson & Sheets-Pyenson 2000:103–109) and botanic gardens were already created in Hamburg in 1316 (*Ibda*:153).

With the ESFRI-Opportunity List⁶ and the first ESFRI roadmap (ESFRI 2006) the scope of research infrastructures for the seven major science domains was fully specified and comprised the following very large-scale scientific arenas.

- Social Sciences and Humanities⁷
- Environmental Sciences
- Energy
- Biomedical and Life Sciences
- Material Sciences
- Astronomy, Astrophysics, Nuclear and Particle Physics
- Computer and Data Treatment (CDT) (ESFRI 2006).

For this set of highly heterogeneous science domains, the ESFRI definition of research infrastructures, including the associated human resources, covered

major equipment or sets of instruments, as well as knowledge-containing resources such as collections, archives and databases. Research Infrastructures may be “single-sited”, “distributed”, or “virtual” (the service being provided electronically). They often require structured information systems related to data management, enabling information and communication. These include technology-based infrastructures such as grid, computing, software and middleware. (ESFRI 2006:16)

In later years Landscape Analysis (LA) was added as a major field for embedding research infrastructures in their corresponding research environments.

The Landscape Analysis identifies the main RIs (Research Infrastructures, A.A. & K.H.M.) operating open access in Europe, in all field, and major new or ongoing projects. This includes national, regional and international facilities as well as consortia that offer integrated services and transnational access to state-of-the-art resources for research. The Landscape Analysis is a reference document for information and does not represent in any way a prioritization of ESFRI for future investments or the view or any commitment on the part of ESFRI members. (ESFRI 2016:11)

6 The ESFRI-opportunity list was developed very early already in the year 2004 and it was followed soon by the first ESFRI roadmap which comprised an interesting collection of potential infrastructure sites. The first ESFRI roadmap from 2006 exhibited at the same time the wide varieties and differences in research infrastructures in astronomy, astrophysics, nuclear and particle physics on the one hand and in the social sciences and humanities on the other hand. The former group was centred on a set of five very large-scale single-site-facilities with average construction costs around 700 Million € for each of the five ensembles whereas the total group for the six research infrastructure projects for the social sciences and humanities operated on the integration and combination of small, but highly fragmented research infrastructures with a total cost of 250 Million € for all six projects.

7 Within the ESFRI-context, the social sciences were not viewed as a sufficiently large and independent domain, but were always linked and inter-related with the humanities under the name of SSH, under the label of social sciences and humanities.

From these general ESFRI-definitions one can extract a more specific outline of research infrastructures in the social sciences which cover all tools, instruments and other research ingredients that fulfil one or more of the following four basic catalytic⁸ functions.

- *Enabling* research in the social sciences with new instruments and tools. This is probably the most crucial function which research infrastructures across major science fields have to fulfil.⁹ A paradigmatic example for the enabling function in the domain of the social sciences lies in the availability of highly comparative data on living conditions or attitudes between many or all EU-member states which allow or enable a broad stream of reliable comparative studies.
- *Accelerating* research in the areas of the social sciences by providing, for example, a comprehensive documentation and efficient search procedures for already existing data sets or documents within a given nation or a group of nations.
- *Improving* the quality of research in the social sciences through, for example, extensive services in research designs or, more specifically, through knowledge services for all relevant stages of research processes in the social sciences.
- *Enlarging* the diffusion potential of research in the social sciences by providing easy access to data and documents or by new knowledge tools which offer a better understanding of the current state of the art in the domain of the social sciences.

According to these catalytic functions research infrastructures can be clearly distinguished from general scientific infrastructures like buildings, digital equipment, technical personnel, libraries or overhead costs. The latter group can be considered as pre-requirements or necessities for conducting research,

8 A catalyst or a catalytic function can be described, according to the Wikipedia-definition below, in the following way (see also Masel 2001).

Catalysis is the increase in the rate of a chemical reaction due to the participation of an additional substance called a catalyst, which is not consumed in the catalyzed reaction and can continue to act repeatedly. Often only tiny amounts of catalyst are required in principle.

Outside the realm of chemistry, research infrastructures fulfil a catalytic function by *enabling* scientific production processes. More specifically, social science research infrastructures fulfil a catalytic function by *enabling* production processes within the social sciences. Furthermore, research infrastructures for the humanities fulfil a catalytic function by *enabling* production processes within the humanities

9 To refer to the first ESFRI roadmap, extremely large telescopes, a deep-sea neutrino-telescope, a facility for antiproton and ion research, a marine vessel for coastal research or a research icebreaker open up new dimensions and domains for observation and experimentation which in general enable new waves or even new fields of European research.

whereas the former group of research infrastructures plays an indispensable role within the research process itself and fulfils one or more of the four main catalytic functions specified above.

Additionally, research infrastructures in the social science domains exhibit a number of characteristics that are shared by research infrastructures in other scientific domains and even by societal infrastructure domains outside the science arena.

- First, research infrastructures in the social sciences are non-substitutable in a strong sense. In most instances, one cannot identify functional equivalents in the research domain of the social sciences which could replace or act as substitutes for missing infrastructure components.
- Second, research-infrastructures are not re-establishable via the operations of normal research in the social sciences, *i.e.*, research in its normal course of operations would be unable to generate or to repair the necessary research infrastructures for the social sciences, once they have been seriously damaged.¹⁰
- Third, research infrastructures in the social sciences are predominantly of a binary 0/1 type and are characterized by critical thresholds. For example, a long-term bottom-up funding scheme for generating and maintaining strongly comparative data will constitute a complete failure since the bottom-up projects, each for themselves, will turn out to be under-critical and, moreover, will be too heterogeneous to become harmonized into a strongly comparative data base.
- Fourth, research infrastructures in the social sciences are rather intensive with respect to maintenance- and personnel. Thus, the setting up of new infrastructure components in the social sciences and humanities covers only a tiny fraction of the necessary long-term operation costs.

These characteristics of research infrastructures in the social sciences like non-substitutability, being not re-establishable, critical thresholds or maintenance-intensity point to the special status of research infrastructures within the overall knowledge base. Additionally, in most instances, it is appropriate to characterize these tools, instruments and other research ingredients as public goods¹¹ since they fulfil several essential conditions or requirements, usually associated with public goods across the economy.¹²

10 On the importance of the notion of “being re-establishable” within living networks, see Casti 1989 and 1992 or Müller 1999.

11 See especially Hess & Ostrom 2007.

12 Public goods are characterized in most general terms by the principles of non-exclusion and non-rivalry. On public goods, see, as locus *classicus*, Samuelson, 1954 or, for more recent versions, Gravelle & Rees 2004, Mas-Colell & Whinston & Green 2004 or Varian 2006.

- First, research infrastructures in the social sciences can be qualified as non-exclusive since these tools and instruments must be accessible and usable for each actor in the regional, national or supra-national networks of research in the social sciences.
- Second, these research infrastructure tools, instruments and ingredients cannot be produced within the networks of research units themselves irrespective of their public or private type of organizations.
- Third, these tools, instruments and ingredients are available for the overall science system for free or for minimal costs only.¹³
- Fourth, due to the characteristics outlined so far, research infrastructures require public actors as builders of last resort¹⁴ and as main providers.

In this sense, research infrastructures in the social sciences like research infrastructures in the natural sciences,¹⁵ for example in the material sciences, the life sciences, energy or in the environmental sciences, require public actors and public funding schemes as the necessary pre-conditions for the construction and for the maintenance of research infrastructures, both at the regional, national and at the European levels.

3.2 Long-Term Dynamics for the Austrian Social Sciences and their Social Science Research Infrastructures

With respect to the long-term dynamics and the co-evolution of the social sciences and their corresponding research infrastructures several major dynamic or co-evolutionary patterns can be identified for the Austria situation. Some of these general dynamics can be found in a large number of countries, some exhibit significant differences even between neighboring states like Austria and Slovenia.¹⁶

13 As a prime example of free research infrastructures in the social sciences and humanities with a high relevance for enabling comparative social research one may refer to the European Social Survey (ESS) where a minimal registration procedure is needed to download the entire data-set for free immediately after the end of the field work period from the central ESS data provider, namely the Norwegian Data Archive (NSD).

14 The term “builder of last resort” is a direct analogy from the “lender of last resort” in international economics. See for example Kindleberger 1996.

15 In the case of astronomy, astrophysics, nuclear and particle physics it is obvious that the network of university or research institutes, national or European, cannot produce the infrastructures needed for advancing into new dimensions, scales and frontiers. Due to the apparent smallness of research infrastructures in the domain of in the social sciences and humanities, the necessity for research infrastructure funding is usually seen as far less obvious and as far less urgent or needed.

16 For more details, see especially Part II of this Festschrift which offers a detailed picture of

- A general pattern of coherence can be observed with respect to the relations and dynamics of the social sciences on the one hand and of social science research infrastructures on the other hand from the decades after 1950 and 1960 onwards when the research infrastructures in the social sciences became more and more advanced in the global science system.
- This coherence manifests itself in the simple configuration that sustainable high-quality research in the social sciences requires high-quality social science research infrastructures and *vice versa*. The major national players within the European social science arena are at the same time the significant national stakeholders for social science research infrastructures across Europe.
- Turning specifically to the Austrian situation, knowledge production in the social sciences reached very prominent levels during the period from the late 19th century up to the emergence of various forms of fascism in the years after 1934 or 1938, after the military occupation of Austria by Germany. Prior to the years between 1934 or 1938 the social sciences were part of a global core with a series of path-breaking basic innovations in areas like economics, psychology and medicine, the social science in general, science studies and related domains. (On this point see especially Janik & Toulmin 1973; Johnston 1974; Kandel 2012; or Schorske 1981)
- From its high levels prior to the Second World War knowledge production in the social sciences within Austria fell to deplorably low and peripheral levels after 1945 (see also Fleck 1996 and 2000).
- In Austria, the social science research infrastructures as well as the social sciences formed a classical ‘vicious cycle’ during the decades from the 1960s onwards in which the passivity in one network node was accompanied by inactivities and insufficient or counter-active actions in another network node.

With this very short list of dynamic patterns and trends in Austria the following story can be offered for the long-term co-evolution of the Austrian research infrastructures in the social sciences with the social sciences from its very beginnings in the 1960s.

the virtuous cycles between the social sciences and the research infrastructures for the social sciences in Slovenia.

3.3 Different Stages in the History of Austrian Social Science Research Infrastructures

The entire history of research infrastructures in the social sciences in Austria can be divided into several temporal stages, namely into

- a long period of latency (1963–1983)¹⁷
- a short period of bursts (1984–1985)¹⁸
- an early phase of marginal and peripheral existence (1986–1991)
- a short expansion and a decline of social science research infrastructures (1992–2000)
- a period of threefold impulses from two Austrian ministries and from Europe (2001–2009)
- a phase of high national volatilities and the end of the first generation of Austrian social science research infrastructures (2010–2014)
- the rise of a sustainable second generation of Austrian social science research infrastructures (2015–2017ff.).

More specifically, these different periods or episodes for Austrian research infrastructures in the social sciences can be described in the subsequent manner. Research infrastructures for the social sciences took their first steps well outside Austria from the 1930s and 1940s onwards.¹⁹ The 1960s were the vital and formative years for research infrastructures in the European social sciences, especially for the social science data archives. In 1960 the *Zentralarchiv für Empirische Sozialforschung* (ZA) was created in Cologne, the UK Data Archive started in 1967 at the University of Essex or NSD, the Norwegian Centre for Research Data, began its operations in 1971 as part of the Norwegian Research Council.

Likewise, the IZ, the *Informationszentrum Sozialwissenschaften* was founded in Bonn in the year 1969²⁰ and ZUMA, the *Zentrum für Umfragen, Methoden und*

17 The year 1963 was chosen as an initial point in time because in 1963 the Institute for Advanced Studies (IHS) was founded in Vienna as a large-scale postgraduate research and study center for the social sciences, including economics (Felderer 1993). Due to the initiatives of Paul F. Lazarsfeld and the Ford-Foundation, the IHS was supposed to become an internationally embedded and strongly linked research organization for the social sciences which, due to its sophisticated digital machineries, had also a high potential as an important center of research infrastructures for the social sciences.

18 For an interesting theoretical background see Barabasi 2010.

19 On the early history of research infrastructures in the social sciences see, e.g., Bisco 1996, Green & Gutmann 2007 or Shankar & Eschenfelder 2015.

20 It is interesting to note that the 1960s were generally considered as a period with a growing and urgent need for documenting the available scientific literature. The German medical sciences,

Analysen was established in Mannheim in 1974. These three organizations, the 'big three,' namely the ZA in Cologne, the IZ in Bonn and ZUMA in Mannheim, formed the core of the social science research infrastructures in Germany and these big three institutions were further integrated in the year 1986 when these three organizations became founding members of GESIS, the *Gesellschaft Sozialwissenschaftlicher Infrastruktureinrichtungen e.V.*

At the European level CESSDA, the Council of European Social Science Data Archives, was launched in Amsterdam as a pan-European data platform and as an umbrella organization of national social science data archives in the year 1976. CESSDA was significantly upgraded in 2006 when CESSDA was placed on the first ESFRI roadmap (ESFRI 2006) and after a short Norwegian interlude CESSDA turned into CESSDA ERIC (European Research Infrastructure Consortium) in 2017 with its headquarters in Bergen, Norway.

In Austria with its severely underdeveloped organization of social science research after 1945²¹ new hope arose when the Institute for Advanced Studies (IHS) was founded as a postgraduate institution with new departments for sociology, for political science and for economics.²² But the Institute for Advanced Studies never became a strong supporter or promotor for social science research infrastructures, neither in the field of archiving social science data nor in the area of social science documentation or methodology enhancements. Even the establishment of a special computing center for the IHS and for WIFO, the *Wirtschaftsforschungsinstitut*, was not used for a small-scale program for social science research infrastructures.

The Economic and Social Science Computing Center (WSR) was formed in the year 1971 as a support organization for economic and social science research and moved close to become a social science research infrastructure. But the WSR undertook only limited tasks and activities in the area of mainframe computing and neglected all its potential support in the field of social science research infrastructures. The WSR helped to organize relevant data bases for economic research at WIFO, the Austrian institute for economic research and at the department of economics of the Institute for Advanced Studies (IHS) in Vienna, but the WSR never undertook tasks of a social science data archive or as a unit for social and economic science documentation. In the year 1996,

for example, started with the DIMDI, the *Deutsches Institut für medizinische Dokumentation und Information* in 1969 in Cologne.

21 On the low development profiles of the Austrian social sciences, including economics, after 1945, see especially Müller 1996 and 2010.

22 On the long and winding roads towards the establishment of the Institute for Advanced Studies (IHS) in Vienna see especially Fleck 2000.

the co-operation between WSR, WIFO and IHS was terminated and the WSR became an exclusive economic data service station for WIFO. In its current function the WSR acts as a host for economic data bases which offers economic data for Austrian or international research.

As a consequence, no major or tangible traces can be found on the formation of Austrian research infrastructures in the social sciences up to the year 1983, at least three decades after the formation of research infrastructures in the social sciences in countries within or outside the neighborhood of Austria.

But around the years 1984 and 1985 two rather unexpected bursts occurred. Within these two unusual years two important steps were taken and two small-scale institutes were founded in parallel, namely

- a social science information unit (SOWIS) at the library of the Economic University by Bettina Schmeikal in the year 1984 and
- a social science data archive in 1985 by Anton Amann, the Wiener Institute for Social Science Documentation and Methodology (*WISDOM*).

Both institutional formations were created through private initiatives without a strong backing from colleagues or professional societies in the social sciences like the Austrian association for sociology or the Austrian political science association and without an adequate financial support from relevant funding institutions. Contrary to the humanities in Austria with a long tradition of research infrastructures like historical archives and various institutes at the Academy of Science these two very small formations stood at the beginning of social science research infrastructures in Austria.

More specifically, Bettina Schmeikal, a social scientist with a sound background in social science methodology and theory, was able, due to her postgraduate studies at the Institute for Advanced Studies (IHS) in Vienna, to create a small unit for social science documentation, the *Sozialwissenschaftliche Informationsstelle* (SOWIS), at the library of the Economic University (*Wirtschaftsuniversität*). SOWIS was founded as a very small-scale unit in the stream of newly emerging social science documentation centers in Europe, most notably the spectacular IZ, the *Informationszentrum Sozialwissenschaften* in Bonn, Germany which was a large-scale organization with several dozens of permanent scientific and administrative employees.²³ The Austrian unit SOWIS was not founded as a permanent organization like the library of the Economic University itself with

²³ The IZ was to become today part of the *Leibniz-Institut für Sozialwissenschaften* which is the current umbrella organization for research infrastructures in the social sciences in Germany, comprising the former IZ, the *Zentrum für Umfragen, Methoden und Analysen* in Mannheim and the *Zentralarchiv für empirische Sozialforschung* in Cologne under a single directorate.

at least a small number of permanent scientific employees but highly similar to a single short-term research project which is temporary and needs new applications for renewed funding at an annual or bi-annual basis.

The founding of the social science data archive *WISDOM* (*Wiener Institut für sozialwissenschaftliche Dokumentation und Methodik*) occurred mostly independent from SOWIS, but within the same context of Austria as a notorious latecomer at the European scene of social science research infrastructures which were firmly embedded for several decades (Rokkan 1966).

In the year 1984 social researchers at the University of Vienna were suddenly confronted with the likely prospect that social science micro-data collections in the format of surveys and opinion polls from the 1970ies onwards were to be irreversibly and irrevocably lost. The storage of social micro data in the mid-1980s turned out to be not only costly, but highly space consuming because these data were computerized as punch cards and even a small survey produced a considerable number of boxes filled with these punch cards.

At that time news circulated within the Viennese social science community, most notably between Paul Neurath, Anselm Eder and one of the authors of this article, namely Anton Amann, that Ernst Gehmacher, head of IFES (*Institut für empirische Sozialforschung*), was about to destroy a massive amount of accumulated punch cards and Fritz Karmasin from Austrian *Gallup* was to follow Ernst Gehmacher in the data and punch card sweep. Due to this immediate threat of losing social science data sets on a massive scale Anton Amann and Anselm Eder discussed the possibility of building a social science data archive to protect these survey data from their physical extinction. Paul Neurath (1911–2001), the son of the social science member of the Vienna Circle Otto Neurath (1882–1945), referred to the German *Zentralarchiv für Empirische Sozialforschung* at the University of Cologne as a relevant instance for archiving social science data in a permanent and sustainable manner. Anton Amann received additional support by Peter Flora who was also linked with Anton Amann through the joint project “Growth of Limits”. Finally, Anton Amann applied directly to the Austrian Minister of Science, Heinz Fischer, a political scientist himself, and received significant additional support by Heinz Kienzl (Director General of the Austrian National Bank). Jointly Anton Amann, Anselm Eder, Heinz Kienzl, Ernst Gehmacher and others became the founding members of a voluntary association under the name of *WISDOM*, the Wiener Institute for Social Science Documentation and Methodology and the statutes of *WISDOM* placed a special emphasis on social science data documentation, social science data preservation and social science data transfers. Through the support of Heinz Kienzl *WISDOM* received its office space at the Maria Theresienstraße in the 9th Viennese district.

Among the numerous anecdotes of the early days, weeks months and years of *WISDOM* it must be mentioned that Anselm Eder had to pay and to install all the necessary technical and electrical equipment himself because no money was available and because the University of Vienna refused to become involved in this new social science data archive, especially because the responsible expert for methods in the Department of Sociology was opposed to the founding of such an organisation. The Science Ministry provided a small and absolutely insufficient annual grant for twelve months, but this minimal funding had to be repeated annually and there arose, thus, an annual necessity for re-applications. The work at *WISDOM* started with boxes of punch cards and with Günther Nemeth driving by bike across Vienna with these boxes of punch cards. Under these auspices a social science data documentation system slowly began its early formats, capable to encompass both the micro-data of surveys as well as the corresponding questionnaires.

It must be emphasized strongly that the founding of *WISDOM* was explicitly undertaken as an organization for social science research infrastructures and not as another institute for social research which would be involved in the production of social surveys, public opinion surveys or market research.

At that time the theoretical as well as the practical knowledge on the long-term objectives and the sustainable operation rules of social science data archives was mostly absent in the Austrian world of the social sciences. Much help and outside support was needed which was provided, above all, by Ekkehard Mochmann, at that time the managing director of the Central Archive in Cologne. Ekkehard Mochmann was massively involved in all the initial applications to the Science Ministry and to other Austrian funding agencies. Günther Nemeth became the first staff member at *WISDOM*, but it was not possible, due to financial restrictions, to employ him on a regular basis. Consequently, he was given a temporal contract for work only. Afterwards, Anton Amann established regular contacts to the German Central Archive, to the Norwegian data archive NSD in Bergen as well as contacts to Erwin Scheuch at the University of Cologne.

The general weakness in the foundations of research infrastructures for the social sciences in Austria lay, from its very beginnings, in the insufficient financial support through the decisive Ministry of Science under its various administrative headings. For the next nearly thirty years the financial support from the Science Ministry was just above the height of being rejected offhand, but significantly below the critical level of a sustainable organizational existence in the domain of social science research infrastructures.

A very large amount of unpaid and voluntary work had to be accomplished by a small group of young social scientists. But this group of social scientists developed strong competencies in information science and in data documentation. These

pioneers of the early comprised persons such as Günther Nemeth or Egon Leitgeb. Due to their activities it became possible to rescue, to document and to store a significant set of social science micro-data. It must be mentioned that several institutions provided essential services as well and a few noteworthy researchers, statisticians or technical experts should be mentioned like Kurt Klein and Peter Findl from the Austrian Statistical Office or Peter Rastl from the Central Information Service at the University of Vienna.

During its infant stages, *WISDOM* created also a social science journal under the name of *WISDOM* as a general journal with a strong focus on methods and methodologies for quantitative empirical research. Quite typically for the Austrian funding situation, this publication had to be closed down already in the year 1994 because the Science Ministry suspected an excess of financial support, one time for *WISDOM* as a social science institute and, unjustifiably, for *WISDOM* as a journal for the methodology and for methods in the social sciences.

The early stage of Austrian social science research infrastructures in the second half of the 1980s can be summarized in the following manner.

- The founding of SOWIS as well as of *WISDOM* happened through individual initiatives which were not particularly well received within the social science research community. This social science research community of 1985 had practically no relevant knowledge about data archiving and data documentation.
- The financial support both for SOWIS and for *WISDOM* was much too small and too insignificant to run two social science research infrastructure units in Austria. Both organizations would have needed a permanent staff of four to five researchers and documentation specialists plus the necessary administrative and technical manpower.
- In order to survive financially and as social science research infrastructure institutions both organizations were more and more forced to search and to find normal social science research projects in order to receive the necessary financial resources. In this mixed and subversive mode a highly gradual and small-scale building of social science research infrastructures could be obtained.

This configuration of social science infrastructure constructions in disguise did not change in principle after the year 1990 or 1991. But in the year 1992 *WISDOM* received quite unexpectedly a huge research project for three years under the heading of “Job-Aspirations and the Reality of Labor Markets” (*Berufswünsche und Arbeitsmarktrealität*) with an exclusive focus on young persons in their final year at the Austrian 12th grade secondary school (*MaturantInnen*). This research project

was funded by the Austrian Ministry for Social Affairs and the total sum for this research project was simply enormous for Austrian social science research projects, namely approximately € 1.5 Mio. or, in the old currency, 20 Million Austrian Shillings. The *WISDOM*-staff was increased significantly and comprised social researchers like Richard Költringer, Günter Landsteiner, Günter Nowak or Ulrike Papouschek. Moreover, *WISDOM* was distributed across two offices in Vienna. But already in the year 1994 the large-scale research project had to be terminated with an output of eight substantive reports, including a very comprehensive survey on job aspirations and job expectations (Vol. 2), a survey of companies (Vol. 3), and many other highly interesting and promising research outputs.

Due to changes in personnel within the Ministry of Social Affairs the continuation of this project was no longer feasible although this large-scale project could have become a sustainable long-term research agenda with a huge impact for building Austrian social science research infrastructures. On the contrary, more and more difficulties and hurdles came into existence which threatened even the normal completion of this very large-scale three year research project.

After the complete collapse of this particular research project in 1994 *WISDOM* became a tiny research institute, once again, for the next seven years, with three part-time employees (Andrea and Egon Leitgeb and Günther Nemeth), with an annual budget for the entire institute of approximately € 80.000 (financed mostly by the Science Ministry, plus some very small research projects) and with not a single research project directly related to the building and construction of social science research infrastructures.

In the year 2001 Karl H. Müller moved from his position as head of the two social science departments (Political Science and Sociology) at the Institute for Advanced Studies (IHS) in Vienna to *WISDOM* and he increased the tiny research group which was left after the implosion of *WISDOM* in 1994 and 1995.

Karl H. Müller and Günther Nemeth who acted as the speaker of the tiny *WISDOM*-board, were supposed to develop a business plan for a medium scale research infrastructure unit for the social sciences that would comprise three basic research infrastructure tasks for the social sciences, namely social science data archiving, methodology and empirical methods for social research, social science documentation.

In institutional terms this new small-scale unit should combine three tasks which were accomplished in Germany by three separate organisations, namely by the ZA in Cologne, ZUMA in Mannheim and the IZ in Bonn with hundreds of scientific employees. Additionally, due to the personal contacts of Karl H. Müller prior to 2001, *WISDOM* was to become the national host organization for the European Social Survey (ESS) which was moving towards its infant stages at the European level.

But these initiatives soon came to an end when a profound change occurred in the political sphere and the long-time government coalition between the social democratic party and the conservative party was terminated. A new coalition between the conservative party under the chancellor of Wolfgang Schüssel and the Austrian Freedom Party under Jörg Haider was formed. Moreover, the Austrian Ministry for Science and Research lost its autonomy and became part of a large new ministry responsible both for education and for science, research and development under the heading of a rather unusual conservative politician from Vorarlberg. In addition, the various centres within the new ministry lost their freedom and ability for funding decisions. From 2002 onwards, a special council for research and technology development was created which had to approve any financial decision by the responsible centres in the ministry.

Within this new funding environment no social science programs were launched during these years. Up to the year 2006 only two programs, namely NODE (New Orientations for Democracy in Europe) and "Dynamic Quality Assurance" were launched.

But a highly unexpected source of financial support emerged after the year 2002 when social science research infrastructures nearly came to its fatal end. Due to highly atypical personal contacts by Karl H. Müller with the Austrian Ministry for Economy and Labour a new and completely unexpected financial link could be established. The main responsible persons from the Austrian Ministry for Economy and Labour were Stefan Potmesil as director general for labour market policy, Richard Fuchsbichler as his deputy and responsible for finances within this centre for labour market policy as well as Franz Schmitzberger,²⁴ a former sociology scholar at the Institute for Advanced Studies who, later on, produced an highly relevant analysis on the fallacies of the usual and traditional unemployment statistics.

Aside from financing the European Social Survey, *WISDOM* was able to launch initiatives in the area of social science research infrastructures especially in the domains of complex visualization through parallel coordinates (Inselberg 2009) or through time distance analysis and time-distance methodology (see especially Sicherl 2012).

24 See Schmitzberger 1995 as well as Sektion Arbeitsmarktpolitik & Schmitzberger 2011. The volume from 2011 contains Schmitzberger's dissertation from 1995 plus additional materials on contemporary definitions of unemployment and relevant statistics from *Sektion Arbeitsmarktpolitik*. The entire publication was designed in a bibliophilic design with the support from Werner Korn at *edition echoraum* as well as from Gertrud Hafner and Michael Eigner from the former *WISDOM*.

From the year 2006 onwards the links between *WISDOM* and the centre for labour market policy within the Ministry of Economy and Labour increased significantly, due to the new cross-border activities under the headings of expert academies which improved the information exchanges as well as cross-border research on labour market dynamics or on labour market policies.

In the year 2007 talks and negotiations started between the Ministry of Economy and Labour (BMWA) and the Science Ministry (BMWF) which should guarantee a permanent co-operation between these two ministries for building the new European research infrastructures for the social sciences within Austria. This co-operation was to guarantee a permanent and long-term financing for *WISDOM* through a long-term support of the BMWA for the European Social Survey (100%) and through a 50% participation by the BMWA in CESSDA and *WISDOM* as the only Austrian CESSDA member.

For the year 2008 it seemed within the reach of *WISDOM* to become a tangible research infrastructure unit for the Austrian social sciences with a permanent staff of ten to twelve full-time social science and information science specialists. But already in the following year, all these plans for an inter-ministry co-operation and a stable long-term financial support collapsed for a variety of reasons which were mostly related to significant changes in the relevant personnel in the two ministries.

More specifically, the Austrian participation in CESSDA was to be realized by two relatively large projects, the first one under the name of “*CESSDA-National*”, comprising activities with a strong focus on Austria and, the second one under the name of “*CESSDA-International*” which was supposed to reach a set of goals for international co-operations. CESSDA-National was to be financed from the Austrian Science Ministry and CESSDA-International was to be supported financially by the Ministry of Labour and Social Affairs. Moreover, the Austrian Science Ministry was supposed to make the initial or first move and the Austrian Ministry for Labour and Social Affairs was to follow subsequently in its contract. Due to the transition of the Austrian Science Minister, Johannes Hahn, from Vienna to Brussels as a new Austrian commissioner for the European Union, the contract for *WISDOM-National* was finally fixed and signed by Johannes Hahn shortly before he left Vienna, more than nine months after the intended date of January 2009. But the long-term co-operation between the Science Ministry and the Labour Ministry failed completely in its scope and financial dimensions. After the years 2009 and 2010 the very ambitious programs for building Austrian research infrastructures in the social sciences and the humanities came to an end and the plan for a significant Austrian initiative for a total of € 15 million came to an early end before it was even started partially, due to ongoing fiscal problems and restrictions.

The year 2010 created new and unexpected difficulties in the inter-ministerial co-operation, most notably within the new Ministry of Labour and Social Affairs under its new Minister Rudolf Hundstorfer. In February 2009 the centre for labour market policy moved back to the Federal Ministry of Social Affairs. Between 2010 and 2012 a full organizational relaunch was undertaken. The former director general for labour market policy resigned from his function and was replaced by Roland Sauer who pursued a significantly narrower and far less ambitious activity profile in which social science research infrastructures and international socio-economic data availability and comparability played a marginal role at best and Richard Fuchsbichler left the new BMASK as well. From 2011 onwards, all the European and national program lines and projects were eliminated by the BMASK. Despite several assurances to the two authors of this article from the Minister for Labour, Social Affairs and Consumer Protection, Rudolf Hundstorfer, no new contracts were issued. *WISDOM* received nearly 80% of its annual revenues through contracts with the BMASK which were reduced to practically zero in the year 2012.

In January 2014 talks between representatives from the Austrian Science Ministry and *WISDOM* led to the immediate closure of *WISDOM*, due to a sudden and abrupt stop of all current and future financial flows from research projects in building social science research infrastructures in Austria. And January 2014 marks the end of the first generation of research infrastructures in the Austrian social sciences in the thirty years from approximately 1985 to 2014. All *WISDOM* employees, including unusual talents and researchers with unique competencies like Michael Schreiber (Schreiber 2010) or Bernd Schmeikal (Schmeikal 1998, 2010, 2012, 2014) lost their jobs.

The year 2014 exhibited a paradoxical configuration in the Austrian extra-mural research arenas, including the social science research infrastructures. All relevant stakeholders, actors across various ministries as well in the extra-mural social sciences were confronted with a highly volatile financial environment. In a slight variation to an aphorism by Ludwig Wittgenstein, an entire cloud of financial problems condensed into a single drop of changes in personnel or an organizational re-launch in a ministry by new rules of procedure. *WISDOM* lost its existence as a wandering dune and as a lone voice in a desert of data.

But even deserts are quite capable of surviving and can produce unexpected surprises. Albeit not within Austria but within Europe. The European Strategy Forum for Research Infrastructures (ESFRI) was set up in 2002 as an informal forum following the original mandate of the EU Council of June 2001, and ESFRI was reaffirmed in November 2004, May 2007 and December 2012, in order

- to support a coherent and strategy-led approach to policy making on research infrastructures in Europe;
- to facilitate multilateral initiatives leading to a better use and development of research infrastructures acting as an incubator for pan-European and global research infrastructures;
- to establish a European Roadmap for research infrastructures (new and major upgrades, pan-European interest) for the coming 10-20 years, stimulate the implementation of these facilities, and update the Roadmap as the need arises;
- to ensure the follow-up of implementation of already ongoing ESFRI projects after a comprehensive assessment, as well as the prioritisation of the infrastructure projects listed in the ESFRI roadmap.

After the completion of the first Roadmap in 2006 and its updates in 2008 and in 2010, ESFRI was mandated to concentrate on supporting the implementation of the ESFRI projects in order to fulfil the commitment of the Innovation Union Flagship Initiative that “by 2015, Member States together with the Commission should have completed or launched the construction of 60% of the priority European Research Infrastructures currently identified by the ESFRI”. ESFRI produced in 2013 an assessment on the status of all projects and on the readiness of about 60% of them to be implemented, also indicating those that could most effectively take advantage of specific support measures by Horizon 2020. In April 2014, ESFRI decided to develop the new ESFRI roadmap 2016. In May 2014, the Council of the EU acknowledged the work done by ESFRI to identify priority projects and welcomed the plans of ESFRI to update its roadmap in 2015/2016.

Between 2004 and 2006 the “European Strategy Forum on Research Infrastructures” (ESFRI) als an inter-gouvernemental agency for co-ordination the first ESFRI roadmap for research infrastructures across all relevant science domains was compiled. This ESFRI roadmap for the social sciences and humanities included six new European initiatives and programs, namely

- CESSDA (a research network of European social science data archives)
- CLARIN (Common Language Resources and Technology Infrastructure, a research infrastructure program mostly for the humanities)
- DARIAH (Digital Research Infrastructure for the Arts and Humanities, a pan-European program for the humanities)
- ESS (European Social Survey, a research infrastructure for the social sciences)
- SHARE (Survey of Health, Ageing and Retirement, a new research infrastructure for the social sciences)

- EROHS (European Research Observatory in the Humanities and the Social Sciences, a very ambitious research infrastructure mainly for the social sciences, but also relevant for the humanities),

All these programs, with the exception of EROHS applied for a next step as a feasibility study.

The final period after 2015 can be characterized as being driven by a well-established system of European social science research infrastructures in which the Austrian contributions and effects can be qualified as mainly participatory and peripheral, judged from a semi-peripheral or peripheral status according to the definitions in Part II of this *Festschrift*. But a new and second generation for social science research infrastructures emerged with Austrian host institutions for the European Social Survey (ESS), for SHARE and the other new European projects on the ESFRI roadmaps.

We have reached now the present time and the current contexts for the Austrian social science research infrastructures and can shift to the next issue in our self-designed roadmap for this article.

3.4 Basic Characteristics in the Long-Term History of Social Science Research Infrastructures

When summarizing the co-evolution of Austrian social science research infrastructures with the dynamics of the Austrian social sciences it becomes important to stress several general characteristics, features or traits which can be found over and over during the past thirty years or so, after the burst years of 1984 and 1985. Some of these basic traits can be safely assumed to be operative in the future as well while others have effectively disappeared, due to the growing dominance of DG Research, the European Commission and the European Strategy Forum on Research Infrastructures (ESFRI) in promoting research infrastructures across Europe, including the social sciences and the humanities.

First Basic Characteristic: The Austrian situation was and still is characterized by notorious in-activities of medium or large-scale stakeholders in the social sciences with respect to their corresponding research infrastructures. Austria was never able to reach a common culture of data-sharing and of secondary data-analyses.²⁵

The first very important characteristic of Austrian research infrastructures in the social sciences lies in the unusual distribution of actors who were or are

25 On the distinctions between primary data analysis, secondary data analysis and meta-analysis see especially Glass 1976.

responsible for research and development in the social sciences on the one hand and who promote the funding and the building of research infrastructures in the social sciences on the other hand. Research infrastructures for the social sciences had no priority within medium or large-scale actors in the social sciences like the Institute of Economic Research (WIFO), the Austrian Conference on Spatial Planning (ÖROK), the European Centre for Social Welfare Policy and Research, the Institute for Advanced Studies, the Austrian Academy of Sciences across its diversified organizations across the humanities and the social sciences, the large actors within the institutional support for the social sciences like Statistics Austria or within funding agencies like the current Federal Ministry of Science, Research and Economy (BMFWF) and the Austrian Science Fund FWF from the 1960s up to the end of the 20th century and beyond. Due to traditional reasons the Austrian Academy of Sciences provided several units which can be qualified as research infrastructures mostly in language and historical domains and, thus, in the humanities, but the Austrian Academy did not play an active role in promoting research infrastructures in the social sciences.

Despite a growing area of European research infrastructures in the social sciences during the 1960s and 1970s the important impetus and breakthrough came from an extremely small number of Austrian researchers as a personal initiative, without the support from their institutional environments. And despite numerous attempts by the authors of this article for more than three decades, the Austrian Science Ministry, today the Federal Ministry of Science, Research and Economy, refused to develop a data policy which would provide the necessary support for the production and the proliferation of social science micro-data and, consequently, of research infrastructures in the social sciences.

Second Basic Characteristic: The Austrian social science research infrastructures lacked vital, direct and self-enforcing links with the research fields in the social sciences and lost their access to the history of empirical social research in Austria throughout most parts of the 20th century in an irrevocable and irreversible manner. The Austrian configuration can be qualified as a generalized network failure for the emergence of virtual, self-organized cycles in the formation and in the advancement of social science research infrastructures.

Research infrastructures in the social sciences could not establish strong ties or permanent virtual feedback cycles to the Austrian social sciences across the universities and research institutes. From the 1980s onwards this splendid cognitive isolation between Austrian social science research infrastructures and Austrian social science research persisted and will most probably continue to last in the years and decades ahead. In several European countries with strong organizations for social science research infrastructures and well-defined

national data policies for the social sciences like in Norway or the in the United Kingdom one can observe an emerging social science culture of data sharing, of well-embedded social science data archives and of secondary data analysis as a regular and standard mode of operation. In countries like Slovenia one can see strong and positive ties between empirical social research and the widening of social science research infrastructures (see also Parts II and III of this *Festschrift*). The Austrian social sciences were almost completely separated from the course of Austrian social science research infrastructures and the Austrian social sciences will remain, most probably, in splendid isolation from their social science research infrastructures in the future, despite the larger European waves of research infrastructures in the social sciences.

Even worse, an immensely deplorable corollary to the second basic feature in the non-development of Austrian social science research infrastructures lies in the fatal and irreversible loss of documents of the early years and decades of empirical social research in Austria after the end of Second World War. This irrevocable loss affected two vital domains or areas.

- On the one hand, the earliest work of empirical social research in Austria in the years after 1945 occurred completely independent from computers and punchcards and the field work was documented exclusively on paper. In later years this system of documentations moved more and more to main frame computers, to punchcards and from the late 1980s onwards to personal computers. The entire paper documentations, the reports on methods as well as the micro-data sets of early empirical research in Austria are irreversibly lost and gone.
- On the other hand, also the empirical social researchers working especially for the two former large-scale institutes for empirical research, namely at IFES (Institute for Empirical Research) and at Fessel GFK, were no longer active within their former professional environments and, in most instances, died several years or decades ago. Thus, the most relevant living sources for the early years of empirical social research in Austria were irreversibly gone as well.

Due to this double losses in documents, documentations and in personnel two new and more recent episodes for research in Contemporary History, namely the period from 1945 to 1955 as well as the period from 1955 to 1966/1970 are only very superficially documented from results in empirical social research in Austria and definitely not part of social science research infrastructures. IFES has kept some digital overviews and summaries and Statistics Austria was in operation throughout this period with corresponding socio-economic macro-data.

The blatant in-activities of medium and large-scale stakeholders in the social sciences in building or promoting research infrastructures as well as the missing links can be augmented to a generalized network failure of the entire ensemble of the social sciences and its main stakeholders to promote or to advance research infrastructures in the social sciences. Such a generalized network failure becomes noteworthy when new actors are formed and these new actors remain as inactive and as passive as the network of already established participants. A relatively new actor group was formed from the 1990s onwards, namely the cluster of applied universities (Fachhochschulen), but also the many new applied universities did not promote even minor initiatives towards research infrastructures for the social sciences. Due to this generalized network failure throughout the social science arena, including social science research, policy, funders and newly created actors alike, research infrastructures in the Austrian social sciences missed most available opportunities and chances for national niche building and for reaping comparative advantages on an European or a global scene.

Third Basic Characteristic: In the Austrian configuration of research infrastructures, libraries at various universities, but especially the university libraries in Vienna, occupied a leading role and became vital actors in preserving relevant research infrastructures for the Austrian social sciences.

The most relevant empirical example was already mentioned in the preceding short history of social science research infrastructures in Austria, namely Bettina Schmeikal and SOWIS at the library of the Economic University. Likewise, the library of the University of Vienna had and still has an enormous potential for the humanities or for social science domains like the sociology of science because the library officially hosts relevant organizations like the Paul F. Lazarsfeld²⁶ Archive, the Heinz von Foerster²⁷ archive or the Gordon Pask²⁸ Archive, to mention just a few. These three research facilities which were created largely through activities by the two authors of this article within the last twenty-five years approximately.

For the period from 2010 onwards we would like to mention, above all, two persons at the library of the University of Vienna, namely Maria Seissl as the Director of the Library of the University of Vienna and Beate Lang of the special library (*Fachbereichsbibliothek*) for political science and sociology. These

26 On Paul F. Lazarsfeld (1901–1976) see, for example, Amann 2008.

27 Heinz von Foerster (1911–2002) was an Austrian scientist and magician who moved from the professional position of a radio reporter in Austria into the core of an emerging transdisciplinary science arena within the United States, namely into cybernetics. This magical transformation occurred in the year 1948. On Foerster see, *inter alia*, Foerster 1948, 1985, 2003 or 2014.

28 On Gordon Pask (1929–1996) see, for example, Pask 1961, 1975 or 2011.

two persons can and must be qualified as vital stakeholders for social science research infrastructures in Austria.

Fourth Basic Characteristic: Despite the unfavorable general environments and contexts for the building of social science research infrastructures, a small group of persistent and strong supporters was also and almost constantly available across various ministries from the early years onwards up to 2017.

The fourth general trait becomes highly significant as a partially countervailing component because the overall patterns was not only a persistently bleak and black one, but they contained important elements which were able to counterbalance the hegemonic and the downward pressures for the expansion of Austrian social science research infrastructures.

Restricting the historical perspective to the period from the year 2000 onwards only we can identify two Austrian ministries and several employees in them who acted in a persistently supportive manner. The first Austrian ministry with this strong partial assistance was, for almost obvious reasons, the Austrian ministry responsible for research, development and science which was capable only for several years to act as an independent ministry for science and research and not in a combination with other ministries like the education ministry or a ministry for the economy.

As a personal remark by the two authors of this article, we would like to express our special thanks to a small group of persons in Austrian ministries who acted as a constant source of support for building research infrastructures for the Austrian social sciences during the period from the year 2001 to 2017 or, in the periodization within the last section, during the fifth up to the seventh episode of the long-term history of social science research infrastructures in Austria.

From the side of the public administration which was mainly responsible for science, research and development, we would like to include for the period from 2001 to 2017, in alphabetical order, Isabella Eiselt, Martina Hartl, Gudrun Ragossnig and Andrea Schmölder. Most persons in this small group of four are no longer part of the current Austrian Ministry for Science, Research and Additionally, we would like to extend our personal thanks, again in alphabetical order, to Richard Fuchsbichler and to Stefan Potmesil who were responsible for labour market policy, but acted as the main drivers in the short episode of expansion of social science research infrastructures from 2006 to 2009 and, finally, to Franz Schmitzberger from the centre of labor market policy who until his untimely death in the year 2005 enabled vital links also in building research infrastructures and bringing *WISDOM* constantly into play.

Fifth Basic Characteristic: For most of the time, research infrastructures in the social sciences exhibited an under-critical financial support. Until very recently research infrastructures in the social sciences were characterized by a high volatility as well as stop and go-funding schemes.

The fifth major typical feature for research infrastructures in the social sciences can be seen in the permanent under-critical support from the Austrian Ministry of Science. The case of *WISDOM* can be viewed as a particularly striking example in this respect. *WISDOM* was founded in the year 1985 as a private association with the aim of archiving the main outputs of empirical social research in Austria, namely general or special surveys and panels for the whole Austrian population, for special societal groups, for specific regions like a Federal state or the City of Vienna and the like. Based on a large number of international examples of successful social science data archives in the United Kingdom, in Norway or in Germany it was the explicit aim to find and to promote a stable financial support system which would guarantee at least a small group of social science researchers pursuing this primary goal of social science data archiving or documentations. But from the very beginnings in the years 1985 and 1986 *WISDOM* never became more than a collection of small and short-term research projects which were necessary for the pure survival *WISDOM*. From the year 1985 onwards it was not possible to receive a financial support above the minimal levels of € 50.000,– which can be considered as too big to be neglected or ignored but as far too small to start a sustainable research institute for social science data archiving or documentations. Moreover, even this marginal contribution was reduced more and more over the years was abolished completely at the end of 2010 when the Science Ministry stopped all sorts of fundings for non-university research like funding for conferences, publications such as books or scientific journals and the like.

Sixth Basic Characteristic: Strong and powerful impulses and triggers for Austrian research infrastructures in the social sciences were undertaken externally by the European Commission and the ESFRI-initiatives and programs after 2001.

The sixth characteristic feature of research infrastructures in the social sciences in Austria lies in an externally induced push or drive towards strong research infrastructures through the European Commission which started discussions and small programs for building research infrastructures across various large science fields, including the social sciences and humanities. The only reliable and stable element for the advancement of research infrastructures in the Austrian social sciences came from a purely external factor, namely from the European Commission and from European institutions like the European Strategy Forum on Research Infrastructures (ESFRI). Both DG Research and ESFRI kept

augmenting their portfolio of relevant social science research infrastructures on the European map and exerted, thus, strong impulses for EU member countries such as Austria.

Seventh Basic Characteristic: In the long-term history of Austrian social science research infrastructures one can identify an abundance of proposals and action plans for promoting the Austrian social science research infrastructures, but only a minimum share of successful implementations can be identified across a very long time.

Finally and seventh, another fundamental trait lies in the strong asymmetry between a very large number of masterplans, roadmaps, suggestions or proposals for the construction of research programs for advancing the social science research infrastructures in Austria and an extremely limited amount of successful or sustainable implementations. In a certain sense Austria became very strong in developing programs and suggestions for a strong, significant and sustainable development of social science research infrastructures, but most of these plans and recommendations never made it beyond the initial stages of proto-designs and proto-implementations. The relevant actors or players within the funding agencies or the federal ministries almost never succeeded in moving ahead of implementing these ideas, plans or programs.

The next two sections in this article will offer short glimpses on the rather unsuccessful histories of building research infrastructures in the Austrian social sciences or on promoting the Austrian social sciences in two different episodes. These two examples exhibit both a very high asymmetry between the proliferation of plans or national roadmaps for the social sciences and for social science research infrastructures on the one hand and a total failure of implementing these suggestions, roadmaps, masterplans on the other hand by the responsible public administration in its full scope and depth within the period of the last two decades.

3.5 Reminiscences of a Masterplan for Advancing the Social Science Research Infrastructures from the Year 2005

In the year 2005 Karl H. Müller was able to launch an Austrian roadmap for the construction of research infrastructures in the social science and, in correspondence with the ESFRI-guidelines and its classification of science fields, included also the humanities. This project was financed in minimal proportions from the relevant centre of the science and education ministry and was kept below the critical threshold of approximately € 15.000,– which was just

below the critical barrier for necessary approvals by a newly created science and technology council.

The rather comprehensive roadmap for research infrastructures in the Austrian social sciences and humanities was produced in the year 2005 (Müller 2005; Kratochwil & Müller 2005), followed by further extensions in 2006 and 2007. More than ten years after this attempt for a comprehensive Austrian roadmap of research infrastructures in the social sciences and humanities just a tiny fraction of the proposed programs and initiatives was actually put into effect. We would like to point to just a total of three of these unfulfilled highlights of the early Austrian roadmap with its divisions between the constructions of European and Austrian research infrastructures for the social sciences and humanities. Such a separation between European and national initiatives could be observed in other European countries as well. The Science Ministry of the Czech Republic, for example, had established a very comprehensive program for research infrastructures from physics to the environmental sciences up to the social sciences and humanities. Within the social sciences and humanities it was highly interesting to see that both the Czech social science and humanities communities and the Ministry tried to reach a well-balanced profile for research infrastructures which includes basically all entrances in the ESFRI roadmap from the first map in 2006 to the most recent one from 2016 plus a significant number of genuinely Czech humanities research infrastructures like CNC, the Czech National Corpus or CLB, Czech Language Bibliography.

The first Austrian program on this old roadmap carried the title of digital heritage and was primarily motivated by the fact that large opinion poll companies in Austria had a very rich stock of surveys which dated back to the 1950s and to the early days of social research in Austria. These data-sets were already in a critical condition in the year 2005 since the persons responsible for their collection were already in retirement or even in a critical and problematic retirement stages. Moreover, the data as well as the relevant documents were difficult to retrieve and to transform to current best practice standards because the digital and electronic status of these data was bound to meanwhile completely outdated technologies. Nevertheless, it would have implied an enormous damage for the various domains of the social sciences and humanities if these data would have been irreversibly lost. After talks with the major companies in Austria for empirical social research in the decades after the 1950s, *i.e.*, with Fessel-GfK and with IFES, there was a vivid interest to cooperate on a common scheme to revitalize these social science data sets. Thus, it was strongly suggested to implement a five year program which offered the following program lines and details, namely

- two year project applications (renewable for additional year(s)) by major opinion research companies with a rich stock in old electronic data to collect the relevant documents and retrieve the data sets
- a call for transforming existing long-term survey data into time-series and
- a special call for collecting and digitalizing documents of surveys prior to the electronic era.

This special call aimed at surveys which were carried out during the 1950s and early 1960s where the data had been irreversibly lost but where tables and linear enumerations were still available. Additionally, this special segment of reports would become of high relevance for research in the Austrian Contemporary History and served, thus, as an interesting link between the social science and the humanities domains. From the perspectives of the year 2017 it must be added that in the meantime these social science data and documentations are irreversibly lost, the responsible persons for organizing and co-ordinating these massive social science data died and the relevant institutions and organizations had undergone irrevocable changes in their profiles and competencies.

The second example for special national purpose programs fell under the document-based side of research infrastructures. The starting point for this program lay in a series of international publications like William M. Johnston's "The Austrian Mind" (Johnston 1974), Allan Janik and Stephen Toulmin's "Wittgenstein's Vienna" (Janik & Toulmin 1973) or Carl Schorske's "Fin de Siecle-Vienna" (Schorske 1980). A common theme in all three books lay in the dense communication networks and in the close linkages between diverse areas like philosophy, music, psycho-analysis, the physical sciences, literature or the social sciences. The main purpose of this proposal as a research infrastructure support both for the humanities and for the social sciences was focused on a digital construction of a large portal which would have enabled an intensive co-operations and links across highly diverse science fields.

The third and final example especially for the social sciences was to launch an Austrian based socio-economic panel which from its basic organization and structure should be modelled along the German Socio-Economic Panel, a notoriously successful panel data project from 1984 onwards. The Austrian Socio-Economic Panel would have closed a large white spot of relevant Austrian social science data and would have increased the potential for participation in European projects dramatically.

3.6 Failed Attempts for an Innovative Push in the Social Sciences, 2000 to 2011

The upshot of the second development plan, after the roadmap for the research infrastructures in the social sciences and humanities, was the common recognition that the future organisations for the social sciences in Austria must exhibit features which were needed for high performance or high innovation teams within or between organizations.²⁹ In other words, relatively small and new social science institutes were required which shared a number of organizational characteristics or key factors that could guarantee internationally well-recognized innovative outputs with a high potential for radical breakthroughs.

These key factors included a delicate balance between homogeneity and heterogeneity, extensive communication platforms and possibilities for conflict resolutions, leadership or a strong commitment to a strategic vision.³⁰ The subsequent summaries on innovative designs for scientific organizations were mostly based on the path-breaking research by J. Rogers Hollingsworth, Ellen Jane Hollingsworth, Jerry Hage and others³¹ who studied the organizational environments of radical breakthroughs in science intensively for more than a decade. Their study was concentrated on the field of bio-medicine in the United States, the United Kingdom, France and Germany during the 20th century.³²

For Hollingsworth and his team radical breakthroughs were identified with respect to a wide set of highly prestigious awards and prizes which single researchers or research groups received for a particularly outstanding achievement. With respect to the central notion of a radical breakthrough,³³ Hollingsworth relied on the existing scientific award system. It must be emphasized, though, that Hollingsworth was very careful in selecting a number of criteria and a relatively wide set of major prizes so that major discoveries or radical breakthroughs are not exclusively tied to Nobel Laureates only.

In subsequent steps, Hollingsworth and his group tracked down these radical breakthroughs to the actual sites and research units where these scientific

29 On this literature, see only Carayannis & Campbell 2005.

30 For a survey on this literature, see, *e.g.*, Hage 2000.

31 On this particular research see Hollingsworth & Hollingsworth 2000, Hollingsworth & Hollingsworth & Hage 2006. On the institutionalist and socio-economic background of this approach, see Hollingsworth & Müller & Hollingsworth 2002, Hollingsworth & Boyer 1997 or Hollingsworth & Schmitter & Streeck 1994.

32 The most notable of these organizations is the Rockefeller Institute, later Rockefeller University which accounted for nearly 50% of all major breakthroughs in bio-medical research in the US during the first half of the 20th century and continues to stay way ahead of all other institutes.

33 Hollingsworth & Hollingsworth 2008, Hollingsworth & Hollingsworth 2011.

revolutions took place³⁴ and were able, thus, to produce a large data set on the number of occurrences of these radical breakthroughs in the area of bio-medical science within different research organizations in these four countries.³⁵

J. Rogers Hollingsworth and Ellen Jane Hollingsworth introduced seven main characteristics of the organizational design of research units, namely scientific diversity, depth, differentiation, hierarchical and bureaucratic co-ordination, integration of multi-disciplinary perspectives, visionary leadership and, finally, quality where each of these areas could be captured by a number of specific characteristics or, alternatively, dimensions. Subsequently a large number of suggestions and ideas were produced for energizing the Austrian social sciences which, however, never came close to be tested or implemented.

3.7 The Long-Term Future of Austrian Research Infrastructures in the Social Sciences

Given the two different regional dimensions in the two early masterplans or roadmaps, namely the European and the national dimensions, the future of research infrastructures in the social sciences can be assessed in a concise manner.

- For the years and for the decade following 2017 the future prospects for research infrastructures in the Austrian social sciences will be strongly embedded in a growing number of large-scale European projects and will be located in a rather stable and secure position.
- Due to persistently high levels of national indifference by potential funders and stake holders in Austria the national research infrastructures in the social sciences will play a marginal and peripheral role at best within the European concert of European organizations and institutions. Austria's position and function in research infrastructures in the social sciences will remain situated within the peripheral cluster with a predominantly reception driven pattern

34 Typical examples include, following J. Rogers Hollingsworth, the Kaiser Wilhelm-Institute for Biology, the Kaiser Wilhelm Institute for Leather Research, the Max Planck Institute for Cell Physiology or the Institute Pasteur from 1920 to the early 1950s.

35 One of the major discovery on major discoveries was the shape of the resulting distribution of breakthroughs and institutes because the empirical distribution strongly supported a widely neglected general conjecture by Nicholas Rescher (1982) on the underlying relationships between the quantity and the quality of research. Rescher's conjecture states, essentially, that due to the dual logarithmic scales involved any marginal increase in new output of high quality has to be accompanied by increasing the total number of papers by a factor of 10. In the case of radical breakthroughs, J. Rogers Hollingsworth arrived at the conclusion that these breakthroughs exhibit a power-law distribution, supporting, thus, Rescher's conjecture.

in which the basic standards will be reproduced within Austria as well, given a short or medium time-lag.

As a consequence, larger innovations or radical breakthroughs in research infrastructures in the social sciences can be assumed, like in the long history of research infrastructures in the social sciences from the 1960s onwards, to be promoted and proliferated outside Austria in the future as well.

3.8 Concluding Remarks

The final section of this already rather long contribution to Niko's *Festschrift* will conclude with an extremely short summary. The long-term history of the social science research infrastructures was, in retrospect, a history full of missed opportunities, starting already in the year 1963, when the Institute for Advanced Studies was founded by Austrian emigrant scientists who made spectacular careers after the 1940s in the United States, namely by Paul F. Lazarsfeld and by Oskar Morgenstern.³⁶

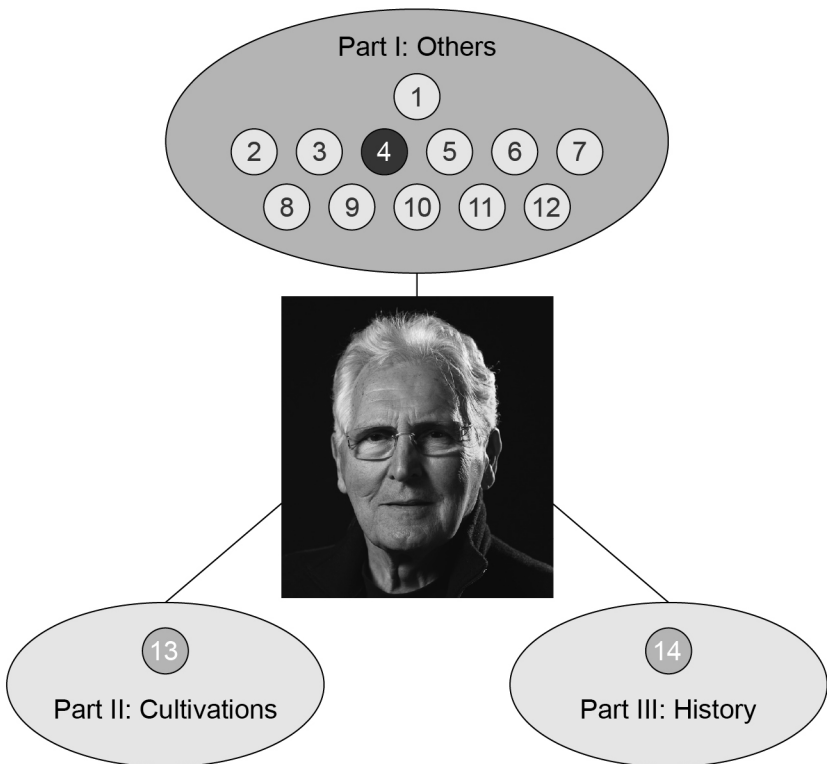
In the year 2017 one still would find a high and totally unused potential for building modern social science research infrastructure in areas like complex data visualization (Müller & Stocker 2005; Müller & Reautschnig 2010, 2011, 2012) or in domains like second-order studies (Malnar & Müller 2015). With the special prehistory up to the years 2017 or 2018 just outlined throughout this article it can be safely assumed that also the current opportunities for building innovative social science research infrastructures will not be utilized within the current Austrian contexts and frameworks.

36 On Paul F. Lazarsfeld, see for example, Jeřábek 2017 or Merton & Coleman & Rossi 1979, on Oskar Morgenstern see, *e.g.*, Leonard 1995 and 2010.

4

Research Infrastructures in the Social Sciences. Generic View and a Concrete Example

Peter Farago



The international prestige of our work led us to an adaptation of our visual elements to the demands of different countries, and in this way the language-like Isotype technique became more and more cosmopolitan. It appeared that the majority of our symbols are more or less understandable in most countries; the peculiarities are relatively few – only, as far as we could judge, a few per cent.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

Research infrastructures¹ are the backbone of science. The fact that mature science needs infrastructures is evident to most scholars and observers when talking about physics (*e.g.*, accelerators), astronomy (*e.g.*, observatories), chemistry and pharmaceuticals (*e.g.*, laboratories), life sciences (*e.g.*, biobanks), climate research (*e.g.*, polar research vessels), or information technology (*e.g.*, satellites). It seems to be less obvious for humanities, although their archives, libraries, and collections of artefacts are the oldest infrastructures of all, dating back to ancient times. When it comes to the social sciences, although the notion of research infrastructures is still unfamiliar to many, research infrastructures do exist in a surprisingly large variety of forms and structures, and contemporary state of the art empirical research in the social sciences is virtually impossible without them.

Research infrastructures are having profound effects on the ways in which social science research is organised and conducted nationally and internationally. They are opening access to growing volumes of existing data and facilitating their use by forging common documentation standards and technical platforms across which data can move quickly. With an increasing abundance of available data across wide ranges of disciplines and topics, researchers can rely on large data pools to address their research questions.

Further, infrastructures that provide for large-scale, coordinated, harmonised, international, and interdisciplinary data collections make possible analyses and forms of comparison that were previously out of reach. While infrastructures

1 This contribution relies in its first part on a volume on “Understanding Research Infrastructures in the Social Sciences” co-edited by the author together with Brian Kleiner, Isabelle Renschler, Boris Wernli, and Dominique Joye, senior colleagues at FORS, and published in 2013 (Zürich: Seismo). More details on the topic, an extensive literature review, as well as thirteen concrete examples of social science research infrastructures from around the world can be found in the book.

follow and reflect the research communities that they support, they also contribute to methodological innovation and advances with respect to how data are gathered and used. In addition, research infrastructures are playing an important role in the dissemination of skills, research information, and know-how by way of training and network building within their constituent communities.

This contribution presents the definition, the key features, and the main components of social science research infrastructures. In its second part it describes the concrete example of a middle-sized national infrastructure institution, namely FORS in Switzerland. Considerations on lessons to be learned from this example conclude the contribution.

4.1 The Generic View

4.1.1 Defining Research Infrastructures for the Social Sciences

Although the term “research infrastructure” appears with increasing frequency in the social sciences, there is no single accepted definition, and it seems to mean many things to many people. A review of publications, reports, and articles on research infrastructures from the past two decades brings up an extended family of key terms that apply, such as: permanent institutions; long-term projects; spheres of best practice and excellence. Moreover, these descriptions shed little light on the core and necessary characteristics of research infrastructures that may allow us to distinguish them from other forms of scientific work. Also, the definitions put forward include terms that point to various constellations of technical, operational, organisational, and human features.

Thus, it remains a great challenge to provide a definition that is sufficiently comprehensive to include all existing research infrastructures, but at the same time narrow enough to exclude institutions that provide the very basis for research and/or teaching, such as universities, private research organisations, and national statistical offices, and even more so if the definition should also encompass future developments.

A working definition for research infrastructures for the social sciences might be as follows: they are *durable institutions, technical tools and platforms, and/or services that are put into place for supporting and enhancing research as “public good” resources for the social science community*. The term institution refers in this context to physical or virtual locations, organisations, or networks (loose or formalized). The challenge in clearly defining research infrastructures may be due to the fact that they are by nature generally invisible. As a substrate on which important economic and social activities can be developed, we easily disregard

infrastructures, even though we use them in our daily lives. Their main mission seems to be “just there” and “ready-at-hand”, and they are recognised usually only after they stop working optimally.

4.1.2 Key Features

Social science research infrastructures have distinctive features, but they also share to some extent aspects common to all infrastructures, both old and new. The limited but growing literature on the topic evokes *five key features* of research infrastructures that are intrinsically interlinked.

First, infrastructures in general provide services and resources in the *public good*, that is, that are non-exclusive, non-competitive, and available to all. This means that the quantity of the service or resource does not diminish with its use: once it has been produced, it benefits all on an on-going basis. It is a matter of processing requests coming from researchers or groups of researchers to make scientific profit of the possibilities offered.² Establishing and maintaining infrastructures thus involves the coordinated action of a community of interested parties, often across various disciplines or sectors, and represented by key persons working within established networks who are able to demonstrate their value, synergies, and benefits for funding institutions.

Second, research infrastructures must offer *user-oriented services* corresponding to the needs of researchers. These services can take various forms, such as data, tools, education and training, and methodological expertise, all aiming at contributing to the advancement of a specific field of science. The nature of these services depends very much on the scientific sector and the research communities involved, and consists generally of sets of services and resources that are interrelated.

Third, research infrastructures need to be *durable and stable on a long-term basis*, without interruption, to avoid losing accumulated benefits. Thus, the establishment and maintenance of infrastructures involves effective communications to anchor the infrastructure in public policies and to ensure that policy-makers and the public recognize their legitimacy and benefits to society as a whole. On the user side, the infrastructure must be able to offer services that are necessary for researchers on a long-term basis, and therefore must provide continuous and stable resources, personnel, platforms, and facilities.

A fourth key feature of research infrastructures is *adaptability* to the changing needs of the scientific community. This can seem somewhat contradictory for

2 As an example, the European Organisation for Nuclear Research CERN offers qualified scientists the possibility to use its instruments, but the application process is competitive and based on an evaluation of requests.

institutions that aim to exist on a long-term basis and that must by nature be conservative. However, alterability is fundamental for research infrastructures in order to be able to provide a public good that remains closely aligned with the needs of users, and especially to gain and maintain the support of stakeholders. Finally, research infrastructures are intrinsically related to the requirements of the scientific *method*, in a way that provides important benefits for the scientific community. By offering transparent and open access to data, research infrastructures support the scientific method by enhancing opportunities for hypothesis testing and replication. In addition, by harmonising standards and by encoding these in practices and tools, infrastructures promote comparability and wider and more efficient use of data toward scientific progress.

4.1.3 Main Components

Research infrastructures in the social sciences have several components:

- *Data services* for documenting, preserving, and disseminating data. These might be data collected by individual researchers or research groups, or they might be collected by the infrastructure institutions themselves. In any case, the data are cleaned and prepared for use by scientists. This includes state of the art anonymisation procedures that allow for the distribution of data according to national data protection regulations. Good examples for data services are the member organisations of the European social science data archives consortium CESSDA (www.cessda.org).
- *Collection and harmonization platforms* provide and link data. This includes internationally coordinated surveys that are harmonised *ex ante* as well as data collections harmonised *ex post* for comparative purposes. The European Social Survey ESS is a case in point, but also the the Cross-national Data Center in Luxembourg LIS (www.europeansocialsurvey.org, www.lisdatacenter.org).
- *Methodological research* on survey methodology, but also on documenting, archiving, anonymising, accessing, and distributing data is another central element of research infrastructures.
- *Teaching and training* are important activities to promote state of the art techniques and procedures and to introduce researchers to the possibilities research infrastructures can offer them.

These components might be distributed across different institutions, like for example in the UK. But they might also be combined under the same institutional roof, like in Germany (GESIS) or Switzerland (FORS). In the latter case there is a good chance to exploit synergy potentials optimally. This is why we turn now to the description of one such example, namely FORS in Switzerland.

4.2 The Concrete Example: FORS

FORS is the Swiss centre of expertise in the social sciences. Established in 2007 and operational since January 2008, it combines several predecessors like the data archive SIDOS, the Swiss Household Panel, and the Swiss election study SELECTS. The rationale of this combination was the creation of a critical mass and the use of synergies in order to create a durable infrastructure.

This section describes the philosophy, the main activities, the institutional setting, and the organisation of the centre. Its goal is to illustrate with a concrete example how the key features and the main components of a research infrastructure as defined above can be successfully implemented.

4.2.1 Philosophy

FORS is, in the first place, a service centre for researchers from Switzerland and abroad. FORS services are designed to be adapted as far as possible to the needs of the social science research community. FORS has established a network of contact points in the Swiss Universities and Universities of Applied Sciences. In addition, FORS aims to stimulate debate and scientific exchange both within Switzerland and between Swiss researchers and the international research community.

FORS takes the position that social science data produced within publicly funded projects should in principle be:

- available for re-use outside of the original research team;
- free and easy to discover and access;
- curated according to international standards by a professional archiving institution.

As a national centre of expertise, FORS serves as a liaison office between Swiss and international research in the social sciences. FORS grants Swiss researchers access to all its resources and to all the latest findings in the social sciences. By the same token, FORS is the first point of contact for non-Swiss researchers interested in Swiss social sciences data and analyses. FORS is involved in a variety of international projects, several of which are part of the Swiss Roadmap for Research Infrastructures.

4.2.2 Main Activities

FORS activities can be divided into five domains:

- monitoring social and political change;
- preservation and dissemination of data for use in secondary analysis;
- services and consultation for researchers in Switzerland and abroad;
- methodological and substantive research;
- research and teaching collaboration with universities.

All the surveys run regularly by FORS produce data that help to *monitor and analyze social and political change*: the Swiss Household Panel, the Swiss election study, and the Swiss parts of international surveys like the ESS, EVS, SHARE, and ISSP. Each survey is connected to similar endeavours abroad, partly worldwide (like the ISSP). The results of analyses on societal change in Switzerland are edited and published by FORS in different formats, *e.g.*, the Social Report (www.socialreport.ch) or the series of short topical papers “Social Change in Switzerland” (www.socialchangeswitzerland.ch).

FORS *collects and documents data* in two ways: first, there is an inventory of research projects containing nearly 10'000 entries; second, there is the archive of several hundreds of downloadable data sets.³ Both repertories were established and maintained by the FORS predecessor SIDOS already and go back as far as 1992. There is an unbroken continuity since then which makes these repertories one of the most complete and durable collections of research data in Switzerland and thus a valuable source for researchers. And the researchers use them: The current download figures are about four times higher than those at the inception of FORS, totaling almost 2400 downloads in 2014, which is a considerable figure given the size of the country and of its social science community.

Part of the *consultation services*, which cover predominantly questions of access and use of the data produced and distributed by FORS, is easing the access to the survey data of public statistics. FORS established and maintains the portal COMPASS, which contains a complete catalogue and documentation of important statistical microdata like the Labour Force Survey, the Statistics on Income and Living Conditions (SILC), the Household Budget Survey, Census data, and many others.⁴ This portal not only helps researchers to access and use such data; it also generally improves collaborative links between public statistics and the researchers.

3 See <http://forscenter.ch/en/data-and-research-information-services/research-information/research-inventory/> and <http://forscenter.ch/en/data-and-research-information-services/2221-2/>.

4 <http://forscenter.ch/en/data-and-research-information-services/public-statistics/>

Research focuses on the core scientific topics of FORS like survey methodology, life course analysis, family sociology, and political behaviour. It is very important for their standing in the scientific community that (senior *and* junior) collaborators pursue and publish their research and are active in conferences, working groups, exchange platforms, etc. Otherwise they risk to lose contact to the needs of the researchers, and they risk not to be accepted as peers when it comes to scientific debate.

FORS has institutionalised scientific *collaborations* with all Swiss universities. While teaching does not belong to the FORS portfolio, there are several senior scientific collaborators who teach on an individual base. The most important activity in formation, however, is the summer school on research methods organized together with the University of Lugano in the Italian speaking part of the country (<http://www.unige.ch/ses/sococ/ss/>). In multilingual Switzerland it is especially important that a national institution like FORS actively seeks and maintains contacts and collaborations in all regions.

4.2.3 Institutional Setting

FORS is constituted in the legal form of a foundation according to Swiss law. It is hosted by the University of Lausanne, but does legally not belong to the university. Its highest decision making authority is the Foundation Board, composed of representatives of the host university and other universities and universities of applied sciences as well as a representative of the Swiss Federal Statistical Office and the Swiss Academies, respectively.⁵

To guarantee for scientific advice and exchanges, there is a Scientific Board. Members are appointed *ad personam* and are eminent scholars in different social scientific disciplines coming from Switzerland and from abroad. This Board meets yearly for a two day meeting in Lausanne to discuss scientific issues connected with FORS. From time to time the Board undertakes a scientific evaluation in order to systematically analyze strengths and development potentials and to make suggestions for future scientific activities.

The main funders of FORS are the federal ministry (State Secretariat for Education, Research, and Innovation) and, with regard to the big surveys, the Swiss National Science Foundation. The contributions of the host university are to a large part in kind (*e.g.*, office space, communication and IT networks). Funding is based on the four-year rhythm of government spending in Switzerland and gives FORS the necessary mid-term stability for its infrastructure work.

5 The Swiss Academies are associations of learned societies, the political lobby of science in Switzerland so to speak.

Additional, project-specific third party funds come from different sources (including the European Commission's research framework programmes) and allow FORS to be active in frontier as well as in applied research.

4.2.4 Organisation

FORS employs about 40 collaborators, more than three quarter of which are social scientists from different disciplines. About one third are German speaking and French speaking, respectively, another third comes from different European countries, the UK, and the USA. There is about the same number of men and women. As is often the case in Switzerland, most of the collaborators work part-time with shares between 50% and 90%. Only collaborators employed for third-party funded projects have fixed term contracts, all others are employed without time limitation. FORS supports collaborators doing a PhD thesis by according them a part of their paid working time (usually one day per week) for work on their thesis.

FORS works and communicates in three languages: German, French, and English. All scientific collaborators are expected to be fluent in at least one national language plus English, but most understand all three languages, and many have additional knowledge (*e.g.*, Italian). This is very important in a multilingual country like Switzerland in order to be able to communicate with colleagues in all regions of the country as well as with those in other countries. In the recruitment of collaborators there is explicit emphasis on language and communication skills. The FORS website is completely trilingual (www.forscenter.ch).

Given its moderate size, the organizational scheme of FORS is quite straightforward: there is one unit encompassing all surveys, and another one comprising the data services. The Support unit is responsible for finances, human resources, and IT as well as the general office administration. There is a communication officer for all the communication activities related to FORS. The heads of the three units plus the director form the Executive Board dealing with the day-to-day business. The director reports to the Foundation Board. This organization was established in the early days of FORS, and it proved to be useful and efficient.

4.3 Conclusion: Lessons to be Learned

The FORS experience, seen on the background of the systematic approach to research infrastructures developed in the first part of this paper, suggests several conclusions:

First, it is essential that research infrastructures are close to the researchers' daily activities and exchanges. They do not necessarily need to be formally part of a university, but they need research based links to academia. Scientific collaborators at research infrastructures should be acknowledged as peers by fellow scientists, they should be present at scientific events, and they should publish in scholarly media. In this way they will be heard when asking for commitment to tasks like data documentation, and the data they produce will be appreciated and used.

Second, the synergies of combining the key infrastructure functions under one common roof not only produce obvious gains in efficiency, but also prevent specifically the data services activities from being regarded as a supporting service function only without scientific interest. And they open up much more flexibility in designing and adapting job profiles according to collaborators' qualifications as well as giving collaborators more options and flexibility in performing different jobs in the same organization. Thus they make it easier to recruit qualified scientists and to reduce personnel fluctuation.

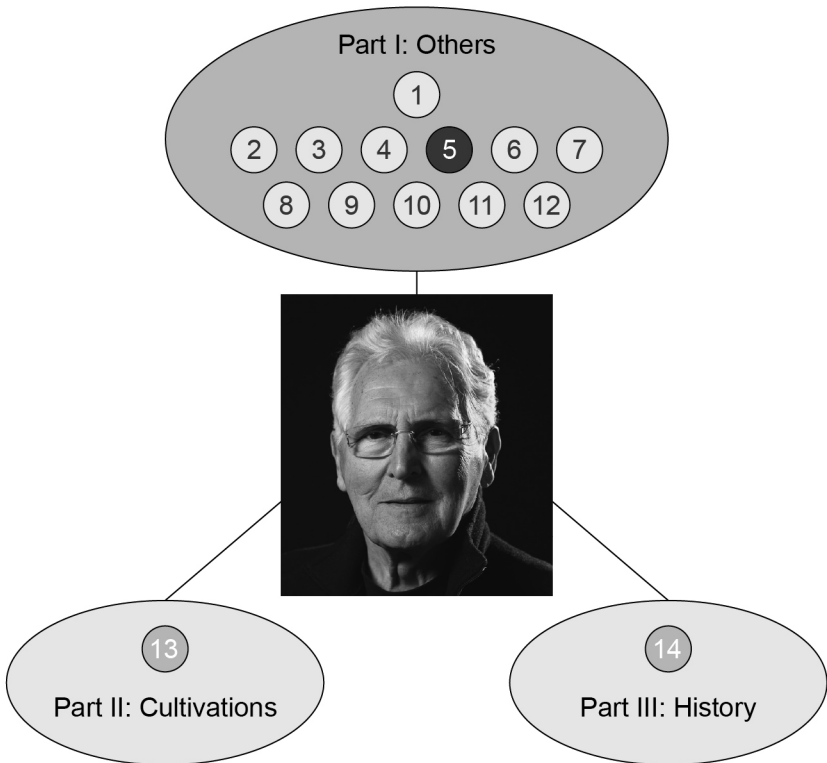
Third, keeping pace with the technical and organizational developments in data management and data archiving requires a critical mass of know-how and human resources. Certainly, social science infrastructures need not to be the size of GESIS or UKDA, but if there are less than 10-15 persons there will be only very few resources available for staying up-to-date or even contributing actively to the development. Once CESSDA ERIC will be in place and working as foreseen the tasks to be fulfilled by members will multiply and thus ask for appropriate resources.

Fourth, the institutional framework and funding mechanisms should provide a reasonable stability over time. How this is actually achieved depends mainly on national legislations and regulations. As the thirteen examples in the volume edited by Kleiner *et al.* (2013) clearly demonstrate there are numerous forms and ways that work well or at least satisfactorily. Nationally different rules, procedures, and path dependencies have to be taken into account when creating and/or developing infrastructures that fit the given circumstances and meet the partly country-specific challenges.

5

Institutional Environments and Organizational Performance in Basic Biomedical Science

R.J. Hollingsworth|E.J. Hollingsworth|D.M. Gear



Isotype 'writing' is like writing a novel in a language.
It is not sufficient – as everybody realizes – to know
the words and the grammar: one also has to know how
to select combinations of words to produce a striking
result. We gradually learnt to treat any kind of subject in
the new way and to combine Isotypes with photographs
and models.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual
Autobiography*

It is important to understand the institutional environments in which research organizations are embedded, for such environments place constraints on their achievements. Without being sensitive to variation in institutional environments for research, we cannot understand variation in the structure and culture of research organizations and variation in organizational performance across countries. In every society there may be great differences in the structure and culture of research organizations, but the variation takes place within system-specific parameters. For example, although each German university has a different structure and culture, a set of common characteristics distinguish German universities from those elsewhere. Every society's research organizations are embedded in an institutional environment which pressures organizations to conform to system-specific sets of norms, rules, habits, and conventions. Institutional arrangements vary from society to society, as well as over time as institutional environments change. Elsewhere we have discussed the effects of organizational characteristics on discoveries and innovation (Hollingsworth 2009; Hollingsworth and Hollingsworth 2011; Hollingsworth and Hollingsworth 2014).

There are at least two aspects to institutional environments, one involving the economic, political, cultural, and technological environments of research organizations. The other aspect, explored here, refers to the governance (coordination) of research organizations. The stronger the role of the institutional environment in the governance of research organizations, the less autonomy organizations have, reducing their ability to absorb the latest technological and scientific advances. Among research organizations in societies with strong institutional environments, there is less variation in the characteristics of research organizations (*e.g.*, centralization, types of leadership, research style, scientific diversity) than in societies with weak institutional environments. Conversely, the weaker the institutional environment and governance, the more autonomy research organizations have, and the greater the likelihood they will be able to absorb the latest scientific knowledge. In weaker institutional environments,

with looser ties between the institutional environment and organizations, there is greater variation in the structure, culture, and leadership of research organizations. To address variation in research organizations, we focus on the factors in the institutional environment that influenced the governance of research organizations, particularly in Britain, France, Germany, and the U.S.

Among these four societies, those with the strongest institutional environments had research organizations with less autonomy to govern themselves and less capacity to shift quickly into new research areas as scientific knowledge advanced. Significantly, those research organizations also had less ability to make major discoveries in basic biomedical science. This is not to say organizations in strong institutional environments never made major discoveries. When they were new—like the roughly twenty new universities in Germany in the late nineteenth century—they could be flexible and innovative. But over time, the strong institutional context limited them, and their organizational conditions tended to be much less conducive to major discoveries (defined in the Appendix). When research organizations were tightly coupled to one another and to their institutional environments, organizational rigidity increased, and there was too little room for organizational autonomy and scientific novelty. The looser the coupling, the more different types of organizations in the science system, the greater the likelihood that research organizations could quickly adopt to novelty to reach the cutting edges of science. The weaker the institutional environments of research organizations, the more flexible scientists were in changing their behavior within and across academic disciplines.

We use several concepts for analyzing the strength of the institutional environment of research organizations. They are the control of *personnel*, control of *scientific disciplines*, and extramural control of *funding*. Strong institutional mechanisms exist in environments where external authorities shape *personnel* by influencing (1) the criteria for appointment of scientific personnel; (2) the appointments of specific scientific personnel, often with particular specified training; and (3) the number of staff in organizations and their subparts. An indicator of the strength of the institutional environment is whether external actors influence decisions about if and when new *scientific disciplines* can be adopted. With regard to *funding*, indicators of institutional environments are (1) whether there are few or many external sources of funding research organizations, and (2) whether research organizations depend heavily on their environment for a high proportion of funding, unable to rely on their own endowments.

5.1 Control of Personnel

In France and Germany, there has historically been much more standardization in the credentials (*i.e.*, training) required to be a university professor than in the U.S. In Germany, the habilitation, usually completed between ages 35 and 40 in the biomedical sciences, has generally been required for appointment as professor. Because the work for the habilitation must meet the standards for a professor and be accepted by a university faculty, the candidate has had much less autonomy to pursue independent lines of investigation at an early age than in the U.S. The American scientist, in a much less rigid system of training and gaining much greater independence by age 35, has had more of an opportunity to pursue unorthodox or high-risk research, to make novel discoveries, even to change disciplines.

Moreover, the ministers of education of the German federal states have long had the authority—occasionally exercised—to veto a recommendation for a professorship, even though the universities have ranked the candidates. It is ministers who decide whether faculties may add a new professorship, or whether a university may have a new discipline. This kind of external bureaucratic process, along with the formalized training system, has tended to retard the ability of German universities to be highly flexible in adapting to changes in science.

Historically, the German professor has tended to have many more varied responsibilities than the American counterpart, responsibilities somewhat inhibiting creative science. Because there were relatively few professors in German departments, the professor had substantial teaching and administrative responsibilities, meaning more modest opportunities for research. Since there were fewer professors, teaching tended to have a broader scope, and there was less opportunity to relate teaching to research. All of these institutional constraints hampered scientific flexibility, specialization, and creativity in German universities. Although the structures and practices of French universities were not identical to those of Germany, there was considerable centralization in decision-making and bureaucratization, and leading French universities lacked flexibility in decision-making (Ben-David 1991).

In contrast, universities in the U.S. had higher degrees of autonomy to decide who would be a professor, what the criteria for appointment would be, and whether to adopt new disciplines. Even among public universities in America, the role of the state in controlling appointments was relatively unimportant. Because the institutional environment of American universities was much weaker than in Germany and France, U.S. universities had much greater flexibility to adapt quickly to changes in the world of science and technology. Moreover, because an American university department had many more professors than a German

university department, the larger number of professors permitted more scientific specialization and diversity. This greater scientific diversity and specialization was associated with major discoveries in biomedical science, especially when it took place within a social context with intense and frequent communication among scientists (Hollingsworth 2008, 2009).

In a general way, the British practices were not so far from the American in flexibility. The orientation toward elitism and the relatively late founding of several universities, however, made for a less open system for academics. University hiring procedures were quite specific, departments were modest in size, and cross-disciplinary activities were not so common (Berdahl 1959; Clark 1983, 1987; Jones 1988; Shattock and Berdahl 1984).

5.2 Control of Scientific Disciplines

Another effect of the institutional environment on research organizations was the rigidity of scientific disciplines. The very term discipline suggests order and control, and academic disciplines attempted to regulate and shape the research problems scientists confronted. The more rigid the academic discipline in an authoritarian environment, the less autonomy an individual scientist had to pursue radically new problems.

In Europe, disciplines have been much more fixed and less flexible. In Germany, most of the Max Planck Institutes for the biomedical sciences were built around a single scientific field—a Max Planck Institute for genetics, another for biochemistry, one for immunology, etc. Because most of these institutes functioned around single disciplines, they did not have the same degree of scientific diversity found in some of the leading American and British research institutes such as the Rockefeller Institute for Medical Research or the Laboratory of Molecular Biology (Cambridge, England).

In many American universities—especially the larger ones—in which disciplinary-based departments have had many professors, there was greater opportunity for scientists to deviate from the core of disciplines, even to join colleagues from other fields to develop a new discipline. Disciplines tend to be more loosely ordered and less controlling in America than in Europe. The American professor who held a professorship in more than one disciplinary-based department had greater opportunity to internalize scientific diversity. Because American research organizations had greater independence from both academic disciplines and the state, there was greater capacity to create new academic disciplines and to establish interdisciplinary institutes both within and outside universities.

In America senior professors have had more mobility to move from one organization to another and also across disciplines as a consequence of the much weaker institutional governance environment, and the large number of American research organizations. The career path of the Harvard Nobel Laureate Walter Gilbert would be hardly imaginable in France or Germany. Gilbert, with a doctorate in physics, began his teaching in a physics department at Harvard, but eventually became a professor of biology and received a Nobel Prize in Chemistry. Had his career taken place in Germany, with its expectation of the habilitation, Gilbert undoubtedly would have internalized much less scientific diversity and had a much less flexible career. There are numerous other cases. For example, Max Delbrück was trained in physics in Germany but when his habilitation was rejected, he was unlikely to become a professor there. He moved to the far more flexible American system, and ended up as a professor of biology at Caltech, though he had no formal training in biology. Eventually he received the Nobel Prize in Physiology or Medicine. Gerald Edelman was another of numerous American professors who crossed academic boundaries. Awarded a Nobel Prize for work in immunology, he next moved into cell biology and made an even more important discovery. Eventually he became a leading neuroscientist.

The British system is more flexible than the German but less so than the U.S. Thus, even though Francis Crick played an important role in shaping modern genetics, he was denied the professorship of genetics at Cambridge University partly because he had been trained in physics and lacked a doctorate in genetics. Crick of course became one of the most important biologists of modern times and his work did much to shape the field of modern genetics. He later moved to the Salk Institute in California and became a distinguished neuroscientist. Max Perutz had a career in Britain that would be hardly imaginable in his native Austria. He once observed that he was a chemist working on a biological problem in a physics institute (*i.e.*, the Cavendish Lab at the Cambridge University). He too became a Nobel laureate. Such interdisciplinary careers would not have been conceivable in Germany, Austria, or France.

The French system of research has been much more segmented than those of the other three countries. There are universities, medical schools, clinics, as well as INSERM and CNRS institutes (sometimes free standing, sometimes associated with other research organizations). In France, it has been difficult for scientists to move from one kind of organization to another. When research organizations are highly segmented and there is little mobility for scientists among them, there is a restriction on the circulation of ideas and the number of radical innovations. This is an important reason why France had the fewest major discoveries in basic biomedical science of the four countries discussed here (Abir-Am 1999; Burian, Gayon and Zallen 1998; Gaudillière 2002; Picard 1990; Shinn 1979).

5.3 Control of Funding Mechanisms

Funding mechanisms are important means by which institutional environments constrain the behavior of research organizations. Funding organizations invariably have preferences about the consequences to follow from their money, and they constrain the behavior of research organizations and scientists' research agendas and strategies. In most countries, scientists have relatively few sources of funding. Heavily dependent on only a few organizations for funding, researchers in Europe generally have had less autonomy than in the U.S., where there have been many different sources for financing biomedical research. Apart from the major governmental organizations funding biomedical research, there have been literally thousands of American private foundations, some very large. This diverse pool of funding has meant that research organizations in the U.S. have had greater autonomy to pursue novel research agendas than in Europe, have had more opportunities to be innovative, and have adapted more quickly to changes in the scientific environment.

However, this perspective should not be overstated. Over time, U.S. research organizations have become increasingly dependent on the National Science Foundation (NSF) and the National Institutes of Health (NIH) for funding, and as this occurred, American scientists have had fewer incentives to pursue high-risk research strategies. Increasingly, American scientists have adapted their research strategies to the ever-stronger preferences of NSF and NIH. However, with the 1990s economic boom, the American research community had access to more diverse sources and higher levels of funding than ever before. Even so, with the production of more and more scientists, competition for funding became much more intense, and funding per scientist decreased (Hollingsworth 2008, 2009).

British funding traditionally was state or university based; however, in the latter part of the twentieth century, the contributions of private foundations (*e.g.* Wellcome) provided more elasticity. British scientists, like those in all other countries, complained about the inadequate funding available for research (Clark 1983).

5.4 Consequences of Institutional Environments for Performance—Organizations with Major Discoveries

Elsewhere, we have suggested that new organizations can be quite innovative because they have more ability to absorb the latest scientific knowledge than older organizations constrained by the forces of inertia (Hollingsworth 2008).

However, there are important exceptions, especially in societies in which institutional environments have rather rigid norms and rules applying to all organizations of the same type (*e.g.*, universities). In Germany in the 1960s, for example, new universities (Konstanz, Bielefeld, Bochum, Bremen) were created with a great deal of fanfare about their potential for innovative training programs. But, embedded in a strong institutional environment, these universities over time were subject to powerful isometric forces leading to convergence in their structure and culture with other German universities.

In Germany, scientists were socialized into a national system with strong sets of norms and rules relating to well-defined academic disciplines. Even when new Max Planck Institutes were created, their autonomy was limited because they were subject to the highly institutionalized governance structure of the Max Planck Association. The self-reinforcing mechanisms of the German science system placed severe constraints on the development of new strategies, structures, and cultures in German research organizations. When the institutional environment in which research organizations are embedded is extremely strong, organizations tend to be very history dependent and rule oriented (Hollingsworth, Müller, and Hollingsworth 2002). In Germany, those who have planned new organizations have been guided more by the way that organizations were governed in the past rather than by a set of radical new plans for the future.

On the other hand, in the U.S. the institutional environment of research organizations has historically been relatively weak. As a result, many new universities, institutes, and departments have been able to implement a recipe for organizational innovation—new structures supportive of and complementary to the latest scientific knowledge. Because the American institutional environment is relatively weak, organizational scientific leaders have been able to make an impact on research when they have had a good sense of the direction in which science is moving, capacity to identify and recruit scientific talent to move the organization in that direction, ability to provide a nurturing environment for scientific work, and skills to create an environment in which scientists from diverse backgrounds could have frequent and intense interchanges.

Within countries, there has been a great deal of path dependency in the institutional environments of these four countries. Thus, the French system of science was highly centralized at the beginning of the twentieth century, and while the nature of funding and methods of organizing science have changed a great deal over time, the system is still highly centralized, with the state playing a critical role in governing and funding the system (Burian, Gayon, and Zallen 1998; Lwoff and Ullmann 1979; Picard 1990, 1994; Ullmann 2003). Even though the American system was extremely decentralized, pluralistic, and fragmented at the beginning of the twentieth century, it changed a great deal over

time, especially with the central government providing an increasing proportion of funding for biomedical research, which led to increasing bureaucratization and standardization. It nevertheless remained the most decentralized and pluralistic system among the four countries.

As suggested above, our data demonstrate that the more autonomy and flexibility that research organizations had to make decisions about personnel and research programs and how research funds were used, the greater the number of organizations having major discoveries.

Among the four countries during the earlier time period (see Table 5.1), the U.S. percentage of all organizations with major discoveries was 31 percent. This percentage was much lower than in the second time period, for in the early part of the century, the U.S. had not made a serious commitment to funding science in well-equipped research organizations. But once the Americans made such a national commitment, performance improved significantly. In the later time period the U.S. had 67 percent of all organizations with major discoveries. The large number of American organizations having major discoveries would not have been possible had there been a strong institutional environment.

The diversity in American research organizations making major discoveries is reflected in the types of organizations—distinguished private universities (Caltech and Johns Hopkins), large private universities (Harvard, Columbia), large public universities (University of California Berkeley, University of Wisconsin–Madison, University of Washington), private medical schools (Harvard, Washington University), large public medical schools (University of California San Francisco, University of Texas Southwest Medical Center), private research institutes (the Rockefeller, Cold Spring Harbor Laboratory, the Salk Institute), and large public research institutes (National Institutes of Health). The weak American institutional environment made possible diverse types of organizations and the existence of a sizable number of distinguished private research organizations.

Britain's institutional environment was stronger and exercised greater control over research organizations than that in the U.S., but it was weaker than those of France and Germany. British research organizations have performed extremely well in the making of major discoveries. Like the U.S., Britain historically also had considerable diversity in types of research organizations making major discoveries, both public and private organizations: There were large federated private universities (Cambridge and Oxford Universities), large public civic universities (Birmingham, Liverpool, Manchester, Sheffield), large Scottish universities (Edinburgh and Glasgow), private institutes (Lister, Ross, Glynn), the colleges of the University of London, and governmentally funded institutes (the Agricultural Research Station at Rothamsted, the Medical Research

Council's Laboratory of Molecular Biology, the National Institute of Medical Research). The amazing diversity of types of organizations in both the public and private sectors in such a relatively small country is an indicator of the weak institutional environment for British research organizations.

In the early period, 33 British organizations had major discoveries. In the later period, British research organizations also performed quite well, but the number of research organizations having major discoveries—nineteen—declined as the British economy diminished relative to the rest of the world. High reliance on one or two state agencies for research funding meant that the research councils could develop rules about what research organizations might do, constraints that held back research organizations as they sought to remain at the cutting edge of science. Both the increasing strength of the institutional environment (*e.g.*, the development and strengthening of academic disciplines, the standardization in governmental funding) and the difficulty in obtaining funding for biomedical science contributed to these effects. The British system, with less diverse funding sources than the U.S., continued to be moderately well funded.

Since strong institutional environments are not associated with having large numbers of research organizations with major discoveries, we would not expect Germany to have many organizations with major discoveries. The data conform to our expectation for the second period (*i.e.*, after 1945) but **not** for the first. In the first period, there were 32 German organizations with major discoveries, but in the second period there were only eight organizations with major discoveries. Why was there this difference in the performance of German research organizations over time?

Germany was the country first to develop the model of a modern university, and thus biomedical science excelled in the late nineteenth and early twentieth centuries. During the last two-thirds of the nineteenth century, the German style of organizing the biomedical and chemical sciences became a model for other countries. In the latter part of the nineteenth and early twentieth centuries a number of German scientists had very large research groups—for example, Justus von Liebig's lab in Giessen had more than four hundred scientists and Emil Fischer in his various labs in Munich, Erlangen, Würzburg, and Berlin had more than 354 scientists (Fruton 1990). By 1900, no other country had such highly developed scientific laboratories, and so many outstanding scientists and academic journals. Significantly, Germany was able to create such a distinguished system of science because of strong state authority with complementary strong rule systems. The German system of approximately twenty universities in the last two decades of the nineteenth century was highly innovative in developing the discipline of physiology, and in advancing organic and physical chemistry, biochemistry, bacteriology and immunology. Even so, the research quality

of the German universities had begun to decline by the end of the first two decades of the twentieth century (Ben-David 1991:106–107; Harwood 1993; Ringer, 1969). By the First World War the German system had become rigid and inflexible, lacking the capacity to develop new universities and disciplines, or new chairs in older disciplines. There were still great centers of excellence—the University of Göttingen was outstanding in the early 1920s for physics, chemistry, and mathematics; and Munich was a center of excellence in both physics and chemistry. In response to problems in university excellence, the Germans created the Kaiser Wilhelm Institutes, independent of universities. The cluster of institutes in Dahlem (Berlin) was the most notable. But overall, even with the establishment of the Kaiser Wilhelm institutes, the system became increasingly frail, greatly weakened by the First World War and especially by the Nazi era, and the loss of Jewish and other scientists in the 1930s (Nachmansohn 1979). After the Second World War a number of new German universities and research institutes came into existence, but they followed the existing models, lacking the flexibility and autonomy of U.S. organizations, and were thus hampered in their capacity to be very successful in making major discoveries. Most German organizations with major discoveries during the 1901–1945 period had their success before 1925, *i.e.*, before the Nazi era (Ben-David 1991: 106–107). The rigidity of the German institutional environment for science continued to place constraints on the ability of German research organizations to attain major discoveries during the last decades of the twentieth century and into the twenty-first. Because of the strong institutional environment, German universities converged toward a common set of norms in their governance. And because they tended to mimic one another, there has been only modest diversity and less novelty in the processes of discovery than would have been the case had there been a greater variety of flexible organizations. Even so, there are very high quality German research organizations, especially in the Max Planck Association.

German science was actually quite well funded prior to the First World War, but the funding for science was quite limited from 1918 until approximately 1950. Since then, German research organizations were moderately well funded, though the diversity of sources for funding research was somewhat limited. The German case indicates that adequate funding for science is not sufficient for organizations to make numerous major discoveries over time if the organizations are embedded in an institutional environment severely limiting their autonomy and flexibility.

The data in Table 1 suggest that the French case is much more straightforward. The number of organizations with major discoveries was very small relative to the other three countries for both time periods. During the first time period, there

were only nine research organizations in France with major discoveries and in the second time period there were only six. Among the four countries in this study, none historically has publicly praised scientists and their accomplishments more than France. Celebrations of great scientists and other notables have become an important part of French culture. But among these four countries, none has been more parsimonious and lacking in foresight in providing scientists with the financial and organizational resources they require, and in providing the types of institutional arrangements associated with innovation and discovery (Sinding 1999).

Throughout the twentieth century, French scientific facilities were extraordinarily underfunded and research was conducted in a very personalistic style. At the same time that German universities were providing world-class equipment for laboratories, some of France's greatest biomedical scientists had to work under the most deplorable conditions. It is a tribute to the French system of education, with its emphases on individual brilliance and creativity, that these scientists performed so well in inadequately developed research organizations. Even when the French government provided ample funding for laboratories, governance was highly centralized. Over the years, French scientists in comparison with those in the other three countries, more often than not had to operate in crowded laboratories, rely on obsolete equipment, and be subjected periodically to the deleterious effects of inflation. Numerous accounts have described how the French university system has long been embedded in a highly centralized Ministry of Education determining salaries and promotions. Throughout the twentieth century, there was an enormous amount of favoritism and organizational nepotism. Some of France's most distinguished scientists made scathing criticisms of the system—its lack of funds, the mediocrity of its science, the perpetuation of antiquated disciplines and the reluctance to develop new ones, and the incompetence of administrative personnel. Until the 1960s, most French biology was more of a descriptive than an experimental field of science (Burian, Gayon, and Zallen 1998; Gaudillière 2002; Shinn 1979).

Whereas Americans are often viewed as being quite provincial, most American graduate schools throughout much of the twentieth century expected their doctoral students to read one or two foreign languages. But in French universities until after the Second World War, most French biologists had to rely on French scientific journals because they could not read foreign languages. Moreover, the French system was relatively closed: it was a rare exception that someone could be a professor in a French university who did not have a French doctorate. This, combined with the highly centralized system, further stifled scientific creativity. Significantly, Andre Lwoff, Jacques Monod, and François Jacob did their Nobel Prize-winning work in a private research organization, the Institut Pasteur.

However, their level of novelty as biologists at the Institute Pasteur was a notable exception to the style of work in France (Carroll 2013). Whereas before 1945, Germany, Britain, and the U.S. each had more than thirty organizations with major discoveries, the post Second World War picture was very different—the U.S. had **many** more organizations than Britain, Germany, and France. However helpful it is to understand the influence of institutional arrangements on the making of major discoveries, it is necessary to recognize that forces at levels other than the institutional (*i.e.*, organizations, departments and institutes, laboratories, and skills/interests of individual scientists) have also shaped performance outcomes. And of course, in a world replete with rankings, it should be noted that major discoveries are only one method of assessing performance (Hollingsworth 2009).

TABLE 5.1 **Number of Organizations with Major Discoveries by Country, 1901–1995* ****

Country	Organizations with Major Discoveries, 1901–1945		Organizations with Major Discoveries, 1945–1995		Organizations with Major Discoveries, 1901–1995	
	Number	% of Organizations	Number	% of Organizations	Number	% of Organizations
Britain	33	31	20	19	42	24
France	9	8	6	6	14	8
Germany	32	30	8	8	38	21
U.S.	34	31	69	67	83	47
Total	108	100	103	100	177	100

* The number of organizations for the entire period is not the sum of organizations in the two periods because some organizations were listed in both periods.

** Our sources include our personal interviews with six hundred individuals involved in science and scientific organizations and institutions, often on numerous occasions; our work in 161 archives in the U.S. and Europe; over one hundred oral histories or public interviews; and extensive secondary sources about science and scientific organizations and institutions.

Appendix

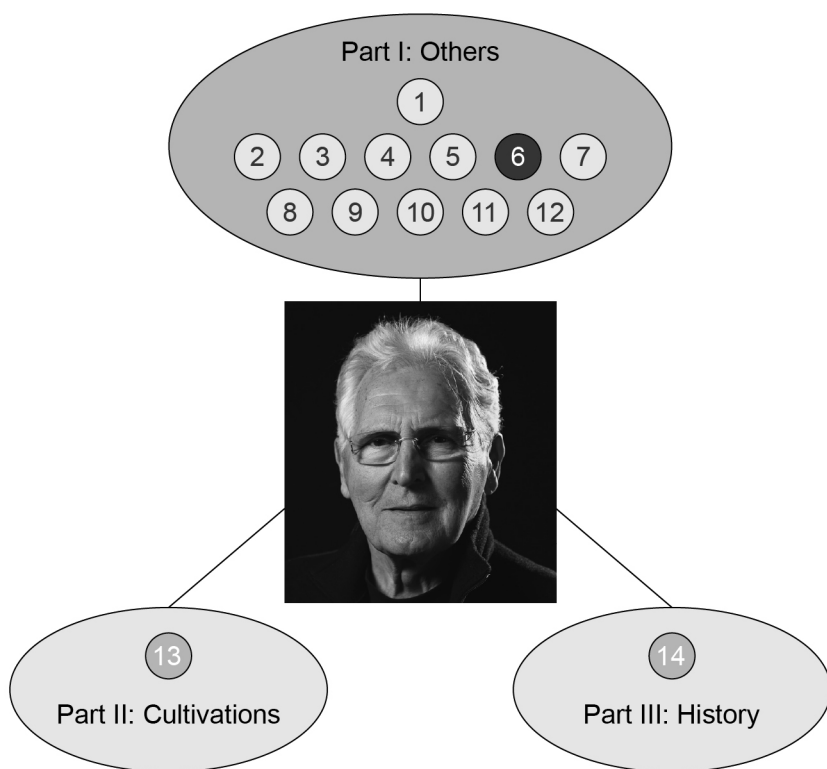
Indicators of Major Discoveries

Our indicators for major discoveries in basic biomedical science were (1) discoveries resulting in a Copley Medal for basic biomedical research, awarded since 1901 by the Royal Society of London; (2) discoveries resulting in a Nobel Prize in Physiology or Medicine since the first award in 1901; (3) discoveries resulting in a Nobel Prize in Chemistry since the first award in 1901, insofar as the research had high relevance to biomedical science (this includes discoveries in biochemistry as well as other areas of chemistry); (4) discoveries resulting in ten nominations in any three years prior to 1940 for a Nobel Prize in Physiology or Medicine, or in Chemistry if the research had high relevance to basic biomedical science; (5) the Royal Swedish Academy of Sciences (which awards Nobel Prizes in Chemistry) and the Karolinska Institute (which awards prizes in physiology or medicine) each year have appointed a committee to study major discoveries and propose Nobel Prize winners in Chemistry, and in Physiology or Medicine, respectively, and make short lists of “prize worthy” discoveries, some of which were recognized with Nobel Prizes. We include in our population individuals on the short lists through 1940 not recognized with Nobel prizes. To capture the variety of major scientific discoveries during the latter part of the twentieth century, we also used (6) discoveries recognized with the Albert Lasker Basic Medical Research Award, (7) discoveries recognized with the Louisa Gross Horwitz Prize for Biology or Biochemistry, and (8) discoveries in biomedical science recognized with the Crafoord Prize awarded by the Royal Swedish Academy of Sciences.

6

The ESS as a 'European Success Story'

Max Kaase



There are many reasons why Isotype cannot be developed as a 'complete language' without destroying its force and simplicity. Our daily language, even in primitive societies, is to some extent richer than our Isotype representations can be, and one needs words added to the pictures. Whereas the pictures may remain identical in different countries, the explanations may be spoken or written in different languages.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

6.1 Introduction

Comparative survey programmes having come into being in the Seventies and Eighties were the Eurobarometers, the General Social Surveys, the International Social Survey Programme (ISSP), the World Values Study (WVS) and the Comparative Study of Electoral Systems (CSES), to just name the most important ones (Kaase 2015). Many of these projects up to this very day unfortunately not always command a reliable institutional and financial underpinning in all of the participating countries. They therefore suffer, on top of funding challenges, also from methodological frailties. One example is the lack of an established probability sampling frame to which all national teams have to adhere. Other problems are divergent time frames for the fieldwork of the national studies – a problem which incidentally also pertains to the ESS –, and a lack of an encompassing, regularly updated documentation of the national studies as well as inconsistencies in regard to the question programs across time and countries, to name just a few. This situation helps to explain in part the ambition with which and how the European Social Survey (ESS) was created.

6.2 The ESS Beginnings – The Beliefs in Government Project and the Early ESF Days

The main impetus for the ESS came in 1986. Jean Blondel, Founding Director of the European Consortium for Political Research (ECPR), in a meeting at the European University Institute in Florence proposed to the European Science Foundation (ESF) to start a series of projects to foster European comparative political science research. Max Kaase and Ken Newton were among the very few who grabbed this opportunity. In 1988 they applied with ESF to conduct

a collaborative project with about 60 European scholars titled “Beliefs in Government” (BiG). The aim of this project was to study the development of socio-political and cultural orientations in democratic Europe since the Fifties. Because of the lack of resources to conduct new surveys, the gist of the programme was to work **exclusively** with available comparative survey data already stored in data archives. The core idea behind the project was to fill a three-dimensional matrix of topic x country x time with data. The project was accepted by ESF, funded by the ESF-typical *à la carte* mode where each interested ESF member (usually a research council) accepts to financially invest in the research. The project ended in 1995 with five books being published by Oxford University Press (Kaase and Newton 1995; this volume summarizes the main findings from the BiG project). One of the dire things to be learned in the project was that the available secondary data were not rich enough to systematically complete the matrix in the way the project team had hoped it could.

The reason why this project is mentioned almost two decades after it has come to a close, is that Kaase’s membership in ESF’s Standing Committee for the Social Sciences (SCSS) and later his position as ESF Vice President encouraged him to start an effort to translate the BiG experience into a project proposal to establish in Europe, via the ESF, with the ESS an ongoing comparative survey research programme as a social science research infrastructure (for the general problematique of social science research infrastructures see the volumes by Kleiner *et al.* 2013; Dusa *et al.* 2014).

Looking back from the situation of the ESS today, it is hard to believe what all involved in the process have jointly been able to achieve. Work on developing the ESS started in 1994 with a decision of the ESF SCSS to accept the Kaase proposal to set up an Expert Group studying the feasibility of the ESS idea. Funding of this group was to come through contributions by interested national research councils, following again the then extant *à la carte* mode of funding at ESF.

As a consequence, the ESF administration on the one hand inquired with the ESF members whether some members would be interested in the project and thus would be willing to share in some of the cost. On the other hand, ESF also asked its member organizations for suggestions for top-notch social scientists who should participate in the Expert Group. This resulted in nominations from eight countries. Among the nominees was also Roger Jowell, whose name had been put forward by the UK Economic and Social Research Council (ESRC) and who later on became one of the backbones of the whole project (the other expert members, in addition to Kaase as Chair, were Dr. Bruno Coutres from France, Professor Juan Diez Nicholas from Spain, Professor Fredrik Engelstad from Norway, Professor Leif Nordberg from Finland, Professor Antonio

Schizzerotto from Italy, Dr. Henk Stronkhorst from the Netherlands, and Dr. John Smith, as Secretary, from the ESF.

6.3 The ESS Blueprint

It is not necessary here to unfold the complexities of the process that ensued from the positive recommendation of the Expert Group. This recommendation was presented to and accepted by the ESF General Assembly at the end of 1995 to continue with the plan for an ESS. The proposal foresaw two Committees to further develop the project. One was a **Steering Committee** with the responsibility for overall program steering which Kaase was supposed to chair (and of which Nico Tos was a regular member). The second was the **Methodology Committee**. It only seemed logical to ask Roger Jowell, with his outstanding scholarly record, to chair it, a request which he accepted without hesitation. On the basis of three years of committee work, Jowell, Kaase and Smith then wrote a blueprint for the project (ESF 1999). This blueprint was presented to the ESF leadership by the two Committees in June 1999 and was, after thoughtful deliberations, accepted by the ESF General Assembly in 2000 as the proper base for the further development of the ESS.

Three guiding principles lined out for the ESS were

- to have every second year representative sample surveys conducted in the participating European countries,
- to achieve the highest conceivable methodological and documentation standards for the conduct and documentation of the survey,
- to permit, after the completion of each round of surveys, free and immediate cost-free access for all interested researchers to the data through a data archive.

Central was the aspiration to create, in the long run, a database for the analysis of changes in attitudes and behaviors on socio-political and cultural matters in Europe along the time dimension. There was agreement from the beginning among the godfathers of the project to select theoretically derived questions which would be **repeated** in every round of surveys and would take up about fifty percent of the questionnaire space – **the ESS core**. But there had to be also room for theoretical and methodological innovation. To achieve this goal, it was decided that in each round two so-called rotating modules with sets of questions on topics attractive for the wider international community of scholars, would be included in the survey, each taking up about fifteen minutes of interview time. (In parentheses, it should be pointed out that these time estimates turned out

to be much too optimistic. Thus, later there was not only the need to somewhat shorten the core, but also to take away five minutes each from the two rotating modules.)

The rotating modules for each ESS round were to be decided upon by the members of the ESS Scientific Advisory Board (SAB) after being pre-screened by an international group of experts. The incoming proposals were to originate from a Europe-wide open call for proposals published in a variety of scholarly publications stimulating competition among international research teams which would permit them to follow their specific research interests and competencies. So it happens to this very day, and as time has gone by, it has now even become meaningful to permit **repetition** of particularly interesting rotating modules; up to now, three such repeats have been chosen as a rotating module.

It seems worthwhile to look at the topics which were covered in the present seven (and for 2016 in the planned 8th) survey rounds:

Round 1:	a) Citizenship, Involvement and Democracy b) Immigration
Round 2:	a) Family, Work and Well-being b) Opinions on Health and Care Taking
Round 3:	a) Personal and Social Well-being: Creating Indicators for a Flourishing Europe b) The Timing of Life: The Organization of the Life Course in Europe
Round 4:	a) Experiences and Expressions of Ageism b) Welfare Attitudes in a Changing Europe
Round 5:	a) Work, Family and Well-being: The Implications of Economic Recession NOTE: This is a REPEAT of RM 2a b) Trust in Criminal Justice: A Comparative European Analysis
Round 6:	a) Personal and Social Well-being NOTE: This is a REPEAT of RM 3a b) Europeans' Understanding and Evaluations of Democracy
Round 7:	a) Attitudes Toward Immigration and Their Antecedents NOTE: This is a REPEAT of RM 1a b) Social Inequalities in Health and their Determinants

The following two Rotating Modules were selected for Round 8 of the ESS in 2016 in a SAB meeting in the summer of 2014.

Round 8:	a) Public Attitudes to Climate Change, Energy Security and Energy Preferences b) Welfare Attitudes in a Changing Europe: Solidarities Under Pressure. NOTE: This is a REPEAT of RM 4b
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6.4 The Early ESS Days and the Descartes Prize

Reflecting on the early ESS days, it still appears like a wonder that it was possible to convince so many European countries and national research councils to get involved in the ESS and especially in its funding. It required highly motivated scholars and organizations – in particular the national research councils as ESF members – to make the ESS first possible and then a success. Since 2002 six rounds of ESS surveys have been conducted in between 25 and 30 countries in Europe, in Israel and in Turkey (the latter two countries owing their participation to the observer status they hold in the ESF), and the seventh round is presently (2014) in the field.

From the early days of the ESS on, the high cost of finding a principal investigator for each participating country and to conduct the national fieldwork turned out to be a constant challenge for the funders of the survey. Little wonder, then, that from the beginning the ESF has raised the question to what extent part of the ESS cost could be covered by outside resources, most likely from the European Commission (EC). Thus, on top of the overall scientific responsibility for each survey round which had been taken by the Central Coordinating Team (CCT) located in London at City University and was directed by Roger Jowell, the team quickly was forced to find ways with the European Commission to become a partner in funding the ESS. It was under Jowell's directorship that from early on all the painful applications to the EC had to be written and defended by the London CCT which helped to stabilize the complex ESS funding scheme in joining forces between the ESF, the EC and the national research councils. This scheme has remained in force until the transition of the ESS early 2014 to the ESS ERIC (European Research Infrastructure Consortium) under the ESFRI shield, a point which will be briefly addressed later in the paper.

In the beginning in 2000, the Scientific Advisory Board (SAB), jointly with the London Core ESS Team under Jowell's directorship, had to take a couple of important decisions. Among them was the choice for the data archive which would have to take the responsibility for cleaning, organizing, storing and disseminating the incoming data from the participating countries. The decision in favour of the Norwegian Data Archive (NSD) was based on an open competition between several archives which had applied for the job. Only as time went by, it was realized what a tremendous task this was, how lucky the ESS has been with this decision and especially how fortunate the ESS was to have Bjoern Henrichsen as NSD Director on board.

Another important decision dealt with the choice of the questions and indicators to become the ESS core. This decision was prepared in asking a number of competent social scientists to write papers with considered proposals about which topics and questions should go into the core.

The more concrete the preparations for the first Round of the ESS became, the more the question came to the fore how many countries would not only **speak** of being interested in the ESS, but would de facto also **commit themselves** to become financially and organizationally involved. The proof of the pudding, of course, became the first ESS Round when the concrete preparations started for the survey to go into the field. As one can imagine, all those involved in the ESS were more than happy when, quite unexpectedly, 21 European countries, plus Israel, in 2002, became participants. From then on, the level of country participation has more or less slowly increased (2004:26; 2006:25; 2008:31; 2010:28; 2012:29 countries.) But most important was the fact that from the start the number of data users has consistently and substantially increased, one of the preconditions for the continuation of the ESS (for an early summary of the first findings and the many challenges facing the ESS see Jowell *et al.* 2007). Finally, it must be regarded as the icing on this cake that in 2005 the European Commission awarded one of that year's Descartes prizes for Scientific Collaborative Research in Europe for the first time ever to a project from the social sciences (the field was "Learning about Social Life", with the ESS as sole representative). The other prizes, incidentally, came from "Targeting Health" (3), "Understanding the Earth" (1), "Developing Technology at the Service of a Better Daily Life" (3) and "Discovering the Universe" (2).

6.5 The Assessment of the ESS by a Panel of International Experts in 2008

Considering the high survey cost and the precarious funding situation under which the ESS existed from the start, it was clear that this kind of a situation could not persist forever. This was particularly true for the role of the ESF. One of the conditions under which the ESF had agreed to support the ESS was that after some time its achievements and failures should be evaluated by a panel of high-ranking external international experts. This was a test which also the European Commission demanded as a precondition for its eventual further financial engagement. This assessment exercise was conducted in 2007, and the report of the assessment panel was presented to the ESF and to the European Commission in April 2008 (members of the Panel were Profs. Jelke Bethlehem, Senior Survey Methodologist at Statistics Netherlands; Juan Diez Medrano, Sociologist at the University of Barcelona; Robert M. Groves – Chair -, Sociologist at the University of Michigan; Peter Gundelach, Sociologist at the University of Copenhagen, and Pippa Norris, Lecturer in Comparative Politics, Harvard University).

It is worthwhile to quote from this very sophisticated and detailed report (pp 3, 32, 36):

“The sample survey is a key invention of the social sciences, the basic instrument of measurement for studies of human thought and behaviour offering generalisable information about large scale populations. As the social sciences mature, they have demonstrated their ability to conduct large scientific collaborative endeavours. The European Social Survey has achieved world renown in the social sciences as a uniquely successful cutting edge multi-national scientific initiative... It has improved standards of methodological rigour and transparency raising international standards of fieldwork, questionnaire design and sampling for other European social surveys and market research, especially in countries which lack accumulated expertise in survey research. It has strengthened European cooperation and sharing multidisciplinary knowledge within the global scientific community. It has encouraged professional standards for the wide and timely dissemination of, and access to, social scientific data.

The designation of the ESS as part of the European scientific infrastructure can be a key facilitator to the social sciences. It will increase their rate of discovery of key influences on attitudes and behaviors, when key issues facing the world involve how people relate to other people, how people relate to new technology, how people affect the environment and how the environment affects people, how Europeans react to increasing globalisation, how concerns about security affect people's day to day lives, and how European integration impacts Europeans.

In sum, the panel concludes that the ESS has the potential to be a key tool for European social science to advance over the coming years.”

6.6 On the Way to the ESS ERIC

All through the existence of the ESS, Roger Jowell as Principal Investigator has never ceased to emphasize that the ESS is an academically driven and controlled project. This position was strengthened by the fact that research councils were a major supporting force for the project, including its funding. Nevertheless, with the assessment report by the Panel a certain breaking point had been reached especially regarding the funding arrangements of the project. The reason was that it could no longer be taken for granted that the research councils, through the ESF umbrella, would be willing and capable to continue to pay the cost for the national survey field work and the national coordinator (as an example, the Deutsche Forschungsgemeinschaft had decided that it would stop funding the German part of the ESS by the end of 2015).

Fortunately, efforts to overcome this unstable state of funding affairs profited from the fact that in 2002 under the EC umbrella the European Strategy Forum on Research Infrastructures (ESFRI) had been constructed with the task to set

up a roadmap of potentially interesting European research infrastructures to be further discussed.

This followed the recognition by the European Commission that research infrastructures were or had to become an important pillar towards establishing and furthering the European Research Area (ERA). At ESFRI, various research fields had been identified, and the question was discussed which research infrastructures in this context needed to be established or maintained and how they would be funded.

Regarding the latter point, it was made clear from the beginning that the funding responsibility was not with the European Commission, but rather with the governments of those countries which supported the infrastructures in question. In 2011, there were 48 institutions accepted for the ESFRI roadmap, and it was not the least Bjoern Henrichsen from the Norwegian Data Archive in Bergen (who had presided over one of the groups to chart ESFRI fields) who helped three social science infrastructures to get on the roadmap (CESSDA, SHARE and the ESS) on their way to becoming a European Research Infrastructure Consortium ERIC.

In June 2009 the Commission defined the legal framework necessary for establishing an ERIC. It is not necessary to detail the complicated steps that were required to set up the ESS as an ERIC. But it seems appropriate to emphasize again the major role that Roger Jowell and Bjoern Henrichsen played for the successful conclusion of the ESFRI process regarding the institutionalization of the ESS as an ERIC. This culminated on November 22, 2013, when the Commission implemented the decision to set up the ESS as an ERIC, a decision which was celebrated with a meeting at the Royal Society in London on January 31, 2014.

6.7 The ESS as an ERIC

The new legal framework under which the ESS will operate since 2014 is too fresh to assess whether it will have important implications of whatever kind for the future of the ESS. Briefly, the most important structural changes are:

- All ESS cost, national as well as institutional, will now have to be covered by the national governments of the ERIC signatory countries.
- The central governing body of the ESS ERIC is the General Assembly (GA). The National Representatives represent the governments of the member countries.
- The Scientific Advisory Board (SAB) now no longer has members from all participating countries, like in the times before the transition. Rather, the new SAB will normally comprise eight members appointed by the GA.

- There now is a formal role for the National Coordinators in the institutional setup of the ERIC.

One important feature documenting the success of the ESS has always been the number of registered users. If one takes the status quo as an acceptable benchmark from which the ESS ERIC development has to be assessed, here are the figures from March 19, 2014:

		%
Students	41866	61,4
Faculty and Research	14017	20,6
PhD theses	5456	8,0
Governments	1321	1,9
Private enterprises	1091	1,6
Private individuals	1843	2,7
Other	2610	3,9
Total	68204	100,1

Furthermore, Dr. Brina Malnar of the University of Ljubljana has invested a lot of effort in analyzing the annual ESS publication record. As one would expect, from 2003 on when the measurement started with 18 entries, this number has now substantially increased up to 588 publications in 2012. This achievement is even more remarkable considering that the share of peer-reviewed journal articles has increased from 24,1 % in 2004 to 56,1% in 2012. Publications thus are the second benchmark which the ESS ERIC has to observe in the future. This, incidentally, is a strong argument in favor of continuing to collect the information of which and how many publications are based on ESS data.

If one so wishes, a third benchmark is the number of participating countries. Up to Round 6 in 2012, this number has stabilized around 28 participants. Under the new ERIC conditions, this number has decreased for Round 7 to 21 (small changes are still possible). One can speculate that this decrease has been mostly caused by the new membership and funding rules which require a clearly defined engagement by governments not only for the national, but also for a share of the institutional cost. Looking at the countries which at present will no longer remain involved in the survey, it is apparent that most of them come from Central and Eastern Europe, that is from countries which operate in difficult economic and/or political circumstances. So there is reason to hope that in the long run some of those countries will decide to rejoin the ESS ERIC.

6.8 To Sum Up...

In conclusion, this author's first thought goes to Sir Roger Jowell who surprisingly passed away on December 25, 2011. This author has lost a colleague and dear friend, but the ESS has lost its spiritus rector. In the contemporary rational world the saying goes that there is nobody who cannot be replaced if necessary, but there are reasons to doubt that this is really true. One thing is sure: without him, the ESS, would not be where it is today.

Taken the gravity of losing Roger, many of those involved in the ESS have pondered over how to continue after his death. Today, all are grateful that his co-worker Rory Fitzgerald has been up to the challenge to continue with directing the ESS, that he has stood in line and that he has accepted the offer to become Roger's successor. He deserves all the support necessary to guide the ESS in its new ESS ERIC frame.

The ESS ERIC is also grateful that the members of the Core Scientific Team have continued to come up with the support and the hard work that are indispensable to help Rory Fitzgerald to perform his directorial obligations at the highest possible organizational and scholarly level, following the tasks as specified in Article 13 of the ERIC Foundation Document as "advise and work with the Director on all aspects of the design, scientific direction, methods, implementation, quality control, delivery and dissemination of the ESS ERIC work".

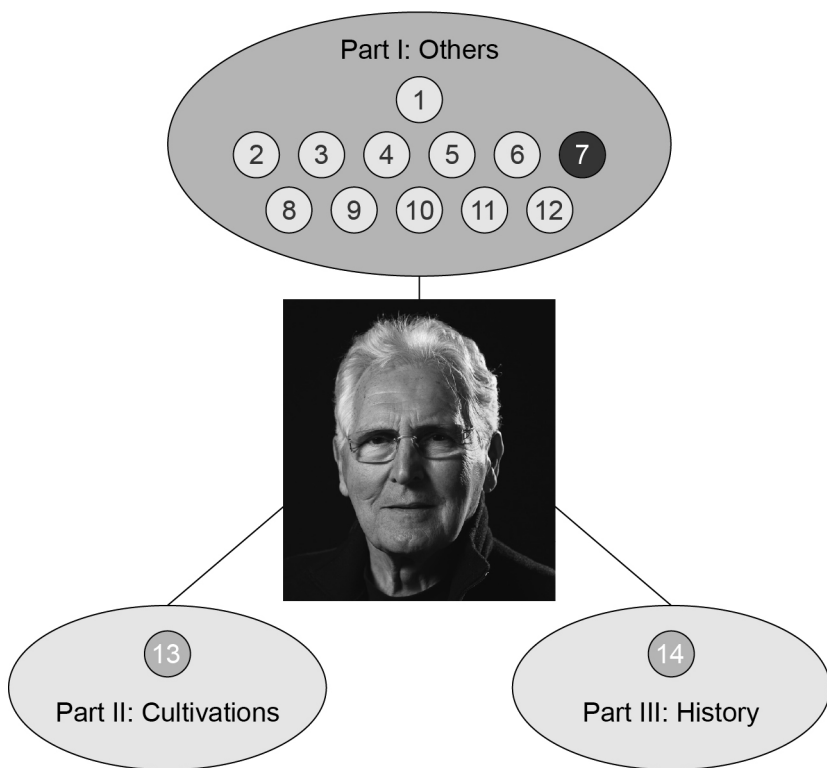
As far as one can say shortly after the ERIC transition, the ESS continues to be what its godfathers wanted it to be: a top-notch multidimensional infrastructure for the social sciences.

And, to conclude, deep appreciation goes to all the scholars and colleagues who have devoted parts of their professional and personal lives to the social sciences and to their well-being, and in particular to the ESS, people like Niko Tos who is celebrated today.

7

Prolegomena to a Comparative Second-Order Analysis of the World Values Survey

Hans-Dieter Klingemann



If, for instance, we want to indicate the word ‘man’ we can represent it by some very indefinite drawing, but it still has to have a certain colour. Now the colours black, white, red, brown, yellow are already used for indicating certain human groups, therefore it is advisable to use grey or green or blue when trying to speak of human beings in general There is a similar difficulty, if one wants to speak of ‘trees’ in general, because trees in Great Britain and trees in Africa are different; and even in Great Britain there are different types of trees. It is difficult to make a conventional drawing to indicate a tree with leaves and a fir tree simultaneously.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

7.1 The Idea and the Goals of ‘Second-Order Analysis’ of Large Scale Survey Projects

Brina Malnar and Karl H. Mueller (2015) have provided a general framework for a second-order analysis of large scale survey projects. In ‘Surveys and Reflexivity’ they present empirical results of a ‘Second-order European Social Survey (ESS)-study of ESS-studies’ which shows the potential of second-order analyses. I want to follow their lead and reflect on another large-scale comparative survey project: the World Values Survey (WVS). My contribution at this point in time is an exploration of a comparative design that could be of special interest, given the intellectual and organizational history of the WVS.

“First-order science is the science of exploring the world. Second-order science is the science of reflecting on these explorations.” (Mueller 2016:45, 62). As Malnar and Mueller (2015) have demonstrated meta-analyses of this nature can also be applied to large scale survey projects. Malnar and Mueller (2015:88) distinguish two groups of second order survey studies:

- Reflections on survey inputs. Studies of this first type focus mainly on social science theories and survey methodologies. Typical products are second-order questionnaire studies or second-order analyses of survey methods.
- Reflections on survey outputs. Studies of this second type include analyses of survey responses, survey documentation, techniques of data analyses, or publications based on the surveys. A prominent example of a reflection on survey outputs is Malnar and Mueller’s (2015) ‘second-order ESS-study of ESS-studies’.

Malnar and Mueller (2015:89) define three goals of second-order survey analyses:

- The first goal is to achieve higher levels of robustness with respect to the results of first-order survey research. Statistical meta-analyses can be performed to confirm or disconfirm first-order results.
- The second goal is to aim at higher levels of generality and integration of first-order survey investigations. This can be achieved by studies of significant theoretical concepts.
- The third goal is to offer new perspectives and act as “an innovation pump for survey research”. These new perspectives can be demonstrated, for example, by showing the profile of survey researchers and their distinct or overlapping theoretical and methodological interests.

7.2 General Prospects and Problems of Large-Scale Comparative Survey Research

In ‘Comparative Opinion Surveys’ John Curtice (2007:897–909) has summarized the prospects and problems of studying human behavior using large-scale comparative survey research. He emphasizes that comparative survey research is driven by the general goal to better understand the causes and consequences of the values and beliefs of the general public. This approach has been boosted by the fact that inferences about the characteristics of a large population can be drawn from the evidence of relatively small random samples of the population. It has allowed students of human behavior to make empirically substantiated observations about mass publics on the basis of data gathered from just a thousand people or so.

In order to make general statements about how people behave their behavior needs to be tested in a wide variety of social and political environments. This is particularly true because these environments may vary between countries but do not differ within them. “So comparative cross-national mass political research brings three main benefits. First, it enables us to assess the empirical generalizability of claims that we might make about the causes and consequences of political attitudes and behavior. Second, it enables us to widen the range of contextual influences on attitudes and behavior that can be analyzed, in particular making it possible to assess the impact of influences that are largely invariant within countries but do vary between them. Third, it can even contribute to the study of behavior within a particular country by providing points of comparison that make it possible to assess the impact of that country’s particular social and political circumstances on behavior within that country.” (Curtice 2007:898).

On the methodological and practical level the question remains whether or not one can make valid comparisons between the results of surveys conducted in

different countries. Do results reflect artificial differences in how the survey was conducted in the various countries rather than real differences between their populations? (Curtice 2007:899). Considering what has been discussed the major methodological issues seem to be related to differences in survey practice between countries. First, there is the language problem. Even if there have been translations and back-translations of questionnaires one cannot be certain that the affective and cognitive meaning of the questions is the same in the minds of respondents that speak different languages. Second, there are the various sampling procedures that depend on the existence of population registers or a full list of households from which a random sample of individuals can be generated. Third, there are problems that arise from the fact that the population is widely spread on the territory and literacy rates are low (*e.g.* completion rates; non-response).

Thus, large-scale comparative survey research that stretches over a long time-period is ideally suited to a second-order study of survey inputs and outputs because it has the potential to answer the following four overarching questions:

- What was it that the researchers wanted to understand when they invented the survey and how did this change over time?
- What methods have been selected and did they change over time?
- What can we learn from the various publications about human behavior?
- What can we learn about the impact of particular methods to measure attitudes as well as from the various methods of data analysis?

7.3 The World Values Survey and its Potential for Second-Order Analysis

7.3.1 History

In the last decades we have seen an increase of large-scale comparative survey research. Miki Caul Kittilson (2007:867–895) has described this development in detail. The WVS is the oldest and arguably the most ambitious project to monitor social and political attitudes on a global scale. The general history of the WVS has been described in many publications. Thus, we will not repeat the exercise and refer to Caul Kittilson's (2007:871–877) summary report on the WVS and the literature cited therein.

The WVS is uniquely suited to answer the questions posed above. The project covers a long period of time and as a single study it has produced an unmatched number of nation-wide representative surveys. Planning for the first wave of what is known today as the WVS started in 1979. Fieldwork for the first wave

of surveys was carried out in 1981. Currently the seventh wave of the WVS is ready to go to the field. The six completed waves of the WVS cover the time span from 1981 to 2014. During that period 235 representative nationwide surveys with a total of 334384 respondents have been conducted in 98 countries. Documentation, such as questionnaires, sampling methods, field reports and other important information are available from ASEP/JDS Systems, Madrid, Spain, which hosts the holdings of the WVS (Jaime Diez-Medrano, Director). Additional material can be found at the WVS External Relations & Communications Office, Institute for Future Studies, Stockholm, Sweden (Bi Puranen, Secretary General of WVS) and at the Secretariat & President's Office, Institute for Comparative Survey Research, Vienna, Austria (Kseniya Kizilova, Secretary).

TABLE 7.1 **Six waves of data generation: The WVS 1981–2014**

Wave	Years	Countries	N of Respondents
1	1981–1984	10	13586
2	1990–1994	18	22265
3	1995–1998	52	74148
4	1999–2004	41	61128
5	2005–2009	54	77101
6	2010–2014	59	86156

Compiled from information by the World Values Survey Association

7.3.2 Analyzing Survey Inputs and Outputs: The Impact of Organizational Structure

For any second-order analysis of the WVS it is important to know that it grew out of a ten country survey organized by the European Values Systems Study Group (EVSSG). Ruud de Moor (University of Tilburg), Jan Kerkhofs (University of Leuven), Noel Timms (University of Leicester) and other colleagues who were particularly interested in religious values and beliefs formed the core of this study group. Close to Catholic academics and intellectuals they set out to study moral and social values underlying European social and political institutions and government conduct. While their focus was very much on religious attitudes in Catholic Europe the study evoked such widespread interest that it was replicated in a number of other European and non-European countries. The process of adding 'non-European' surveys was largely organized by Ronald Inglehart who could count on the support by the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan. The original EVS

Study Group, interested in European countries, formed the European Values Study group (EVS) with the EVS Foundation as its highest authority. The WVS group, interested in a global perspective, was organized as the World Values Survey Association (WVSA). Predictably both groups wanted authority over the final version of the questionnaire. However, it proved difficult to reach consensus over a common questionnaire. The overlap between the WVS and the EVS questionnaires which was 100 percent in the first two waves dropped to 80 percent in waves three and four to fall to 40 percent in wave five and 30 percent in wave six.

TABLE 7.2 **Degrees of agreement over a common questionnaire between EVS and WVS**

Wave	Percent agreement on questions
Wave 1	100
Wave 2	100
Wave 3	80
Wave 4	80
Wave 5	40
Wave 6	30

This situation led to a competition for funds which the EVS group was finally able to win. For wave 3 the Volkswagen-Stiftung supported fieldwork in ten European republics of the former Soviet Union and Germany to establish a baseline to monitor future developments. In addition, the Social Science Research Center Berlin (WZB) funded a couple of surveys in the Balkans. This was the major reason for the massive increase in wave 3 of the WVS. However, this turned out to be a one-time boost. In 2008 the fourth wave the EVS covered 47 European countries while in their sixth wave the WVS could come up with just 15 successful applications. That is the WVS missed about three-quarters of the total number of 49 European countries.

Of course, it cannot be taken for granted that the success story of the EVS will continue when it comes to securing funds for the fifth EVS wave while the WVS tries to mobilize resources for their seventh wave at the same time. Considering the prospects and problems for both groups a liaison committee has been formed meanwhile and a cooperation agreement signed in 2016. This cooperation agreement guarantees an overlap of the questionnaires of the two groups between 60 to 70 percent. The remaining part of the questionnaire will be reserved for (1) a WVS- and (2) an EVS-specific set of questions, respectively. The agreement seems to be a viable compromise allowing each group to keep

their respective core variables and the WVS to cover the European countries and EVS to look at Europe in a global context.

TABLE 7.3 **Regional coverage of WVS countries at wave 6**

World Region	N of WVS surveys	In percent of total countries
Europe	15	31% (49)
East Europe	9	37% (24)
West Europe	6	24% (25)
South America	8	67% (12)
Asia	22	49% (45)
Africa	10	18% (54)
Australia	1	
New Zealand	1	
Trinidad & Tobago	1	
USA	1	

The development of these independent organizational structures lends itself to a comparative second-order analysis of the EVS and the emerging WVS. It is a key independent variable for the second-order analysis. On the input side one can test the impact of organizational structures on the selection of theories, concepts and measurement instruments. On the output side one can control the impact of organizational structures on results, publications, and methodological development. These studies should include an analysis of the influence of the various WVS and EVS Executive Committees, and the Scientific Advisory Boards on part of the WVS and the Theory- and the Methods-Groups as far as the EVS is concerned.

7.3.3 Analyzing Survey Inputs: The Impact of Theory

The WVS offers a fascinating opportunity to study the impact of theory on the development of a ('two') large-scale survey project(s). There are good reasons to propose that Ronald Inglehart's theory of intergenerational changes in basic values and beliefs as a consequence of economic and technical modernization has played a major role in shaping and stabilizing the WVS network. When the first EVS wave was in its planning phase the initial version of Inglehart's theory of value change had already been published. The path-breaking article on "The silent revolution in Europe: intergenerational change in post-industrial societies" was published in 1971, and followed by a book-length exposition of the theory (Inglehart 1971, 1977). In the Preface to "Die verletzte Nation",

Noelle-Neumann (1987:13–14) has discussed Inglehart's theory and the measurement instrument to construct the initial 'materialist – postmaterialist' typology. This measurement instrument also became part of the 1981 EVS questionnaire (Institut fuer Demoskopie Allensbach, Umfrage 1295, Maerz 1981, questions 74a and 74b). This is how Inglehart's version of modernization theory entered the EVS/WVS project. The publications based on the data generated by the 1981 EVS surveys provide a solid baseline to analyze the impact of this 'survey input' on future theoretical developments (*e.g.* Stoetzel 1983; Orizo 1983; Rezsohazy et Kerkhof 1984; Abrams *et al.* 1985; Halman *et al.* 1987; Noelle-Neumann und Koecher 1987). There is much reason to propose that only a theory bold enough to add an important component to modernization theory could attract the attention of so many social scientists around the world to raise funds and participate in this unique data generation effort. This broader theoretical context, with reference to Marx and Weber, has probably been made most explicit in "Modernization, cultural change and the persistence of traditional values" (Inglehart and Baker 2000). Second-order analysis can try to find out how Inglehart's modernization theory has persisted through time both in terms of concepts and measurement in the six waves of the WVS. Inglehart has stepped down as President of the WVSA in March 2013. He has left his theory of intergenerational changes in basic values and beliefs as a consequence of economic and technical modernization as a legacy. It will be an interesting question to observe how his theory input will develop in the post-Inglehart era. Inspired by Inglehart efforts have been made to develop an evolutionary version of modernization theory that abandons simplistic assumptions of linearity (Inglehart 2014:XXIII; Inglehart and Norris 2003; Welzel, Inglehart, and Klingemann 2003, Norris and Inglehart 2004; Inglehart and Welzel 2005). In "Freedom Rising" Welzel (2013) has added and elaborated the concept of 'human empowerment' as a further development of the theory of a value change from 'materialism' to 'postmaterialism'. These approaches have a potential to provide a general theoretical framework for future WVS studies. But: only time – and second-order survey input analysis – can tell whether this will really happen.

While Inglehart's approach has dominated the theoretical trajectory of the WVS up to now this is not to say that there have not been other, more specific, efforts to explore values and beliefs and provide standardized measures. The Cross-cultural sourcebook covering the 1990-1993 WVS (Inglehart, Bananez, and Moreno 1998) suggests 14 categories to classify the results of the surveys:

Ecology

Economy

Education
 Emotions
 Family
 Gender and sexuality
 Government and politics
 Health
 Individual
 Leisure and friends
 Morality
 Religion
 Society and nation
 Work

The subsequent Sourcebook covering the 1999–2002 values surveys (Inglehart, Basanez, Diez-Medrano, Halman, and Luijckx 2004) uses the following seven major categories:

Perceptions of life
 Environment
 Work
 Family
 Politics and society
 Religion and morale
 National identity.

To cover the content of later surveys such concepts as Globalization, Human security, Aging, and Electoral integrity have been added as descriptors. These Sourcebooks are well suited to dig deeper and look at the conceptual inputs in more detail. One should note, however, that many of these variables and indices were used to define Inglehart's 'Cultural Map of the World' with 'traditional vs. secular rational values' as its first and 'survival vs. self-expression values' as its second dimension. Thus, the more detailed variables and indices seem to form a meaningful pattern integrated by a higher theoretical level.

7.3.4 Analyzing Survey Outputs: The Impact of Data Usage and Publications

Interest in and usage of WVS data are continuously monitored by the WVS Data Archive. The WVS Data Archive Report of September 2014, for example, shows that in the period from 2005 to 2014, 1,515,546 unique users had visited the WVS website. Of the 1,082,992 WVS online database users in the period from 2009 to 2014, 30 percent resided in the USA, followed by Germany (7%), the United Kingdom (4%), China, Sweden, and Japan (3%). The number of

downloads of data and documentation from 2005 to 2014 has reached 273932. This is an impressive record and it supports the claim of the WVS Network that it has produced over 1000 publications in 20 languages, and that secondary users have added several thousands more publications (www.worldvaluessurvey.org/WVSContents.jsp, 13.09.2016). The thorough documentation provided by the WVS Archive allows a detailed replication of Malnar and Mueller's (2015: 97-180) second-order analysis of ESS scientific outputs. The ten book publications shown in Table 7.4 are selected to highlight the variety of the survey output dimension of the WVS:

TABLE 7.4 Major book publications of results of the WVS studies

Year	Publications
1990	Ronald Inglehart, Culture shift in advanced industrial society. Princeton: Princeton University Press.
1997	Ronald Inglehart, Modernization and postmodernization. Princeton: Princeton University Press.
2003	Ronald Inglehart and Pippa Norris. Rising tide: Gender equality and cultural change around the world. Cambridge: Cambridge University Press.
2004	Pippa Norris and Ronald Inglehart. Sacred and secular: Religion and politics world-wide. Cambridge: Cambridge University Press.
2005	Ronald Inglehart and Christian Welzel. Modernization, cultural change and democracy. Cambridge: Cambridge University Press.
2006	Hans-Dieter Klingemann, Dieter Fuchs, and Jan Zielonka, eds. Democracy and political culture in eastern Europe. New York: Routledge.
2009	Pippa Norris and Ronald Inglehart. Cosmopolitan communications: cultural diversity in a globalized world. Cambridge: Cambridge University Press.
2009	Yilmaz Esmer, Hans-Dieter Klingemann, and Bi Puranen, eds. Religion, democratic values and political conflict. Uppsala: Acta Universitatis Ipsaliensis.
2013	Christian Welzel. Freedom rising. Cambridge: Cambridge University Press.
2014	Russell J. Dalton and Christian Welzel, eds. The Civic Culture transformed. From allegiant to assertive citizens. Cambridge: Cambridge University Press.

All these and most other publications try to monitor and explain the developments of basic human values and beliefs in all spheres of life such as in the family, in voluntary organizations, religion, economy and politics in various parts of the globe. Nico Tos, a participant in both the EVS and the WVS from the very beginning exemplifies the effort of members of the WVS network to both analyze the public's changing values and beliefs globally but also draw conclusions from these results for their home countries as a service to the national community (*e.g.* Tos and Malnar 1995).

Similar data as for the WVS are also available for the EVS. It is of particular theoretical interest to follow the publications and the user patterns of the WVS twin. Core results are published by Loek Halman and Paul de Graaf (General editors) in the European Values Study series (Brill Academic Publisher). From 1993 to 2014, 15 volumes have come out starting with “The Individualizing Society. Value Change in Europe and North America” (Ester, Halman, and de Moor 1993). Second-order analysis can also make use of the four EVS sourcebooks which systematically display results for the different research areas. Most noteworthy are two publications entitled *Atlas of European Values* (Halman, Luijkx, and van Zundert 2005; Halman, Sieben, and van Zundert 2011) which reach out for the student population in Dutch secondary schools. Most important, as for the WVS all material relevant for second-order analysis is also available for the EVS.

7.4 A Proposition for a Second-Order Analysis of the WVS as a Large-Scale Survey Project

Four general questions have been formulated at the beginning of the reflections on a second-order analysis of the WVS as a large-scale survey project:

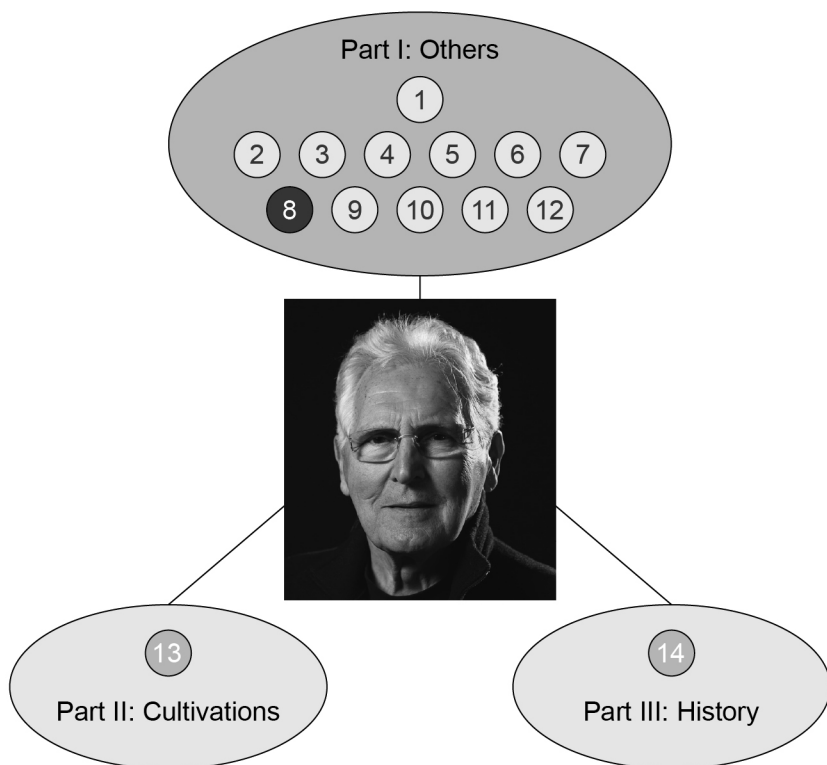
- What was it that the researchers wanted to understand when they invented the survey and how did this change over time?
- What methods have been selected and did they change over time?
- What can we learn from the various publications about human behavior?
- What can we learn about the impact of particular methods to measure attitudes as well as from the various methods of data analysis?

As a result of our explorations we propose to answer these questions using the methodological framework developed by Malnar and Mueller (2015) and a design that allows for a systematic comparison of the World Values Survey (WVS) on the one hand and the surveys of the European Values Study (EVS) group on the other hand. This design is uniquely suited to shed light on the impact of organizational structures on the production of knowledge by large-scale survey research. Most of the material necessary to start an empirical second-order analysis is available from the repositories of the WVS and EVS. It will not be an easy task to create the data-set necessary for statistical meta-analyses (such as publication trends, publication categories, academic field of journals, topics, the usage of individual items, trends in wave use etc.). However, if the task is taken on results promise new insights in the processes that have generated major advances in the study of changing values and beliefs through time and across the globe.

8

Informing Academic and Policy Communities: The Case of the European Social Survey

Brina Malnar | Milan Šinko



1.

It is an essential element of Isotype that the design of symbols in themselves, as well as their arrangement, should be attractive. Yet line, colour and shade are not to be employed merely for the pleasure we take in them, but for informative purposes.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

8.1 Information Overload and the Imperative of Data Summarisation

Policy-makers are under growing pressure to ground their programmes and measures in expert knowledge. At the same time, researchers also want to transfer their findings to practice, with this requiring they communicate them as effectively as possible. Yet analysts have established that, despite this growing emphasis on evidence-based policies, researchers often find it difficult to identify a policy audience, thereby making the gap between academic research and public policy the subject of both considerable commentary and research activity. Studies (e.g. Oliver *et al.* 2014) mention different factors that either hinder or facilitate the use of research data in public policies. The absence of adequate studies, lack of time or opportunity, poor data-uptake skills, and costs are the barriers most frequently reported. Conversely, the availability of relevant studies and data, and ensuring their open access are the facilitators most often mentioned.

Transferring knowledge to practice is generally problematic because researchers' priorities often differ from those of policy-makers. The pressure to publish in scholarly journals means many studies tend to address public academic research, and pay little or no attention to policy-makers' priorities. Even fewer studies include policy-makers in the research-design phase, with this is in fact forming part of a decades-old complaint that academic researchers lack an understanding of both policy priorities and processes (*ibid.* 8). Personal collaboration or the exchange of knowledge between policy-makers and researchers, which can occur through so-called knowledge brokers, is often the primary approach to address this issue.

Another important factor in knowledge transfer is policy-makers' opinions about the usefulness of research findings, which should be as clear, relevant, reliable and high in quality as possible. This explains the important role played here by both traditional and more recent methods of data summarisation used to extract clear and synthetic information of quality from the ever growing mass of studies or

publications. Reviewing, selecting and synthesising have thus become the key tasks of academic researchers when communicating with policy actors.

Methods of Systematic Review

Methodological approaches to summarising the outcomes of a large number of studies can be roughly divided into quantitative and qualitative ones. Among the former, the most prominent is the systematic review, which first gained ground in medical research as a way of dealing with information overload. The past two decades have seen an explosion of research results made available to policy-makers and researchers. Since then, the number of scientific journals has been increasing every year, with the number of scientific publications issued reaching into the thousands, making it almost impossible for policy-makers to keep up with topical research findings unless they remain within a very narrow expert area (Petticrew and Roberts 2006:7). Therefore, the problem is no longer one of simply finding information, but of finding relevant and reliable information. Accordingly, the relevance of systematic reviews to policy-makers mainly lies in the great time savings they afford. An expert in a specific area is asked to make a review along with a thematic and methodological selection of related information, and the synthesis thus obtained then offers a relevant background for making policy decisions (Schlosser 2006:1; Thomson 2013:17). This kind of review enables the users of the research results – researchers, decision-makers and others – to organise and prioritise the classification of information. A systematic review's concrete aim can involve obtaining feedback about the effectiveness of a certain policy, or provide the background for policy-making, identifying risk factors, directing primary research to under-researched areas, and so on. Its aim can also be to review the theories, typologies, data or methods in a certain field (Petticrew and Roberts 2006; Schlosser 2006:2–3; Thomson 2013:18; Harden 2010:1–2).

A systematic review's key steps include the design of the research problem, and thus developing review questions, searching and acquiring all relevant scientific sources or studies, assessing the methodological quality of these sources, and 'collecting' and synthesising the results (Oliver *et al.* 2005:430; Harden 2010: 3; Roelfs *et al.* 2013:76–79). A systematic review's essential characteristic is that it is based on the entire population of relevant scientific results or publications, since only in this way can it provide a full and unbiased review. Identification of relevant sources normally starts with searching for key words in the titles and abstracts of articles in bibliographical databases, and continues with reviewing the literature in these sources. The final aim is to collect, critically evaluate and summarise the findings of all relevant studies, which can entail several hundred

or thousand units that, for example, examine the same hypothesis or impact. This can greatly reduce the risk of making biased conclusions or measurement errors, and in turn the possibility of policy-makers basing their decisions on unreliable empirical evidence (Oliver *et al.* 2005:429–436; Petticrew and Roberts 2006: 3–15). Individual studies are rarely of sufficient quality or robust enough to serve as an independent basis for making conclusions, for example about the effectiveness of a certain public policy.

The rigor and reliability of systematic reviews' findings gives them a key position in evidence-informed policy-making, especially when using the method of *meta-analysis*. Yet the latter is only possible when the studies reviewed examine a similar problem (*e.g.* policy intervention), have similar research designs (preferably including use of a randomised trial method) and involve a set of similar variables. Meta-analysis (in the narrow sense of the word) aggregates or summarises the results of a large number of studies with statistical techniques to form a single quantitative estimate or summary effect size (for more on meta-analysis, see Petticrew and Roberts 2006; Schlosser 2006; Harden 2010:2–3). Due to the big numbers of empirical studies, this kind of analysis is chiefly possible in medicine where meta-analysis has become practically synonymous with systematic reviews. Moreover, their use in social sciences has also been on the rise (Harden 2010:2; Roelfs *et al.* 2013:89) where, however, studies based on randomised trials are relatively rare.

Methods of Non-Systematic Review

As opposed to medicine, the social sciences typically involve less standardisation of the research approaches adopted. Moreover, these normally do not involve randomised trials that would measure similar effects in an almost identical statistical manner or test similar models, but instead apply a considerable number of diverse methods, both qualitative and quantitative, as well as various kinds of data (Petticrew and Roberts 2006). In this context, a systematic review in a narrow sense is thus impossible to conduct, and various *non-systematic review* methods are more often in use. As opposed to a systematic review, a non-systematic one does not provide a common final quantitative effect size estimate (such as the coefficient of the correlation between the variables), but can help in achieving many other goals, such as summarising findings in diverse topic areas, and be an important source of ideas or information on the focal context (*e.g.* the policy context, as in the case of the current study). One of the most commonly used non-systematic review variations are so-called *scoping studies*. Rather than focusing on a certain narrow analytical question, like in a systematic review, these are oriented to broad topics where several different research approaches can be

involved or are required. This simultaneously means the lower standardisation of resources, which is why scoping studies normally do not select or weight the population of relevant studies according to quality criteria. Their major aim is to look into the scope, range and nature of findings in a certain field, to make a summary and reveal gaps in the primary research related to a phenomenon (Arksey and O'Malley 2005:21–22).

Therefore, the main point of distinction is that the heterogeneity of studies means non-systematic reviews cannot normally summarise the results in a single coefficient, but can only present their results by way of *narrative synthesis*. This opens up the space for bias in the interpretation or summarisation of the results as there is no unified approach or protocol regarding how to prepare a narrative summary (Thomson 2013:19). However, several ways of systematically summarising and presenting findings have been established, especially 'tabulation', i.e. the systematic display of elements in tables. These elements include authors' names and their affiliations, the year a study was conducted, a description of the general research design, geographic scope, key words, the researched population and sub-populations, the primary research questions, theories used, methods and sources of data, and the key findings according to sets of topics. Based on such tables, it is then possible to make a synthetic narrative evaluation that also needs to include a critical appraisal of the quality and weight of individual studies included in the review, or the 'narrative weighting' of the findings (for more about a non-systematic review's procedures, see Petticrew and Roberts 2006:165; Thomson 2013:19–20; Arksey and O'Malley 2005:27–28; Varda *et al.* 2012:565; Smit and Van Der Graa 2012:36).

In principle, 'weighting' according to a quality measure or expert assessment is one of the key elements of all reviews as high quality studies should have more weight in the synthetic summary (either statistical or narrative), especially when the results of different studies are inconsistent. The quality assessment of studies involves several different criteria. For example, in one review the authors assessed the quality of studies on a 10-point scale quality measure that included two bibliometric criteria, the five-year impact factor of the scientific journal in which the article was published, and the annual number of citations the study received since publication (Roelfs *et al.* 2013:87). Other reviews used more content-oriented or concept-driven criteria, such as sample selection, methodological design of the study, reliability and validity of the data collection methods, and so on (Thomas *et al.* 2004:180).

It is the absence of this kind of quality assessment that is problematic, for example, in the 'vote count' method that in principle is the easiest way to quantitatively summarise findings, with most of the common or non-systematic reviews of literature in scientific journals being based on this (Petticrew and Roberts 2006:

183–184). With the vote count method, we simply count how many studies show a certain result to be positive (for example, that a policy or measure was effective, or that there is a connection between a social position and intolerance of social minorities), and how many studies show the opposite, and take the prevailing outcome as the final answer to the research question. The approach thereby overlooks qualitative differences among studies, and should therefore be used with caution since results where all existing studies are equally valued can differ substantially from those acquired only on the basis of a selection of leading studies. Contrary to statistical meta-analysis, the main, implicit aim of narrative review involves a new or higher level of interpretation and a deeper understanding of the focal phenomenon, and less summarisation of the results using a unified statistical measure (Harden 2010:4). This is why methods of content analysis are also often used, such as semantic tagging and creating content indexes, while in general the combination of quantitative and qualitative reviews proves to be analytically useful, with the latter often helping to explain the background or identify incongruences in quantitative findings.

Methods of Computer Analysis

At the end of this short review of the methods used for analysing and summarising research results, we also highlight the methods of *computer or machine content analysis* quickly gaining ground due to the rapid expansion of electronic sources and the growing issue of information overload. Another name for this approach is text or content mining, which in the academic field mainly includes reviewing, classifying and grouping texts and parts of texts from (potentially) several thousand scientific journals in a certain field (Smit and Van Der Graaf 2012:35–6). Experts in information science see this kind of mining as a way of transforming unstructured content into data that are analysable with one of the techniques of textual analysis and synthesis. With the *information extraction* method, the elements of a text are first automatically classified in predefined categories and then, for example, it is possible to observe the statistical relations between them. With the method of *text summarisation*, the program automatically and logically connects the most relevant parts of the text. In the *question answering* techniques, whose use is more suitable in practical fields such as healthcare, education, finance, marketing and so on, an answer to the research question posed in natural language is generated through automated data processing. The *sentiment analysis* or *opinion mining* techniques process texts in which people express their opinions on organisations, individuals, events or products, and these are very useful in the social sciences, although mainly in the political or social analysis of public opinion (Gandomi and Haider 2015:140).

For now, these examples are typically seen in commercial use (such as content analysis of the messages of social networks users, consumer opinion analysis regarding different products, and the like), but the automated data processing of large amounts of digital content is increasingly gaining ground in the analysis of academic publications or findings. Sceptics argue that in order to achieve an adequate level of precision, 'manual' data handling is always needed in addition to automated tools at this level as the tools used in automated analysis are still complicated and only suitable for narrow thematic areas. In contrast, when pointing to the increasing quantity of digital data in a growing number of fields optimists claim that electronic analysis tools are getting better and simpler over time, and the need for manual data processing is thus decreasing. They see scientific publishers' ever more widespread semantic tagging of texts as an important step forward in this regard. A recent survey showed that most of such publishers regularly receive requests from users for 'content mining' showing the final results in the form of compact information formats, such as tables, indexes or taxonomies (classifications) (Smit and Van Der Graaf 2012:36–42). There is thus pressure from the research community on scholarly publishers for more derivative information products, as these are needed by researchers to survive in an environment with an ever greater information overload. Indeed, the fact that such an information overload is creating an urgent need for the better and faster analysis of large quantities of content data (texts), preferably by automated tools, is one point on which sceptics and optimists agree.

The content analysis of Internet studies can be used to illustrate this procedure, and represents one of the first serious attempts at automated content processing in an academic field (Peng *et al.* 2013). Such authors mainly used inductive approaches, meaning they moved forward from the theory contained in the data and, on the basis of six key words, define the framework of the relevant corpus of 27,340 scientific articles that dealt with the Internet. Using keyword analysis of 25,685 abstracts, they identified the main topics and then used clustering to classify the articles in distinct sets of topics. With automated processing tools they identified 23,486 different words and narrowed this down to a list of the 1,885 words most often used, and present in at least 50 articles. On this basis, they defined four primary sets of topics dealt with in the focal studies, namely e-health, e-business, e-society and Human–Technology Interactions.

Guaranteeing the Relevance of a Review of Studies

The conduct of any form of a full review of studies, particularly any systematic review, is normally professionally complex and time-demanding because the entire procedure sometimes takes several years to complete. Moreover, it is usually

costly given that it is a very labour-intensive task that needs to be performed by qualified staff with knowledge and skills of the related methodologies, as well as data managing capabilities and the ability to carry out critical appraisals of the quality of studies or publications (Thomas *et al.* 2004:183). For example, a study of labour inputs found that between 216 and 2,518 hours were invested in systematic reviews, with the average number amounting to 1,139 hours. The average price of performing a review was USD 104,750 (Petticrew and Roberts 2006:49). The costs are even higher if we want to increase the validity and integrity of a review by including two or more independent reviewers or review teams.

It is thus all the more important that a review of studies includes a clearly defined goal or end user, with a maximally focused research question, or it risks becoming unmanageably large and unsystematic (Petticrew and Roberts 2006: 31; Thomson 2013:19). In the case of broad topics, it is therefore best to first conduct the scoping study and produce a narrative summary of the findings, then used as the basis for asking clearer research questions, and for carrying out a systematic review or even new primary research. Consultations with experts can be vital for putting a research question into focus because a review will be more relevant the more it can reflect the needs of end users. This is best achieved by including users or stakeholders (funders, contractors, policy-makers, other decision-makers, as well as users of policy measures and programmes) in consultations as early as in the phase of shaping the research of a specific 'review' question, rather than only after the review has been completed.

Research shows the most common methods for collecting opinions or involving experts include semi-structured interviews, survey questionnaires, thematic workshops, focus groups, consultations, the Delphi method or an observation form (Fischer *et al.* 2013:2–4). For example, one study of policy measures included consultations with three groups of stakeholders, and this provided additional information about the scope of relevant studies as well as insights into issues related to public programmes' effectiveness that a review of the literature alone would not provide (Arksey and O'Malley 2005:29). In another project, the results of a general review study were first presented to the funders and stakeholders, and a sub-group of studies for a more in-depth analysis was then determined based on the resulting discussion (Oliver *et al.* 2005:432). Therefore, such methods of collaboration between academic researchers and non-academic stakeholders can help focus a review analysis and harmonise it optimally with users' needs, which should be the ultimate aim of such works in the first place. Last but not least, with regard to communication with non-academic users it is also important how the results are presented, apart from their relevance after the review is completed (Oliver *et al.* 2014:6). The clarity,

reliability and good quality of the study are seen as important factors impacting whether stakeholders actually use the findings in practice, particularly if other empirical results are scarce or poor in quality.

8.2 Mapping Academic and Policy Use of the ESS in Scholarly Publications

The European Social Survey, the ESS,¹ is the youngest of the large-scale comparative surveys of the general social-scientific type, and as part of its mission declares the adoption of an active role in evidence-supported policy-making and the transfer of academic knowledge to the policy level. Indeed, a close connection with policy is not unique to the ESS because a great number of social science studies are directly relevant to policy-makers, the general public and the media (Nederhof 2006; Kyvik 2003). Moreover, the public research agencies that financially enable academic research increasingly emphasise the use of research findings to meet policy aims (Debackere and Glänzel 2004). A unique characteristic of the ESS is that, among the various general comparative studies, it has the most clearly expressed aim; namely, to enable, through use of social indicators and examining the functioning of systemic policies, the continuous and systematic monitoring of processes in all relevant social fields in European countries, with an emphasis on monitoring the effects of these policies based on the subjective perceptions of citizens. This 'optimism' regarding use of this approach is mainly based on the fact that, methodologically speaking, the most recognisable characteristics of the ESS are its high quality requirements in all aspects of the preparation and conduct of the measurement process (a survey), and thus this project is able to achieve the highest level of international data comparability.²

One way to obtain feedback on the ESS' academic and policy role is to examine the structure of its almost 100,000 registered users. As shown in Table 8.1, most come from academia, as do most of its 4,000 or so users in Slovenia. This is expected as this group uses ESS data and tools in their research and teaching work or studies. While other user groups are much smaller, the news that there are around 7,400 non-academic ESS users is actually quite encouraging given these are not users operating in their official or 'structural' capacities, and their use indicates their explicit intention to transfer knowledge into practice, and thus into public policies, economic activities, civil initiatives and associations, and so on.

1 <http://www.europeansocialsurvey.org/>

2 In acknowledgement of this kind of methodological breakthrough, in 2005 the study received the highest European scientific award, the Descartes Prize.

TABLE 8.1 **Structure of registered ESS data users, November 2016**

	All registered ESS users	%	Users in Slovenia	%
Student	63,664	64.0	3,008	74.1
Faculty and research	19,022	19.1	818	20.2
Doctoral student	7,494	7.5	65	1.6
Private individual	2,720	2.7	0	0
Non-governmental organisation	1,742	1.8	21	0.5
Government, government office	1,679	1.8	41	1.0
Private enterprise	1,353	1.7	8	0.2
	99,510	1.4	4,057	

Based on bibliographical data, this chapter also includes a more detailed analysis of academic use of ESS data, and an indirect appraisal of its policy use (or potential for such use) in the wider European and Slovenian space. This is made possible by the fact that, besides the registered user statistics and downloaded files statistics at the NSD archive, it also has other built-in mechanisms for systematically monitoring the use of data and tools. A systematic bibliometric review of academic ESS publications is carried out every year based on indexing using the Google Scholar browser, with the data collected from these studies representing the empirical basis for the analysis that follows (for a more detailed presentation of the methodology and results, see Malnar and Müller 2015:95–168).

The first ESS survey was conducted in 2002 (by 2016, there were eight in total), with the first freely accessible file being published in 2003. At this point in time, both methodological and substantive publications started to appear, with only 11 in the first year, but around 400 in the last few years.³ The rapid growth in the annual number of publications, and comparisons with the publishing trends of comparable studies (*ibid.*), show that the ESS has brought considerable added value to the field of comparative analysis, and is the leading source of comparative data in Europe according to the criteria of use. This growth trend can be explained in both external and internal ways. On one hand, the rise in data use from comparative social studies can be explained by some elements of the general context that chiefly include the growing ‘productivity’ of academic authors over the past decade and a half, as the number of publications is seen as one way of

3 The following are defined as ESS publications in annual bibliographical reviews: scientific articles, books, chapters in books, working papers, reports or graduate theses in English, whose contents are either methodological or thematic, and in the latter case at least one data source from ESS should be used for primary analysis.

evaluating scientific success (Kyvik 2003; Guilera *et al.* 2013). On the other hand, the second trend influencing the rise in the use of international data files involves the internationalisation process, i.e., authors' ever stronger tendency to address an international academic audience, as especially shown in the growing share of academic publications in scientific journals from English-speaking areas (Engels *et al.* 2012). Due to its high methodological quality, dense time series, open access and user-friendly online analytical tools, the ESS study is one of those that, in terms of the use of its data, have best benefited from the trends, as proven by the data from annual bibliometric reviews.

Academic User Communities

As mentioned, by far the biggest group of ESS users comes from the academic field, including, in publishing terms, the activity of faculty researchers and teachers as well as doctoral students. These are experts with the highest level of theoretical and methodological knowledge who play a key or professional role in carrying out primary studies, review analyses, and data summaries and interpretations. At the same time, this is a very segmented population since academic authors typically specialise in a certain field or one of its aspects. Therefore, one of the most important aims of annual reviews is their monitoring function that can reveal which academic communities are the largest ESS data users, and which issues they most often analyse. Fields that produce the greatest number of primary studies will also be those in which review analyses can be most fruitfully conducted, with results that can potentially be used by policy-makers.

The total number of ESS publications between 2003 and 2015 was 3,140, among which the most common type was articles in scholarly journals, totalling 1,442. This prevalence of scholarly articles is expected and was also reported in many other studies (*e.g.* Kyvik 2003; Ware and Mabe 2012; Nederhof 2006). The second largest group are conference papers and presentations (618), an important, interactive and sometimes prestigious medium of academic dissemination, but often not (yet) in a publication format. In most cases, conference papers are accessible and cited as a presentation with the title and published abstracts. The next big category is books and book chapters (494) and working papers (414). The diversity of publications shown in the data is welcome since some studies find that they address varied academic audiences (Fry *et al.* 2009).

Overall, ESS data are widely used by academics and the next question to be examined is which academic communities do the ESS data support. The best way to assess this in a rough but systematic way is to consider the structure of academic disciplines in the population of journals where ESS-based articles are published. Most academic journals are profiled, publishing scholarship relating to a specific

academic discipline. Column A in Table 8.2 shows the number of ESS-based articles published in a particular scholarly field or sub-field, mapping the structure of academic usage of the ESS.

TABLE 8.2 **The spread of ESS-based journal articles across academic fields (2003–2015, N=1142)**

Journal Field	A. Number of articles	B. Number of journals
Sociology	530	165
General sociology, comparative sociology	348	84
Migration, ethnicity, race	49	12
Ageing, age groups, life-course, family, gender	53	22
Welfare, quality of life, well-being, social stratification, social work	36	15
Education	23	18
Religion, spirituality	21	14
Political Science	283	97
Politics, political studies	221	73
Public policy, governance, public administration	62	24
Economy	204	119
General economy, economics, economic policy	108	67
Labour, employment, industrial relations	50	17
Management, marketing, business, consumption, innovation	46	35
Health and Medicine	83	46
Psychology	76	40
Media, Public Opinion, ICT, Communication	66	24
Demography, Population	27	12
Criminology, Victimology, Policing, Law	24	20
Regional Journals	20	15
Environment, Urban Studies	16	14
Multi-Disciplinary and other Journals	21	16
Methodology	90	33
Σ	1142	602

The three disciplines where studies using ESS data are most numerous are sociology, political science and economics, followed by methods, health and psychology. The first three fields are further divided into sub-fields to obtain a more detailed

picture of the ESS' intellectual audiences. They show a strong ESS presence in comparative sociology journals, migration and ageing journals, politics and policy journals, as well as labour and business journals. As data from new modules (*e.g.* Climate change) are released, an expansion into additional communities can be expected.

Column B shows the number of journals across (sub)disciplines. For instance, 530 ESS articles were published in 165 sociological journals, on average 3.2 per journal. The spread of articles across journals is fairly wide. Overall, 1,142 ESS articles were published in 602 journals, or 1.9 per journal. Sociology had the lowest dispersion of journals, but its higher average is primarily the effect of three journals with a large number of ESS-based articles (see Table 8.3). There are 9 nine journals with more than 15 ESS-based publications, 218 with 2 or more, while in 384 journals only 1 ESS-based article was present. The figures reflect the worldwide trend of growth in the number of active, peer-reviewed journals, in particular online-only journals (Gu & Blackmore 2016). In any event, the structure of journal fields indicates the ESS has established itself as an important data source in several social science academic communities.

TABLE 8.3 **Journals with more than 15 ESS-based articles
(2003–2015, N=1142)**

Social Indicators Research	68
European Sociological Review	59
European Societies	29
Journal of European Social Policy	24
International Journal of Public Opinion Research	20
Comparative Political Studies	17
Survey Research Methods	17
West European Politics	17
International Journal of Comparative Sociology	16

Research Topics

Among the 3,140 ESS publications and presentations, 83.3% are substantive and 16.7% or 613 are methodological (Table 8.4). A large group of methodologists associated with the ESS does academic research on various aspects of survey methodology and participates in a programme of methodological training courses based on ESS methodological expertise. It is one of the ESS' declared goals to achieve and spread improved standards of rigor in cross-national social measurement (Jowell *et al.* 2007).

TABLE 8.4 **Number of ESS publications addressing individual topics (2003–2015, N=3140)**

Politics, democracy	687	Culture, values	241	Education	126
Immigration	376	Inequalities	225	Media-ICT	119
Public policies, welfare	323	Age groups	182	Nation	101
Work	315	Health	171	Europe	48
Economics	283	Gender	141	Transition	39
Social capital	260	Citizenship	137	Environment	36
SWB-QOL	257	Religion	131		
Family	252	Crime	126	Methods	613

Adding to this broad division, Table 8.4 presents a more detailed picture of substantive research topics that ESS-based authors explore. Similar to other comparative surveys, by far the most popular topic is politics and democracy. The biggest sub-topics are political participation and political trust, indicating the crucial significance of citizens' involvement for democratic decision-making, voting as the central act in the democratic process, and political parties as an essential component of a democratic political system, along with the issue of the declining public confidence in them. Other common big topics include public policies, welfare, work-life conflict, economic conditions, and social capital. Immigration, however, is the topic where ESS-based findings are specifically strong compared to other comparative surveys, owing to the round one immigration module, the battery of items in the longitudinal core, the possibility to identify 1st and 2nd generation immigrants and their countries or origin, the relatively large annual samples, and the quickly expanding cumulative sample across rounds and countries. Analysts generally agree that immigration is one of the key social issues facing the EU and its individual members, holding the capacity to transform societies' political, economic, social and cultural life. Without doubt, the ESS will continue to make a vital contribution to studying its effects in the following years.

Box 1: Analysing immigration effects using ESS cumulative data

"We use the European Social Survey to analyse the *effects of aggregate immigration flows on the subjective well-being of native-born populations* in a panel of 26 countries ... For the purposes of this study, we utilize the cumulative dataset composed of the first five survey rounds (2002, 2004, 2006, 2008 and 2010). In addition, we use only countries that had enough immigration data available over the rounds they participated in. This left us with 26 observable countries, each with at least two rounds of ESS data containing approximately 500 to 2,000 respondents each" (Betz & Simpson 2013).

On the whole, the pattern of research topics partly reflects the content of ESS questionnaires, partly the structure of ESS academic user groups, and partly the wider social context. The latter can be observed in regional preferences concerning issues addressed by ESS authors (based on the 1st author’s affiliation). Authors from different regions show a preference for research topics that seem to hold greater social relevance in their societies (Table 8.5). In Northern Europe, authors address issues of public policies and the welfare state much more often than their colleagues from other regions, exploring and evaluating the functioning of the Nordic welfare model which emphasises labour force participation, gender equality, egalitarian and extensive benefit levels and significant income redistribution.

TABLE 8.5 **Regional preferences in research topics (2003–2015, N=3140)**

	Northern Europe	North America	Southern Europe	Eastern Europe	Western Europe
Policies, Welfare	23.5	13.5	10.0	3.8	12.7
Immigration	12.6	23.2	16.7	5.9	15.0
Economy, recession	9.5	8.4	17.0	8.4	10.3
Culture, values	4.7	6.7	11.1	18.1	8.4

When using ESS data, authors from North America disproportionately address immigration issues, reflecting the long tradition of immigration and the fact that theirs remains the most dynamic immigration region in the world. Authors from Southern Europe are more likely to address the issue of the Great Recession which has been affecting their societies since 2008. Finally, while comparatively fewer Eastern European authors study welfare state and immigration issues, they disproportionately more often explore the topic of values and culture, often perceived as one of the key structural elements and sometimes the key obstacle in the process of political, economic and social transition.

Another way to observe the effect of the wider social context on topic choice is to examine cross-time trends. Among ESS authors, the macro-economic situation or the Great Recession is one topic that has grown the most in the last five years as many are exploring its social, political and economic costs in European societies.

Box 2: Job quality and the Great Recession

“Employees, particularly in the Liberal regime, but also the Transition and Southern regimes suggest that, on average, these were much less shielded from *job quality and income deterioration* over the recession period that respondents in the Nordic and Continental regime” (McGinnity & Russell 2015).

Box 3: Political trust and the Great Recession

“While there is no evidence of a ubiquitous *decline in partisanship and party trust* in all of these European countries, it is evident that support for parties has declined rather precipitously in those countries most strongly hit by recession. Individual-level modelling suggests that a large part of this is due to growing disillusionment with the ability of governments to deliver on issues such as economic prosperity and personal security” (Whiteley 2014).

The Use of Country Data

The use of country data in ESS publications is particularly important from the perspective of academic or policy-driven comparative meta-analyses. That is, it plays a significant role when it comes to the potential for country-specific secondary analysis and systematic reviews. This use was assessed by examining the 1,765 downloaded papers for country inclusion. The general picture that emerged was that in 85% of cases the ESS data are being used comparatively, with more than one country studied. This creates huge potential for harvesting comparative information on societal developments relevant to both academics and funders. Table 8.6 presents the share of ESS publications where data from individual countries were included for analytical purposes. Countries are sorted according to the % of data inclusion (column A), while Column B shows the number of rounds they fielded. Data availability is expected to be the main factor explaining large differences in inclusion rates and, as a rule, countries that fielded more rounds have higher inclusion rates. The most analysed country is Germany, with its data used in 73% of ESS publications, followed by the UK and Sweden. Meta-analysts for many of the 7-round countries would generally have more than 1,000 ESS publications available for secondary analysis. This is especially important for countries with smaller social science communities and modest own academic outputs (*e.g.* Slovenia, Slovakia, Bulgaria, Ukraine), which are included in international comparisons to a much larger extent than might be implied by the number of authors affiliated in their institutions (column C). Thus, by analysing data from a range of ESS countries the international academic community provides comparative findings relevant for all of them. From the perspective of secondary analysis or content mining, the indicator of country inclusion is therefore more relevant than the number of first authors from that country because it shows the overall potential for comparative secondary analysis.

TABLE 8.6 **Potential for secondary analysis: own vs. all ESS publications with data from individual countries (2003–2015, N=1765)**

Rank	Country	A. % of data inclusion	B. N of rounds	C. own publications*)	D. all ESS publications
1	Germany	73.3	7	375	1294
2	UK	72.7	7	403	1283
3	Sweden	71.7	7	165	1266
4	Denmark	71.4	7	69	1260
5	Spain	70.7	7	168	1247
6	Netherlands	70.0	7	286	1236
7	Belgium	70.0	7	195	1234
8	Finland	67.9	7	86	1198
9	France	65.9	7	71	1162
10	Portugal	65.6	7	79	1158
11	Norway	63.0	7	86	1112
12	Ireland	60.6	7	65	1067
13	Poland	59.8	7	72	1054
14	Slovenia	56.1	7	30	990
15	Hungary	55.9	7	38	986
16	Switzerland	55.5	7	91	978
17	Greece	54.0	4	45	953
18	Austria	50.0	6	42	882
19	Czech R	48.8	6	33	860
20	Estonia	41.2	6	60	726
21	Slovakia	39.6	6	13	698
22	Italy	35.4	3	121	624
23	Luxemburg	34.6	2	22	611
24	Bulgaria	27.7	4	14	491
25	Israel	23.4	5	43	312
26	Cyprus	23.1	4	11	407
27	Russia	20.0	4	28	353
28	Ukraine	17.7	5	9	412
29	Romania	13.3	2	30	234
30	Iceland	13.1	2	2	231
31	Latvia	12.7	3	5	224
32	Turkey	11.7	2	22	206
33	Croatia	11.1	2	3	196
34	Lithuania	7.8	4	7	138
35	Kosovo	1.6	1	0	28
36	Albania	1.6	1	0	29

*) based on 1st author's affiliations

Another significant fact the table shows is that countries are not punished equally for missing rounds, the most obvious examples being some countries that fielded 4, 3 and 2 rounds. For example, in the 7-round group Switzerland as the least included country achieves 75% of the inclusion rate of Germany, while among the 4-round countries Lithuania achieves barely 15% of the inclusion rate of Greece, and among the 3-round countries Latvia reaches 36% of Italy's inclusion rate. Luxemburg is a similar outlier in the 2-round group. It is therefore apparent that, apart from the number of rounds fielded, other factors determine country inclusion such as which particular rounds were fielded or missed, as well as a country's general characteristics.

Greece, Italy and Luxemburg seem to combine attributes that result in their high 'comparative value' considering the issues typically addressed by authors using ESS data (*e.g.* EU membership, readily available country-level indicators, immigration issues present, macro-economic issues present). Nevertheless, the country-inclusion statistics demonstrate a strong association between the fielding frequency, which is more or less entirely explained by funding decisions, and data use from individual countries. That is, it demonstrates the reduced potential for secondary analysis in countries with sporadic participation caused by an unstable funding situation.

Informing Policy

As mentioned, one of the key ESS missions is to inform policy. It is, however, often unclear how this is achieved or what a comparative survey can or cannot do in this respect. In principle, every scientifically established societal fact has implicit policy relevance, but usually in an indirect way. Generally speaking, social surveys cannot be a direct decision-making tool, *i.e.* the public cannot be expected to make qualified choices between specific policy alternatives. Questionnaires cannot incorporate complex cost elements, specific trade-offs with other policies in the national budget, specific risks that ensue from adopting it etc. (Weissberg 2001). Nevertheless, the ESS does include a certain number of questions that contain elements enabling the direct evaluation or support the formulation of specific policies, mainly in the areas of welfare, immigration and criminal law. These include questions of the type 'what do you think the government should do' in relation to a certain issue, satisfaction with the work of the government and the state in certain areas,⁴ satisfaction with the operation of

4 "Please state how efficient do you think the healthcare provision is in Slovenia in terms of time and money."

state bodies⁵ the actions desired of the government in certain fields (*i.e.* desired policy orientations⁶), legislative solutions,⁷ and so on (for a more detailed review of questions included in the ESS surveys, see <http://www.europeansocialsurvey.org/>). It is thus sometimes possible to directly measure public preferences about a specific policy, but generally this is not how surveys inform policy.

What general social surveys such as the ESS do exceedingly well in terms of informing policy is to provide reliable indicators of social phenomena across time and nations to help identify the need for policy intervention or evaluate the general effects of existing policies. For example, the ESS Health Inequalities module cannot offer respondents a choice among a plethora of specific health policies. But what it can do is employ a number of reliable indicators to measure the state of subjective and objective health, health behaviours, health orientations of a population and its subgroups across time and nations. Similarly, the ESS Immigration module is not intended for respondents to choose from among specific immigration policies, but to empirically chart the outcomes related to the groups of 1st and 2nd generation immigrants (*e.g.* their health, educational achievements, employment situation, experiences of discrimination, social (dis)connectedness, religiousness etc.), as well as the host population (contact with immigrants, attitudes to immigrants etc.). Academics and other analysts should then process this information against the current policies, or absence of them, generate findings and make policy evaluations and recommendations based on them.

Box 4: Subjective well-being in Eastern Europe

"Citizens in Eastern Europe have 5 times the odds of reporting unhappiness compared to people in the Nordic countries, they also have 6 times the odds of reporting dissatisfaction and have 3.5 times the odds of being unhealthier, compared to people in the Nordic countries. The scale of the challenge facing policymakers is considerable in the face of such diversity. At present, we find significant variations in the institutional setup, conditionality, and generosity of European social protection schemes" (Deeming & Jones, 2015). [identifying policy issues]

ESS bibliographic data reveal great potential for this kind of 'mining'. In the total of 1,696 ESS publications that could be obtained and analysed, these two keywords were present in 78% of publication units, and on average 10 times in

- 5 "How satisfied or dissatisfied were you with the attitude of the police towards you on the last such occurrence?"
- 6 "If the government would have to choose between setting higher taxes to provide more support to social programmes or to lower taxes and provide less support to social programmes, what in your opinion should it do?"
- 7 "The police should have the right to keep in detention those who are suspected of planning a terrorist attack in Slovenia until they are sure that they are not involved."

each unit. In total, the keywords “policy” or “policies” were mentioned at least 17,500 times, excluding over 99 repetitions per individual publication. On the basis of these numbers, it can be concluded that policy is very often mentioned in the academic publications of the ESS, or that there is a strong tendency of authors to formulate their evidence, conclusions, recommendations and so on in ways that could be interesting to policy-makers. Therefore, while the number of keywords alone does not directly reflect the extent to which ESS information is used in actual policies, it certainly reflects a high level of ‘policy engagement’ among ESS authors. Further, the analysis showed that measurements of mentions of policies in publications are not only generalised, but also that two-thirds of policy mentions tend to relate to specific contexts or fields. They most often refer to the fields of welfare policy (373 publications), economics (260), immigrants (235) and family policies (126). Therefore, these four policy fields are those that can be best informed by the evidence presented in ESS data.

These figures indicate that a majority of ESS-based authors interpret their findings in the context of existing policies, or the absence of them, and make evaluations and recommendations. In many cases, policy schemes across countries are explicitly incorporated into their explanatory models to explore the social effect of the ‘policy variable’ as a structural element on the phenomenon under observation (health, welfare, immigration outcomes etc.). At a national level, a policy is usually a constant so only a cross-national survey offers a possibility for comparing the effects of different policies as structural elements. Hence country-level comparisons, usually impossible to run at the societal level, are the best substitute for randomised controlled trials that are a common way of informing policy (Haynes *et al.* 2012).

Box 5: Legal regulation of same-sex marriage

“Since 2001, various Western countries have accorded legal recognition to same-sex marriages, but thus far, we lack information on *how this legislation is related to trends in public opinion* ... Results show that levels of prejudice are significantly lower in countries that recognize same-sex marriage, while levels are only slightly lower in countries with some form of registered partnership for gay and lesbian couples. Therefore, we can assume that same sex marriage is indeed an issue affecting public opinion and public policy” (Hooghe & Meeusen 2013). *[evaluating solutions]*

Box 6: Public opinion and labour market policies

“Policies targeted to workers with a weak labour market attachment are far from consensual. In most countries, there is enough (public) opposition for entrepreneurial politicians to *mobilize voters against policies targeted to those without a job*. In changing economies, where the share of workers with obsolete or inadequate skills is growing, there are strong reasons to believe that programs aimed at transferring resources to this group will become increasingly hard to defend and expand” (Cavallé 2015). *[predicting policy issues]*

Even in articles where a sectorial policy is not explicitly part of the explanatory model, cross-country differences implicitly reflect differences in policies, albeit not in a statistically controlled way. In other cases, a policy may not yet exist (in a country or a group of them), but the analyst may point to the need for an intervention by identifying a worrying phenomenon such as poor subjective health in a sub-population, hostility to particular groups in some countries etc.

Box 7: Dealing with age discrimination

"Our findings suggest that raising the employment rate of older people in less wealthy countries—even if it is just partial employment—may be an important factor determining both the personal living standards and providing more positive representations of the status of older people ... *It is not the perception of ill-health, but a lack of active contribution to the economy* by the older population that has a negative effect on perceptions of their social status in societies with a weaker economy" (Vauclair *et al.* 2014). [*suggesting solutions*]

A logical step in each of the policy fields most frequently addressed by ESS authors would be to conduct a general content review with the use of the above-mentioned methods, either within the ESS or as a recommendation for policy-makers. The second key step in informing policy is to make policy-makers aware of the rich opportunities that exist for systematic reviews or the 'mining' of academic findings and provide tools to transfer academic knowledge to policy fields (Sundberg and Taylor-Gooby 2013). According to the literature, this is the critical point at which the connection often fails (*e.g.*, Oliver *et al.* 2014). To maximise the dissemination throughout the policy community and general public, the ESS has made a special effort to facilitate the use of its results by presenting the data in a readily digestible form (top line results, findings booklets, policy seminars etc.) and by organising policy seminars where academic and policy experts can interact. Yet the most intense and direct transfer should probably be achieved at the specific national level and through specific actions.

Perspectives of Academic and Policy Use of the ESS in Slovenia

As a regular participant, Slovenia is one of the ESS countries with relatively broad potential for secondary analysis. In addition, it has a 25-year tradition of gathering comparative data from a range of comparative surveys including the World Values Survey, International Social Survey Programme, European Values Survey and others. All major comparative surveys are housed at the Public Opinion and Mass Communication Research Centre, founded in 1966 as part of the Faculty of Social Sciences. For almost 50 years, the Centre has carried out the Slovenian Public Opinion survey, the central infrastructural programme for Slovenian social sciences in the domain of attitudinal data. Surveying public

values and orientations in the decades before the transition was a unique historical phenomenon among societies of the former Eastern bloc. From the outset, the programme's goal was to create and collect a time series of subjective well-being and quality-of-life indicators and employ them to measure and – if possible – explain general patterns of political, social, cultural and economic attitudes and behaviours of the population. Over a period of five decades, an extensive set of longitudinal indicators has been composed (Toš 2012). They include, among many others, indicators of quality of life, social stratification, value orientations, public health, immigration, political culture, role of government and media engagement and are the key source of empirical data for the national social science community. To date, the programme's principal mission remains monitoring relevant structural characteristics and processes in Slovenian society within the broader context of the European and global environment.

As indicated, Slovenia has fielded all eight rounds of the European Social Survey so far, thus maximising the possibility for systematic and methodologically sound comparisons with other European countries.⁸ The academic community has recognised this potential mainly in its teaching work, as may be seen in the structure of ESS data users (see the number of student users in Table 8.1), making Slovenia one of the countries with the highest number of registered ESS users per capita. On the other hand, due to the small size of Slovenia's social science community, the number of scientific publications cannot keep up with its intensive ESS use in teaching. As shown in Table 8.6, the leading authors of ESS publications (in the English language) in the 2003–2015 period come from about 50 countries, with over 100 publications being written by authors from the United Kingdom, Germany, the Netherlands, Belgium, Sweden, Spain and Italy. These are mainly large Western European countries with a great number of social science researchers and academics. Among Eastern European authors, most come from Poland (72), Estonia (60) and Hungary (38), with 30 of the leading authors being domiciled in Slovenia. In absolute terms, this is less than in other Western European countries, but in per capita terms comparable with them. This number is also likely to be an underestimate since, according to evidence from some studies of international multi-author publications, Eastern European authors are less likely to appear as leading authors (Teodorescu and Andrei 2011).

8 The number of participating countries in the first seven ESS survey waves (in 2002–2016) varied between 19 and 31, and Slovenia is one of the 16 countries that have been included in all eight measurements. The remaining countries are Belgium, Denmark, Finland, France, Ireland, Hungary, Germany, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

We argue that, from the perspective of someone who wants to make a systematic review of comparisons between Slovenia and other European countries in a certain area, the relatively small number of studies does not represent a problem or limitation. Slovenia is included in international comparisons that have a much larger range than could be implied from the number of authors domiciled in Slovenia, with its data being used in 990 publications. In fact, Slovenia's inclusion in 56.1% of ESS publications or comparisons makes it the most analysed Eastern European country after Poland and Hungary. As mentioned before, this represents large potential for a review of academic and policy use, yet not to the same extent in all thematic and geographical fields. With regard to geographic comparisons, Slovenia most often appears in analyses in combination with Eastern European, Mediterranean and Scandinavian countries (Table 8.7, Column A). This is partly the result of the fact that these countries participated in a big number of ESS waves, and partly because of the preferential grouping of countries by authors. To a slightly smaller extent, Slovenia is included in comparisons with groups of Western European countries that are prevalent in Column B, and which are often compared by authors only within the same group, especially in relation to the migration problem. Column C mainly includes countries that have only carried out some of the ESS waves, which is why the potential for making comparisons among them is much smaller than in the first two groups.

TABLE 8.7 **The relationship between the analytical inclusion of Slovenia and other ESS countries (Pearson's coefficient)**

A.		B.		C.	
Poland	0.832	Netherlands	0.593	Russia	0.357
Hungary	0.808	Switzerland	0.580	Luxemburg	0.355
Czech Rep.	0.688	Germany	0.579	Israel	0.339
Portugal	0.677	Ireland	0.568	Latvia	0.315
Finland	0.653	France	0.565	Croatia	0.277
Spain	0.636	UK	0.561	Romania	0.274
Estonia	0.635	Greece	0.481	Iceland	0.268
Sweden	0.619	Bulgaria	0.464	Turkey	0.256
Denmark	0.610	Austria	0.431	Italy	0.246
Belgium	0.609	Cyprus	0.429	Lithuania	0.180
Norway	0.609			Kosovo	0.056
Slovakia	0.608			Albania	0.024

In terms of thematic fields, Slovenia is most often included in studies dealing with the political system and participation, immigration, subjective well-being,

welfare policies and social capital. These are the topics that are also most frequently analysed by ESS authors, often with policy highlights. For the remaining topics, the number of comparative publications is smaller, but still within the range that either enables a solid range of comparisons or at least the provision of informative insights. As already noted, the articles in journals can also act as the basis to define the academic field to which their authors belong. Slovenia is most often included in analyses that are published in sociological journals, and quite often also in political science, economics and health and healthcare journals. Finally, with respect to the area of policy mentions, Slovenia is most often included in publications containing references to welfare policy, followed by immigration and economics. It is also included in a large number of publications that mention policies in general. In terms of content mining, these fields are expected to yield the biggest quantity of explicit policy evidence, although this does not mean that a potential systematic review of publications in a certain area should be limited only to those that contain explicit mentions of related policies.

As in other countries, specific evidence of informed policy-making in Slovenia is not easy to find, particularly when talking about the data from general comparative surveys. There are examples of good practice in the area of public health, where frequent interactions between researchers and policy-makers exist, both formal and informal (Poldrugovac *et al.* 2016). Research priorities are also linked to policy-making through the issuing of public research grants, whose specific themes and research questions are formulated through the process of consultations between stakeholders. The establishment of a knowledge transfer platform with a specific mandate to promote national efforts in evidence-informed policy-making is also being considered (*ibid.* 316). Another case is presented in the study of the impact of public-health research on drug treatment policy in Slovenia (Nolimal & Nolimal 2014). Here the dissemination of findings was primarily achieved by knowledge brokers who organised numerous meetings between policy-makers and researchers where research evidence and its implications were discussed. Finally, at a more general level, Fink-Hafner (2011) shows an interesting case of policy analysis serving as a tool for external monitoring and control of the performance and transformation of post-communist countries during the process of democratisation and European integration. Specifically, with regard to comparative surveys, their documented use by Slovenian government offices can be detected primarily in publications of the Institute of Macroeconomic Analysis and Development, an independent body acting as a government service (*e.g.* Human Development reports). In addition, ESS and Slovenian public opinion data are used as one of the key information sources in formulation of the new family policy in Slovenia, which is expected to be finalised in 2017.

8.3 The Issue of Open Access to Scholarly Publications

When speaking of the potential for a review analysis of a large number of articles and other publications, one issue that must be noted is problems with accessibility. This issue is particularly relevant for users not affiliated with academic institutions (*e.g.* private companies, NGOs, general public). From users' standpoint, wide accessibility is a technical precondition for conducting systematic reviews, content mining exercises, meta-analyses, scoping studies etc. and it should not be assumed that such access is available. As shown by ESS bibliographic data, access is partially limited or payable for all users, but much more so for non-academic users. Among the 3,140 ESS publications, 77% could be accessed from a Ljubljana university computer, and 40% from a computer at home. Moreover, big differences exist between publication categories (Table 8.8). While the large majority of working papers and reports are readily available, books or book chapters are usually not freely accessible, except in the form of a preview of a limited number of pages, which can only be useful for informative purposes, and not for review analyses.

TABLE 8.8 **Possibility of access to ESS publications (April 2016, N=2530)**

	% of open access from university computer	% of open access from home computer
Article in a scholarly journal	87.7	24.9
Monograph or chapter in a monograph	20.0	8.6
Working papers	96.2	94.4

With regard to reviews, by far the most relevant category is scientific articles, which are generally considered the most prestigious, topical and reliable form of scientific publishing, as well as being clearly the most used. In a study conducted in August 2012, a British team counted around 28,100 active scholarly journals that annually publish a total of between 1.7 and 1.8 million scholarly articles (Ware and Mabe 2012), with the number continually growing. In another study, 93.7% of British researchers estimated articles in scholarly journals to be a very important form of knowledge dissemination in their fields, while only 34.3% of them thought the same about conference proceedings, and 33.6% about scientific monographs (Fry *et al.* 2009). Due to their short and fairly standardised form, articles in journals are also the most technically convenient texts for review analysis, which further highlights the relevance of the data in the above table showing a large difference in the possibility of access among

academic and non-academic users. For example, a computer at the Faculty of Social Sciences in Ljubljana enables access to almost 88% of ESS articles, while a computer at home (as a simulation of a non-academic user) only allows access to less than 25% of such articles.

In terms of conducting review analyses, access to scientific articles does not present problems for academic users since their institutions will pay for access to most of the relevant scientific journals through (costly) university subscriber schemes. Conversely, for non-academic users the conduct of review analyses is only possible if they are capable of buying several hundred or possibly thousands of publications, with the average price of an article amounting to EUR 33 in April 2016 (and with a similar price for the purchase of a chapter of a book). While non-academic users can freely access working papers that are often less elaborated versions of future articles in journals, these are publications without peer-review so they can mainly be used as information alone. The same goes for partly accessible books, with neither the first nor the latter meeting the conditions for a systematic and rigorous review. Therefore, the only real alternative to payment is for a non-academic user to make a connection with an academic user who has access to publications through a computer at their workplace.

Perhaps the situation will change in a few years because demands for open access to data acquired on the basis of public funding are growing, and becoming more formalised. For the time being, however, the focal initiatives are more concerned with databases than the scientific publications based on these. However, changes are also occurring in this area as many more scholarly articles from 2014 were accessible from a computer at home (33.8%) than, for example, in 2011 (15.1%). Still, it seems that it will take some years before we can speak of an actual change in the publishing paradigm that currently still tends to involve payment for access to articles.

Discussion

As already pointed out, as a general social science survey the ESS does not offer specific tools or indicators for a direct evaluation of specific policy measures, although a small number of questions refer to these. Indeed, in terms of policy relevance this is not even the ESS' primary aim. Policy measures are simply the most concrete policy element, with theoreticians also highlighting two other, more general, but also critical levels of policy-making, namely the conceptual level and that of specific programme contents or aims (Hall 1993). At this level, the ESS definitely provides strong tools (indicators) for evaluating general policy orientations and aims included in both the central longitudinal part of

the questionnaire, as well as the thematic modules. In general, values, viewpoints and public opinion are important policy factors since they represent the policymaking context or structural framework for possible solutions to policy issues. Policy measures are usually ineffective if not adapted to public sentiment and framed in a way that is appropriate for the social space they are intended to occupy (Campbell 1998:394–398). A recent review analysis of the relationship between public opinion and policymaking found a relationship between them exists in three-quarters of related studies, and that this relationship is stronger if the focal problem is seen as more important by the public (Burnstein 2014). According to numerous studies, the government or ruling political actors continuously (but not exclusively) respond to emerging public opinions, with such responses being greater for issues that attract more concern. A recent example in Europe in general, and Slovenia in particular, is the problem of migration where the ESS survey is likely to prove very valuable in the coming years.

With regard to academic and policy users in Slovenia, the ESS offers a wide possibility of systematic international comparisons in terms of both testing theoretical models and hypotheses, and the analysis of possibilities of achieving policy goals or determining realistic strategic orientations according to the normative structural environment. Therefore, we can also see Slovenia's regular participation in the ESS and similar surveys as a 'smart' academic and policy investment. By being classified in international data files, small countries with a relatively small number of social scientific analysts can provide 'disproportionately' extensive, topical and methodologically good quality feedback information in the form of the analysis of social processes and trends that the entire academic community 'produces' for them. However, if this capital is to be used then the next step should be taken, namely to invest time and resources in the review, systematisation and summarising of this information since its analytical potential currently remains largely unexploited.

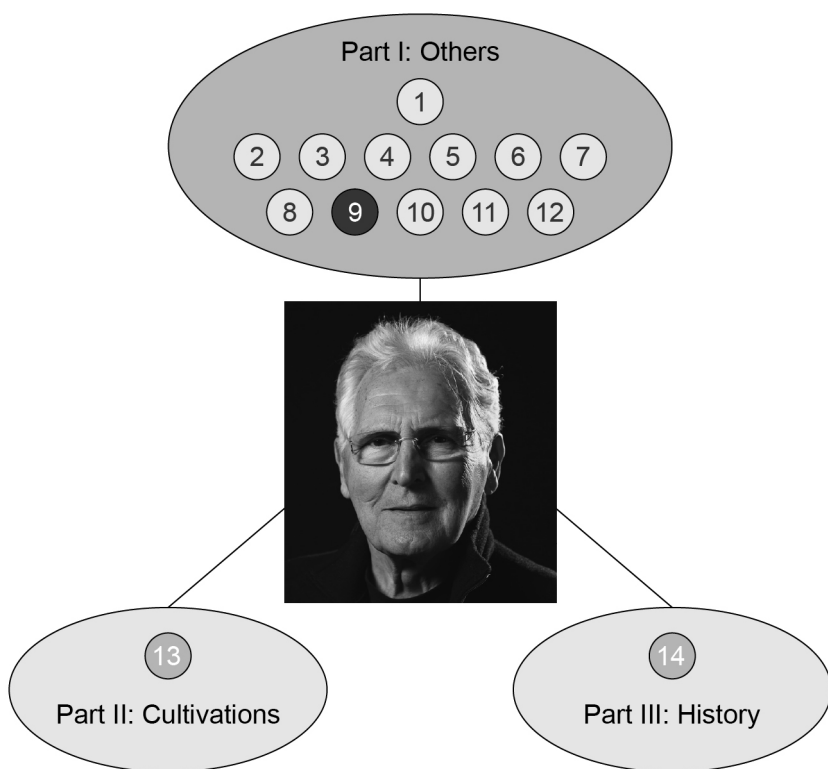
We can conclude by adding that the basic premise of this article is quite unusual because a research or data source do not represent a typical starting point for review analyses. More typically, the starting point should be a concept or a research question, *e.g.* about the Slovenian public's attitudes to the nation's welfare system from a comparative perspective. As such, we would normally look for studies that deal with the related topic, regardless of the data source. Why would we thus limit ourselves to those publications based on ESS data? Indeed, there is no pressing need to do so, although such an apparent limitation can at the same time bring certain analytical advantages. The inclusion of a wider set of research would certainly bring additional breadth to the population of scientific studies, allowing us to achieve a more comprehensive systematic

review. However, considering the much higher level of standardisation of international comparisons within the ESS, the use of various studies would increase the range of quality and raise the issue of considerable methodological variability. Another advantage in the use of publications based on just one survey is the standardisation of variables, as this entails the greater comparability of studies and even allows for the use of the fastest and simplest of methods, i.e. vote counting, along with facilitating the narrative synthesis of the results. With regard to review studies, a limited focus on the ESS is a good approach when working with topics that involve a large quantity of publications (welfare, immigration, labour, family and so on), while in others it is necessary to use publications that are based on other studies.

9

Vision and Mission: The Dynamics of Social Research Data Infrastructure

Ekkehard Mochmann



It is very important to stress the fact that the impressiveness of visual representation is in part balanced by the reduction of possible multiplicity ... Some correlations are even distorted and falsified by being pictorially represented. Visual representation as given by Isotype has the advantage over verbal representation that we can use paper in two dimensions instead of in one only. But written formulae enable us to use as many dimensions as we like.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

Some countries have made widely visible investments in infrastructure, *e.g.* highways, broad band computer networks or sustainable energy supply. They tend to be more efficient and providing better quality of living than those with fewer investments. Large scale investments for research are known in the natural sciences and engineering such as particle accelerators, extra orbital devices for remote sensing or deep sea research vessel. It was a long way with persistent efforts of committed scholars and inspired administrators to implement equivalents for the Social Sciences. In this contribution I want to highlight some challenges and milestones along the timeline of survey research, which we had to pass in order to enjoy the achievements of contemporary social research data infrastructure on a European level.

9.1 What is Research Infrastructure?

The word infrastructure has been used the last quarter of 19th century already meaning “The installations that form the basis for any operation or system” but it took another century before it was adapted by urban planners in its modern civilian sense by 1970. The term came to prominence in the United States in the 1980s following the publication of “America in Ruins, which initiated a public-policy discussion of the nation’s infrastructure crisis”, purported to be caused by decades of inadequate investment and poor maintenance of public works. That public-policy discussion was hampered by lack of a precise definition for infrastructure (Lewis 2008).

The situation in Europe was not much different. It first became popular in the context of “traffic infrastructure,” but was not used in the research data context. Especially this term was foreign to research administrators as we learned in a

high level conference on “Integrating the European Database” organized by the Cologne Data Archive in 1992. A high ranking EC official advised us: “Whenever you come to Brussels to ask support for your research, never use the word “infrastructure! Infrastructure for us means rubbers, rulers and pencils and we are not going to fund that.” It took major efforts to change this. As we have seen in the American case a more operational definition can help. GESIS, the German Social Science Infrastructure Service founded in 1986 was the first Social Research Institute to carry this term in its name long before the infrastructure value of data was widely recognized.

I want to quote two recent definitions, the first is nice the second very precise. They both reflect how much the data infrastructure world has changed over the past 20 years following intense discussions whether large scale infrastructures must be single sided or could be distributed systems. This debate was initially dominated by the status quo of the natural sciences with their large installations in one location. The distributed data bases hosted by CESSDA that provided virtually networked access were a good example, however, to consider distributed facilities for inclusion. The rapid development of virtual research environments and e- science applications in global networks underpin this conclusion. This is well reflected in the EC definition. The Open Data Institute emphasizes the inclusion of technology, processes and organization.

Open Data Institute definition:

“A data infrastructure consists of data assets, the organizations that operate and maintain them and guides describing how to use and manage the data. Trustworthy data infrastructure is sustainably funded and has oversight that provides direction to maximize data use and value by meeting the needs of society. Data infrastructure includes technology, processes and organization”. (Open Data Institute (ODI) <https://theodi.org/what-is-data-infrastructure>)

The definition in the current Work Programme of the EC:

“Research infrastructures are facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields They include: major scientific equipment (or sets of instruments); knowledge-based resources such as collections, archives or scientific data; e-infrastructures, such as data and computing systems and communication networks; and any other infrastructure of a unique nature essential to achieve excellence in research and innovation. Such infrastructures may be ‘single-sited’, ‘virtual’ or ‘distributed’” (HORIZON 2020 – Work Programme 2016–2017 European Research Infrastructures (including e-Infrastructures) Part 4 page 4).

This shows a remarkable development in the understanding of infrastructure from “rubbers, rulers and pencils” to “data as infrastructure”. The walk along the timeline of survey research will reveal some perspectives and actions that

contributed to make infrastructure grow to a state that can efficiently support data based research.

9.2 Early Traces of Survey Research

It is a widely shared view that survey research originated in the middle of the 20th century, but its origins, which are less visible, can be traced back to the early 19th Century. At this time several local and regional enquêtes employing survey questionnaires were conducted in several countries in Europe. In reaction to social turmoil in times of the industrial revolution authorities were seeking information in particular on the situation of the working class.

The first nationwide survey was commissioned by the German Federal Council (Bundesrat 1875). We can read in the minutes of the Bundesrat, that the delegates even voted on some part of the question formulation re. vocational education before they agreed, that it should be conducted. Some 7000 people were interviewed across the country. The questionnaire was developed in cooperation with members of the Verein für Socialpolitik, founded in 1873. As there was no field infrastructure for social research, it was administered by civil servants. They asked respondents from all regions to come to their offices, where they recorded their answers. There was more concern with how to record the answers than with sampling or questionnaire design (Oberschall 1965).

9.3 Why Max Weber and Karl Marx Failed to Achieve Better Analysis Results

The young Max Weber was member of the Verein für Socialpolitik. His earliest involvement in empirical social research included three investigations of agricultural and industrial labor conditions, workers' attitudes and work histories, using both questionnaires and direct observation. In subsequent years he had to deal with several surveys and he was not satisfied with the quality of questionnaires and the poor analyses of the information yielded by the surveys. Weber advocated a quantitative or typological approach to qualitative data. In all his work Weber was explicitly concerned with quantitative techniques and with the notion that the meaning of social relationships can be expressed only in probabilistic terms. Weber tried to raise funds to improve the methodology, but neither his colleagues nor the potential funding authorities were interested. (Lazarsfeld, Oberschall 1965:185).

So, in spite of a good start supported by high authority and a clear mandate to collect information in the interest of society at large, the topic was not taken up and adequate interest in methodological issues was not visible in subsequent years. The need for an enquête to collect statistical information about working class was already discussed in the First International Workers Association founded in London in 1864. This however could not be implemented due to lack of finances. Karl Marx, one of the founding members of the First International was asked years later by the editors of the Journal "*La Revue Socialiste*" to draft a questionnaire addressing the social issues. Marx followed this request and submitted a questionnaire with 99 questions in English language to be answered in writing. This was printed in a French translation in the Volume of April 20, 1880 under the title "Enquête Ouvrière" without naming the author (*La Revue Socialiste*, April 20, 1880).

Another 25.000 copies of the questionnaire were distributed via workers societies as well as socialist and democratic associations. The questionnaire was also translated into Polish and other languages for international comparison. Instructions within the questionnaire recommended that replies should be as detailed and comprehensive as possible, but it would not pose a problem if some questions were not answered. Also the respondents were assured that the name of the working man or woman who was replying would not be published without special permission, but the name and address should be given so that, if necessary, communications could be sent. Marx never made it to an analysis and report. In spite of all these careful considerations the response rate was too low to yield results.

Seen from nowadays perspective we can notice a number of common problems in these early beginnings, that accompanied social research through many decades, such as lack of field research infrastructure, difficulties to raise financial support, no analyses beyond answering the immediate information needs of funders, international comparison and multi-linguality in questionnaires, anonymity and data protection, response rates and gender sensitivity – while representativity going well beyond wide regional coverage – was not yet a crucial factor to be considered. While experts identified shortcomings of their methodology they did not manage to raise visibility of the problems to a level of awareness that would unite the scholars and administrators of their time to support the funding requests.

9.4 Advances in Social Research on the Other Side of the Atlantic

Even though my focus is on Europe some activities from the United States of America with direct impact on the development of survey research over here should be noted. As election outcomes provide a benchmark it is no wonder that these are in the focus.

The Social Science Research Council (SSRC) was formally established in New York in 1924 with the task assigned to plan and promote research in the social fields. Thus the Council became active in a time with an official mandate, when the Social Sciences laid particular emphasis on developing and improving their scientific methods.¹

Herbert Hoover, President of the United States (1929–1933) asked a group of eminent scientists to examine the feasibility of a national survey of social trends. In December 1929 he named the Committee under the chairmanship of Wesley C. Mitchell to undertake the researches and to make a report. The task assigned emphasized to inquire into changing trends rather than stability in the social structure of the United States. The report “Recent Social Trends in the United States” was published in 1933, the year in which his presidency ended.

An important breakthrough for survey research came along with the 1936 Presidential election (Roosevelt/Landon) at the end of the great Depression. The highly respected Literary Digest relied on a huge sample of 2.4 million people and gave the drastically wrong prediction with 43% for Roosevelt, who actually won the election with 62%. George Gallup used a much smaller sample of about 50.000 people and predicted the victory of Roosevelt. This illustrated well, that sampling bias cannot be balanced by increasing numbers of respondents. This was the breakthrough for the Gallup organization, which nowadays has branches in 17 countries and collects data in more than 160 countries around the world.

Twelve years later another election outcome caused a crisis for election forecasts. “Truman’s victory in the 1948 presidential elections is considered to be one of the greatest election upsets in American history. Virtually every prediction (with or without public opinion polls) indicated that he would be defeated by Dewey.” This created an air of openness among research institutes re. data analyses and methods used for the predictions. They were very cooperative in providing access to their materials in order to demonstrate, that the procedures were sound, but something unknown in the electorate had happened. The Social Science Research Council and the National Science Foundation endorsed plans

1 I am grateful to Alice Robbin (Indiana University Bloomington) who alerted me to the period from 1920 to 1950 as an important phase in US social research history.

to document all accessible materials pertaining to the forecasts, given that technical progress of documentation and preservation technics had been made (Mosteller, Hyman *et al.* 1949). The Social Science Research Council set up the Committee on Analysis of Pre-election Polls and Forecasts to make an immediate examination of available information and to present a report summarizing the nature and extent of the causes of the errors in forecasting the results of the 1948 presidential campaign. In close co-operation with the polling organization the Committee and its staff made a thorough analysis considering the opinion polling technique as one of the fundamental research tools in social science. They had access to data of the principal polling organizations, information on problems of methods, detailed statistics of the poll results and also to a number of post-election surveys. In addition to a sound critical appraisal including panel design considerations there is a remarkable recommendation in the report addressing not only the experts but the public at large:

“It is believed that wider understanding on the part of the public concerning the present accuracy of pre-election polls would contribute a great deal toward establishing a sound attitude toward them, namely, to view their results as another source of information about political facts and behavior, subject to varying amounts of error from year to year, from organization to organization, and from problem to problem.”

Over decades we were impressed by the accuracy of election forecasts. Given the big surprise with the overwhelming number of failed prognoses in the Clinton /Trump presidential election 2016 this sounds a very timely statement given the large numbers of non-voters and the new media for interviewing with unresolved problems in sampling design. Also a closer look at the outcome of popular vote may show that the forecast deviations were not as drastic as compared to the impact of the electoral system.

After the 2012 election in which Gallup was further off than other polls, it has decided that it will not conduct any head-to-head polling in the presidential primary or general election. Also remarkable in this context is that there were reliable approaches like the Primary Model by Helmut Norpoth. It predicted on March 7 already with 87 percent certainty that Trump would win the election on November 8, 2016 (<http://primarymodel.com/2016-forecast-full/>).

In 1946 the Survey Research Center (SRC) was established by the University of Michigan to perform as an international leader in interdisciplinary social science research involving the collection and analysis of data, especially data from scientific sample surveys and to advance the scientific method of social research through teaching and training (<http://www.src.isr.umich.edu/about/>). One year later in 1947, the first data archive was founded by Elmo Roper. The Roper Center holds data ranging from the 1930s, when survey research was in its infancy, to the present. Its collection now includes over 22,000 datasets and adds

hundreds more each year (<http://ropercenter.cornell.edu/about-the-center/>). The influence of the American survey research methods is also closely connected to the progress in survey sampling in particular by Leslie Kish. He worked at the Census Bureau and later joined the Survey research Center of the ISR. His influence on survey sampling practice throughout the world is widely acknowledged.

9.5 Integrating the European Data Base

In the middle of the 20th century Europe was “data poor”. The few scholars who had resources to collect data employing representative sample surveys were sitting on their data. With a few exceptions there was no culture of data sharing. The reputation of social researchers was not enchanting, they were considered nitpickers (“Fliegenbeinzähler”), delineated from the way they were counting their cases in packs of five strokes on paper to compute marginals or simple tabulations. Looking back at these times one cannot deny that “technology driven” is certainly one factor to be considered in the debate whether social research is data driven and or theory driven.

Paul Lazarsfeld had a longstanding interest in the history of empirical social research. In 1959 he developed a loosely structured research program on the history of social research. He intended to complement the standard histories of sociology that dwell exclusively on social theory with the history of the other, equally important, empirical roots of the discipline. Lazarsfeld hoped that institutional support for social research would be easier to activate if the long and interesting history of empirical sociology would be better known. (Oberschall 1978).

At about the same time Stein Rokkan, Erwin K. Scheuch, Warren Miller and Alexander Szalai shared the vision of an archival network, that would collect and make available data accessible for further use, especially for international comparative research. They worked together in the International Social Science Council (ISSC) to promote international cooperation through the Standing Committee on comparative research and the Standing Committee on Social Science Data of the ISSC (Rokkan 1962; Scheuch, Brüning 1964). The gradually expanding net of data archives worldwide was connected by the International Federation of Data Organizations for the Social Sciences (IFDO, founded 1977) and the Committee of European Social Science Data Archives (CESSDA, founded 1976). In this way data acquisition and distribution policies, user services, data management and technical developments for data retrieval and analysis were coordinated (Mochmann 2002).

In addition to the archives summer schools were established for training new generations of social scientists in advanced research methods and analysis technics for quantitative research in the 1960ies and 70ies already.

The archival data holdings grew gradually, as commercial research institutes were releasing data that had been analyzed for the contracted purposes and was of no further commercial value to them. Replication of classical studies and further analyses of accessible data under new frames of reference (secondary analysis) enriched the repertoire of empirically founded social research. In a first approximation to infrastructure needs basic functions to support secondary analyses were identified (Klingemann, Mochmann 1975):

1. Systematic Observation of Data Production and data selection
2. Methodological and technical Study Description and questions
3. Data Checking and Cleaning
4. Preparing Materials for archiving
5. Data Retrieval and Analysis tools for Users in interaction with machine

In 1973, the European Commission started to monitor the evolution of public opinion in the Member States, thus helping the preparation of texts, decision-making and the evaluation of its work. Even though this continuous survey programme was primarily intended to inform policies of the EC a further milestone was reached when the European Commission made the Eurobarometer data available for further analyses to the scientific community.

The Eurobarometers contained blocks of questions, which were repeated over time and thus allowed the analysis of trends in international comparison. Other continuous survey programmes followed, such as the International Social Survey Programme (ISSP), the European and World Values Survey (EVS, WVS), the Comparative Study of Electoral Systems (CSES) and many other Social Survey Programmes like Socio Economic Household Panels yielding rich information in addition to national and international official statistics. (Moschner 2005; Tanenbaum, Mochmann 1994; Kraus 1995; Kaase 2013).

With growing numbers of studies, including additional countries of the European Community the need for methodological information also grew and triggered both, criticism and increased methodological scrutiny.

Integrating and documenting these surveys over time and countries in close cooperation with the principal investigators accumulated knowledge about continuities and discontinuities in the surveys. The Social Science data base was scattered, data were mainly collected with national focus and certainly not harmonized and integrated to an extend that rendered analyses over time and societies feasible.

With support of the European Consortium for Political Research (ECPR) a workshop series was started on the topic "Integrating the European Data Base" (Tanenbaum, Mochmann 1994). This topic was taken up by the Standing Committee for the Social Sciences of the European Science Foundation.

A position paper on the actual situation and data infrastructure development needs (Mochmann 1992) was adapted and submitted by Helga Hoffmann-Nowotny, Guido Martinotti, Howard Newby and John Smith on behalf of ESF SCSS to the European Commission for Consideration in the next Framework Programme. On initiative of the SCSS we convened a European conference on "Making Data European and Making European Data", (Gaston Schaber und Ekkehard Mochmann, ESF-CEPS/INSTEAD, Luxembourg, 15–17 April 1993). This added to the visibility of Social Science infrastructure needs. All these efforts finally mounted in inclusion of the Social Sciences in the next framework programme "Large Scale Facilities – Training and Mobility of Researchers Programme" Luxembourg 1998.

Gaston Schaber suggested to apply under this programme, but at this time no large scale facility status for a social science institute was visible. The social science institutes and projects were rather small as compared to the laboratories of the sciences. In this situation a more function oriented approach was needed. The archives had accumulated numerous representative sample surveys with European scope. The investments to collect this data volume would easily amount to the level of investment costs for a radio telescope that collected data for Astrophysics. After long discussions in a panel whether a Large Scale Facility could be distributed or must be single sited this analogy was convincing enough for the Scientists to let the Social Sciences in. With the European Center for Analysis in the Social Sciences (ECAS, Essex) and the ZA-EUROLAB for comparative research (Cologne) two applications were successful in 1996. Over the years more than 400 researchers have profited from well assisted access to data and information in the EUROLAB at Cologne.

The European Commission then started a series of High Level Roundtables on Infrastructure Needs of the Social Sciences which was continued by the Network on Economic and Social Science Infrastructure in Europe (NESSIE) coordinated by Marcia Taylor from ECAS (with Gaston Schaber, Bjorn Henrichsen and Ekkehard Mochmann).

Some EC officials emphasized the positive impact of these social science developments over the past decade. In the EC conference on data Infrastructure at Strassbourg 1999 the Social Sciences were formally included.

On October 13, 2004 the European Commission Unit on Research Infrastructure convened a Meeting on "Research Infrastructure for Social Sciences: An important Need for Sustainable European Research". Among others this meeting highlighted

the challenges for comparative research and data services in the European and global perspective. The need for a European data policy and systematic co-ordination of data collection to support European evidence based policies was emphasized. It was acknowledged that the collaboration among national data services through the European Council of Social Science Data Archives (CESSDA) had facilitated a European culture of data sharing and that the experience of CESSDA facilitated also the mapping of the current needs for data infrastructure at the European level (DG Research 2004).

ESFRI, the European Strategy Forum on Research Infrastructures was formed in 2002 as a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. Its mission is to support policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level. Bjorn Henrichsen from the Norwegian Data Service (NSD) and other CESSDA experts have been serving on this Committee.

The first ESFRI roadmap for pan-European research infrastructures in 2006 included CESSDA, The European Social Survey (ESS) and the Survey on Health and Ageing and Retirement in Europe (SHARE) to be institutionalized as European Infrastructure Consortium (ERIC). They have been successfully implemented. The Roadmap has been further developed and the 2016 Roadmap is available now in print and electronic form (http://www.esfri.eu/esfri_roadmap2016/roadmap-2016.php).

It took almost 50 years since the 1960ies until the value of research data was fully acknowledged. After a period of intense and repeated discussions a balance between the right of people on their individual self-determination and the needs for research to access data a basic consensus was found in the 1970ies and 80ies. Adjustments taking care of threats from new data handling technologies are taken care of by frequent revision of European and national data protection regulations. This, however, was not sufficient to open ways for easier and wider access to available data.

The Open Access movement propagated free access to information which initially targeted literature, but also included explicitly research data as given in the Berlin declaration on Open Access to Knowledge in the Sciences and Humanities, also supporting the transition to the open access paradigm <https://openaccess.mpg.de/Berlin-Declaration>.

In 2004 the OECD was asked by Science and Technology Ministers to develop a set of guidelines to facilitate cost-effective access to digital research data from public funding. A wide spectrum of needs and related data management implications were discussed. It was acknowledged, that – even though costly- good meta data for documentation of the research data was an essential requirement.

The OECD Principles and Guidelines for Access to Research Data from Public Funding were approved by the research ministers and published in 2007. It should be noted that this was not just another resolution. On the contrary” OECD Recommendations set out collective and precise standards or objectives which the member countries are expected to implement. A “Recommendation” is a legal instrument of the OECD that is not legally binding but through a long standing practice of the member countries, is considered to have a great moral force. Recommendations of the OECD are adopted when member governments are prepared to make a political commitment to implement the principles (and/or guidelines) set out therein. This type of instrument is often referred to as “soft law” (OECD Declaration p. 7).

The rapid development in computing technology and the Internet have opened new ways with highly increased efficiency for access to data, interoperability on system and data level and for collaborative working around the globe. These are at the core of the Open Science including the participation of non-scientists. Open science can also be used to promote capacity building in developing countries while generating opportunities for scientific collaboration and innovation between OECD and developing countries. <https://www.oecd.org/sti/outlook/e-outlook/stipolicyprofiles/interactionsforinnovation/openscience.htm>.

The data world has changed enormously over the last century since the first steps to systematically collecting data as evidence base for political decisions. Databases are rapidly becoming an essential part of the infrastructure of the global science system. The international Human Genome Project is but one good example of a large-scale endeavor in which openly accessible information is being used successfully by many different users, all over the world, for a great variety of purposes.

There is yet considerable potential and room for development in the use of virtual research environments, also for the social sciences, especially when they are ready to include non -scientists as well. The EC information technologies support these objectives by addressing capacity building in interdisciplinary research communities to empower researchers through development and deployment of service-driven digital research environments, services and tools tailored to their specific needs. These virtual research environments (VRE) should integrate resources across all layers of the e-infrastructure (networking, computing, data, software, user interfaces), should foster cross-disciplinary data interoperability and should provide functions allowing data citation and promoting data sharing and trust http://cordis.europa.eu/programme/rcn/664625_en.html.

This sounds rather technical and a bit complicated for committed survey researchers, but it tends to fall in line with a current self portrait of ISR which includes the Survey Research Center and the ICPSR data archive:

“ISR is at the forefront in developing new ways of thinking and new methods required to understand and solve contemporary problems. More and more, ISR’s traditional social science research has expanded to include environmental factors, biometric and biological data, including genetic material. We are now able to link survey, administrative, health and genetic data, and information about where people live from global positioning information.”

These new ways of thinking are efficiently supported by the Research Data Alliance (RDA) which aims to build the social and technical bridges that enable open sharing of data. The RDA vision is researchers and innovators openly sharing data across technologies, disciplines, and countries to address the grand challenges of society.

Their view of the actual situation falls in line with our observation of the European database in the 1970ies and 80ies (s.a.): “The current global research data landscape is highly fragmented, by disciplines or by domains, from oceanography, life sciences and health, to agriculture, space and climate. When it comes to cross-disciplinary activities, the notions of “building blocks” of common data infrastructures and building specific “data bridges” are becoming accepted metaphors for approaching the data complexity and enable data sharing. The Research Data Alliance enables data to be shared across barriers through focused Working Groups and Interest Groups, formed of experts from around the world – from academia, industry and government. Participation in RDA is open to anyone who agrees to its guiding principles of openness, consensus, balance, harmonization, with a community driven and non-profit approach. <https://www.rd-alliance.org/about-rda>

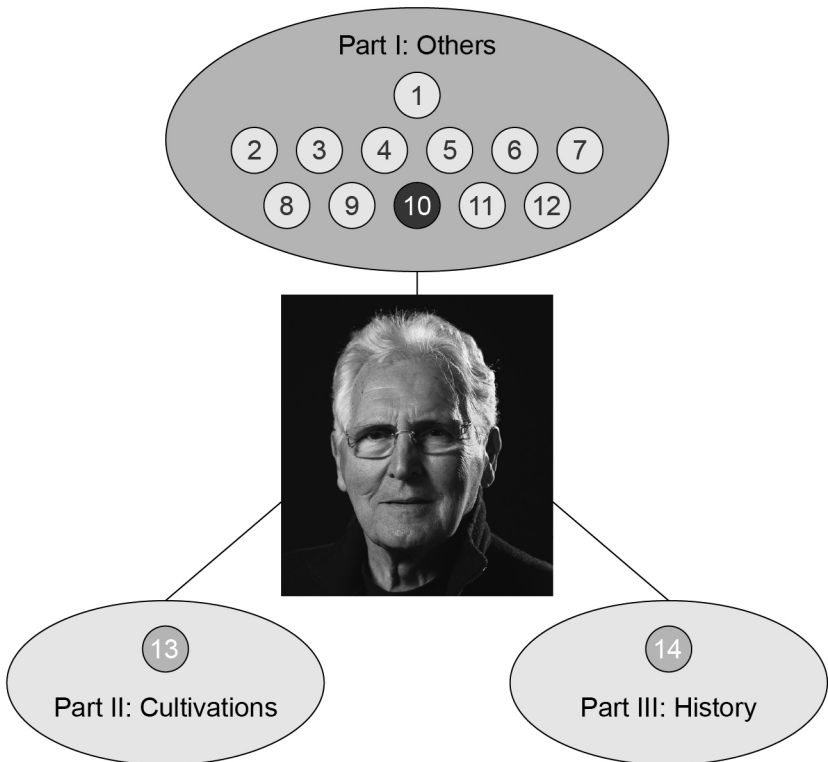
This field is moving rapidly. New generations of social researcher will need capacity building at the interface of research methodologies and data technologies. The definition of the needs and strategic goals of survey research should not be left to the techies, as competent and friendly they may be. As they said: Participation is open

These observations – incomplete as they may be – show the impressive and lasting impact of institutions that continuously collect information to serve the catalytic function of sharing knowledge and data in international research networks. ISS has been and is a valued partner in the international comparative research networks. It has contributed a lot to generating new data for the continuous survey programmes and its data archive has accumulated a remarkable data collection. As this journey along the timeline of survey research made visible the importance of having a well networked institute that is operating along international standards of best practice like ISS can only be topped by having Niko Toš.

10

European Social Sciences and Its Research Infrastructure: 10 Years On

John H. Smith



Education has to compete with entertainment – that is what we think is needed in our period. It would be dangerous if education were to become a purely occupational matter and something boring in itself.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

The creation of European social science research infrastructure and data bases is recognised as the necessary equivalent for the social scientist that the “large scale facility” serves for natural scientists. Networking and the accessibility of existing data are essential but not the only prerequisites for European high quality social science research. Crucially, European research infrastructures and data bases for comparative research remain to be strengthened.

Ten years ago, the European Commission’s then main science advisory body, the European Research Advisory Board (EURAB), produced a report entitled “The European Research Area and the Social Sciences and Humanities (SSH)” which contained nine recommendations for action within the context of the European Research Framework Programmes.¹ Recommendation 2 suggested that “Future work programmes and calls for proposals of the Framework Programme component , “Support for Research Infrastructures: Structuring the European Research Area”, should make specific reference to the inclusion of the social sciences and the humanities within its remit, and measures should be taken by the European Commission to enhance its “visibility” among the SSH research communities. The term “research infrastructure” should be allowed the widest possible definition to cover the breadth of SSH disciplines and an expert “task force” should be established to elaborate this (or the task could be given to the European Strategy Forum on Research Infrastructures, ESFRI)”.

It was argued that although considerable progress on European (and international) cooperation had been made through the individual work and efforts of nationally-funded research infrastructures concerned with survey research and methodology, data archiving and data services to the research community, the “gap” in the provision of research infrastructure for SSH fields compared to other sciences was substantial. The European Commission was seen to have a key “European Added-Value” role to play in this respect. In the natural sciences, major public investments had been made in research infrastructure and equipment (*i.e.* accelerators, telescopes, research ships, Antarctic bases, etc.).

1 EURAB Recommendations on the European Research Area (ERA) and the Social Sciences and Humanities (SSH) January 2004 (EURAB 03.076-final).

The creation of such research infrastructure facilities had often been a defining element in the progress of the internationalization of these sciences. It was emphasised importantly that SSH research fields needed more infrastructure support to carry out research within a European (and international) framework because the traditional context of the development of the SSH disciplines in “nation state-building”, to a greater extent than in other sciences, had tended to inhibit the pace of European collaborative research and infrastructure support. This EURAB recommendation was put forward in the context of the case being made for the social sciences to command a more prominent place in future Framework Programmes in addressing social, economic and political issues and challenges facing the further construction of the European Union and its relations with the rest of the world. These arguments are more relevant today, ten years on, where the European Union has faced its strongest challenges to date, *e.g.* the 2008 financial crisis and its subsequent economic ramifications and the recent historic migration waves resulting from civil wars and conflicts in neighbouring regions.

Important foci for future research need essentially to address the questions of how existing economic and political institutions can adjust and respond to major changes in employment, mobility and social organisation. Five broad areas can be identified that require a comparative social science approach with supporting research infrastructure development; these were highly relevant ten years ago and continue to be so today.

Driving forces of the European economy: growth, work and welfare. Research addressing questions about the competitiveness, quality of life and political future of Europe should be located within the wider context of the internationalisation of economic and social life. Increasing globalisation and technological innovation has had major implications not only for EU nation states but also for the European Union itself – as manifested in the growing integration of economies in different parts of the world; the development of trans-national markets and trade; the rapid movement of capital and commodities; and the changes in the structure of employment and mobility by the continuous flows of immigration across nation states. In a world of increasing capital mobility, it is primarily the quality of labour and the efficiency of organisations that will provide incentives to European firms to maintain economic activity in Europe, and to foreign firms to locate activities in Europe as a high wage level area. Consequently research should focus on analysis of the impact of the working of present day institutions on European economic performance and on institutional characteristics that would promote adaptability to changing conditions.

As a major corollary to the globalisation process, research should focus on the dramatic changes occurring in the nature of work (and the workplace), in

terms of the shift away from lifetime careers and the redefinition of employer-employee relations. Changes in employment status, the growth of the informal economy and persistent high levels of unemployment pose social and political challenges that need to be analysed on a rigorous and continual basis. What makes these challenges so encompassing is that the fact that, as the last ten years have dramatically illustrated, employment growth will no longer be a quasi-automatic outcome of economic growth.

These far-reaching changes pose serious problems to currently prevalent welfare and social security systems, including pensions, which are built upon the assumption that people (or at least heads of households) will be in employment over a full-working life. Additional pressures on social security systems have arisen from growing life expectancy and the consequent rising proportion of elderly persons in Europe's population. Fundamental questions need to be addressed on the future of differing social security, welfare and pension systems in an integrated European market under conditions of converging monetary and fiscal policies.

European Institution-Building and Citizenship

As the recent rise of nationalism is amply demonstrating, the future development of the European Union will depend more and more upon the need for public support for European level governance. The process of Community building in Europe as a competitive global region through seeking to integrate national political systems within an overall structure of governance is still fragmented and incomplete. In addressing this challenge, it should be recognised that efficiency of policy development, problem-solving and political accountability are not just problems of the European Union political framework but for its Member States as well. For example, a major challenge within this context is the extent to which minorities of long standing residence in individual European countries and recent immigrants will be integrated, and whether they will be fully embraced with citizenship rights or whether a "de facto" second class citizenship will be institutionalised.

Advocating "subsidiarity" approaches, or specific short-term measures may give only temporary relief to the growing strains between the need for joint, supranational action and public demands for effective political participation and action. Social science research has the capacity to conduct a thorough investigation of the institutional prerequisites of a political system "beyond the nation state" which will meet the expectations of citizens (and to stimulate public debate on this core issue). Also given the enormous differences and the accumulated experience of national and regional governments in European countries, comparative research on existing institutional arrangements in the

Member States including the European dimension are necessary to better understand and assess the options, opportunities and obstacles for developing democratic governance in Europe.

Culture as an Integrating Force

Cultural diversity is Europe's hallmark and the competition between various cultural, religious and socio-economic contexts have stimulated innovation and exploration throughout history. Culture is not just a matter of heritage and history, but an integral part of modern life and society on which it depends for economic growth, political stability and the welfare of its citizens. Understanding the cultural background of our closest neighbours will also serve to ensure more peaceful coexistence and to enhance social cohesion in our present multi-cultural European societies. Also the European response to the emerging economic and political powers of other global regions should also be guided by knowledge of these different cultures.

However, Europe's cultural diversity also raises obstacles to the movement towards greater cooperation. Globalisation is provoking distinct reactions, as demonstrated recently by growing xenophobia and ethnic tensions, both within Member States and at the European periphery and the underlying cultural factors need to be understood. Citizenship is rooted in national structures and their culture and needs to be studied at a comparative level. Cultural identity should be studied in the light of the process of globalisation and European integration. Research could focus on the question of language, the content, methods and approaches of education and the roles of both everyday and institutionalised forms of culture, with particular attention to the internationalisation influences of ICT technology, traditional media and social media.

Mobile Europe: changing patterns of mobility, transport and communication. It is unquestioned today that globalisation and ICT technologies are having profound impacts on working, living and consumption patterns. These impacts are in turn changing the patterns of social organisation. Transport in Europe is stretched between strong antagonistic interests relating to economic growth, geographical accessibility and quality of life. Transport and communication issues remain at the centre of many conflicting developments in Europe: global competition vs. regional cooperation, economic efficiency vs. environmental protection, accessibility vs. isolation.

A systematic approach is required to understand the links between networks of physical mobility of goods and persons, and the expanding networks of communications and their combined influence upon a sustainable European mobility system. While much research foci has mainly addressed these issues from

engineering and logistics perspectives, further research is needed which adopts an interdisciplinary approach placing greater emphasis on social and behavioural data and analyses. Among the various questions requiring systematic address are: the changing demands for transport from altered patterns of manufacturing and more flexible employment; impact on transport networks of new patterns of urban living, increasing congestion and new forms of transportation; and finally the consequences for environmental policy development.

Changing Households and Lifestyles

Families and households are the units through which many of the above-mentioned major economic and social changes are passing. Household units are changing significantly as we move forward in the 21st Century reflecting, *inter alia*, the effects of employment insecurity, the weakening of traditional links in the family and local communities, and changing gender roles. As yet scientific analysis on a comparative basis of new patterns of work, leisure and lifestyles in Europe's changing households is at a developmental stage.

More European research on how the ageing process affects the socio-spatial structure of cities and regions is needed. Research can provide important insights into how the ageing population is shaping a new distribution of intergenerational control of resources and new patterns of consumption; and how it alters household formations, energy and land use, transport patterns and welfare provision and budgetary allocations in public services. However, research on European demographic change and its impacts should not focus, of course, on one segment of the population. A key concern of growing importance is the relations between the old and the young, and particularly the "coming of age" of the younger generation in the transition from education to the new uncertainties of employment and career opportunities.

There remains also an urgent need to better and more fully understand the variations in lifestyles and health in terms of environment, socio-economic class, educational attainment and background, and health beliefs and knowledge. At the European level an important perspective is how health and well-being varies from country to country, region to region, and what we can learn from this. What are the impacts of different public policies, and what, in turn, are the implications for future policy development? Comparative research addressing these issues can make an important contribution to informing the decision making processes involved at all governmental levels.

European Social Science Research Infrastructures

Clearly, many of the above research challenges can be best addressed through a longitudinal analysis approach based upon high quality comparative data and sound methodology bases (both new and the preparation of existing data, surveys and administrative, for secondary analysis), high standards of measurement and data collection/handling, and new mechanisms and instruments for consolidation and exchange (including “virtual” forms) between universities, other research institutions, archives, and libraries etc.

Following the EURAB report mentioned above, and other initiatives from social science research communities making the case for supporting research infrastructure, the European Strategy Forum on Research Infrastructures (ESFRI) acted upon the recommendations on social science research infrastructure development through its newly-formed Working Group on European Research Infrastructures on the Social Sciences and Humanities. Through ESFRI’s subsequent work, European social science research infrastructures have been supported within the overall framework of EU research infrastructure development. Three European social science research infrastructures have been included and supported in the ESFRI roadmap; these are the European Social Survey (ESS), the Consortium of European Social Science Data Archives (CESSDA) and the Survey of Health Ageing and Retirement in Europe (SHARE). In its recent progress ESFRI has described these three research infrastructures as “success stories” of the ERA Roadmap, but it was added that they were “implemented projects that nonetheless require additional support for sustainability and support for European coverage²”.

Two further ESFRI SSH research infrastructure projects are in the development stage of support: these are the Common Language Resources and Technology Infrastructure (CLARIN) and the Digital Research Infrastructure for the Arts and Humanities (DARIN). ESFRI is developing a framework to support the implementation of the RIs on its roadmap and to address the need for RI prioritisation in the short, medium and long term. ESFRI anticipates that it will be in a position to update the Council of Ministers with progress towards implementation including additional priority projects that may be ready once they reach the required level of maturity, following the next update to the ESFRI roadmap in early 2016.

At the end of the day, of course, the most important contribution to the building of European Social Sciences and its research infrastructure will come through the continuing commitment of social scientists themselves, in their individual

2 Prioritisation of Support to ESFRI Projects for Implementation (ESFRI document April 2014).

research activities and their team work and networks. So perhaps another guiding principle for effective participation of social scientists in the European Research Area should be to have trust in researchers and provide space for the blossoming of innovative research and infrastructure³. European Social Science benefits greatly from its “champions” and hence it is fitting in this Festschrift publication that Niko Toš is rightly attributed to as being as one of those “champions”.

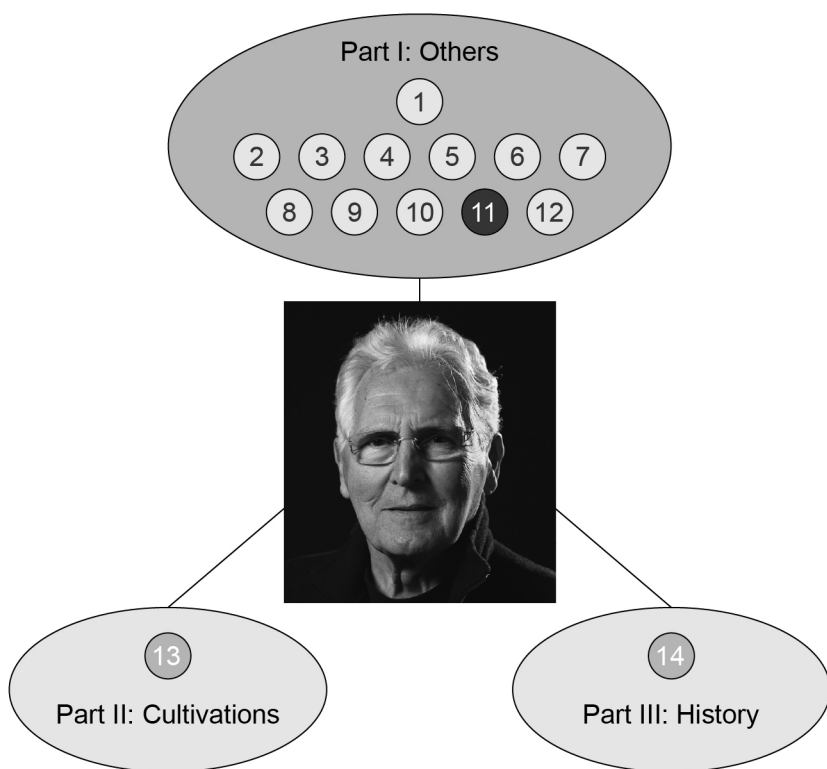
3 Implementation of the European Research Area in the Social and Human Sciences: A Discussion Paper” J.H. Smith European Commission, Directorate-General for Research, 2003 (ISBN 92-894-5269-2).

11

The Case of Slovenian Social Science Data Infrastructure – ADP

(Arhiv Družboslovnih Podatkov)

Janez Štebe | Sonja Bezjak



We have always tried to be consistent in the principles of our visual presentation We tried to discover how people behaved when they visited our exhibitions and looked at Isotype charts (concerning technology, biology, history or sociology), photographs, models, lantern slides, animated Isotype diagrams and other visual devices. Some of our observations were made by students of psychology, who made notes and sometimes asked questions to learn about the visitor's reactions.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

Data archives are institutions that are well established in the tradition of social sciences and have existed in some countries for more than forty years. The social science data archives are among forerunners of recent developments of open research data initiatives that are now spreading into many other disciplines. Recent movements around open science emphasized not only questions around reproducibility of results and research integrity, but also addressing ordinary citizens' involvement: both as users of raw data and as public that expects the results of research based on secondary data to be utilized for tackling current societal problems. An agreement about the importance of building open access to research data for the development of science was reached in the international environment. OECD Principles and Guidelines for Access to Research Data from Public Funding, European Commission Policy Initiatives and other scientific stakeholders' recommendations (League of European Research Universities (LERU), Science Europe working group on Research Data, LIBER (Ligue des Bibliothèques Européennes de Recherche – Association of European Research Libraries) and ALLEA (ALL European Academies) are influential. The Republic of Slovenia has committed to follow the OECD's Guidelines. It has taken over certain responsibilities to follow the EU Initiatives within fixed timeframes and with dedicated financial support both regarding access to research data and in other areas of open access to scientific information. Consortium of European Social Sciences Data Archives – CESSDA has been listed on the National research infrastructure roadmap priorities. All those developments help to establish a support environment for further development of national data services.

11.1 About ADP

Slovenian Social Science Data Archives (*ADP*) came into being relatively lately, in the second half of the 1990's, together with the Estonian, Finish, Czech, Irish, Greek, Spanish and Romanian archives. The reasoning behind the establishment was and remains quite obvious. Arguments for a need to preserve data in archives have been suitably arranged already in a seminal text of Herbert Hyman (1972) under the topics of substantive and methodological, economic, and ethical reasons. Bearing in mind that there is no best method for all purposes, a clear advantage of secondary analysis is that it is many times cheaper than any research approach that requires an equivalent new data collection effort. Data re-use also reduces societal burden of social sciences research that depends on voluntary ordinary citizens' participation.

Beside Hyman's, the argument posed by Ervin Scheuch, has been equally persuasive. Following on with the reasoning about economic advantages of the secondary analysis, he has concluded that the research funds that are saved by wider use of archived data could be used to foster new high quality empirical data collection projects. By making those later easily accessible for the widest academic community through national data archives immediately after the data collection is finished, this could be considered as a research infrastructure for social sciences quite analogous in its importance to high speed accelerators and satellite observatories in the natural sciences (Scheuch 1990). The bases of such an advanced infrastructure service of data archives are conceptually well grounded on large research projects, such as comparative (*e.g.* ISSP, ESS) and national longitudinal surveys, both governmental and academic (LFS, CPS, GSS, NES, CBS, TBS).¹ National data archives are making such prominent data resources easy and equally accessible to all, senior as well as junior researchers, to those with more or less skills, knowledge and reputation.

Since being established in 1997, the ADP has been acquiring important data sources from a wide range of social science disciplines of interest to Slovenian researchers. Currently, the ADP is supported within the national research infrastructure programme Network of Research and Infrastructural Centres of the University of Ljubljana (MRIC UL). The ADP archives data and provides access to it for further scientific, educational and other use. By translating descriptions and basic metadata of studies into the English language, studies

1 ISSP – International Social Survey Programme; ESS – European Social Survey; LFS – Labour Force Survey; CPS – Current Population Survey, GSS – General Social Survey, NES – National Election Studies; TBS – Time Budgeted Survey; CVS – Crime Victimization Survey.

conducted by Slovenian researchers become visible and more accessible to the international research community. With the accessible data and related documentation, room for cooperation is being created between researchers from the social sciences, the humanities and other scientific disciplines, as well as from other countries.

Twenty years marks a useful point to first reflect on the archive's main activity. Every year, the ADP receives several tens of studies together with datasets and processes them in accordance with international data archival standards and recommendations for long-term digital preservation. The processed data and study documentation is then made available to users according to the principle of as much open access as possible. Today, the ADP collection comprises over 600 studies that are accessible to the research community or other interested public via the catalogue. Since the ADP was founded, it has been responsible for keeping several data sets from earlier studies, some of which were collected in the 1960s, 1970s, 1980s and 1990s. Someone has to know the institutional arrangement of that time so as to be able to understand some of the conceptualisations but there are phenomena like stratification, time use, gender issues etc. that might be assessed in an ideologically neutral way. Today, the ADP is one of the few social science data archives that maintains its collection over such a long time period and can thus enable longitudinal comparisons.

In addition to data, detailed documentation is preserved on study's methodology, providing insights into the history of social science research. Since there is little knowledge about the history of discipline nationally, data services can play an integrating role when building or supporting research traditions of social science research communities. The ADP maintains in its collection questionnaires, reports and datasets, where still preserved, that honoured achievements of some of the leading social science institutes from the 1960's and 1970's. Many of those research projects from the past were carried out according to high theoretical and empirical standards. As such they can still serve as an example of good research practice and by maintaining memory support self-reflection of a discipline about its history.

It's no coincidence that professor Niko Toš – once, as the anecdote says, being caught in the library of the German data archive service in Cologne late in the night, while on a scientific visit during the 1990' – largely influenced the formation of the ADP. Perhaps he started imagining during that night what needed to be done to stimulate the social science infrastructure development in Slovenia even further. During the establishment of the ADP, he invited Ekkehard Mochmann from the German data archive service to Ljubljana to discuss the plan with the group of Slovenian colleagues from CJMMK (Center za raziskovanje javnega mnenja in množičnih komunikacij – Public Opinion and

Mass Communication Research Centre). The first author of this paper was one of the young researchers of the Centre's team, participating in that discussion. It was the time when existing survey methodology theory and practice has been revised to reach the high international standards. He was among the proponents of the idea of including the SJM (Slovene public opinion survey) programme in the large international comparative survey projects. Following this orientation, and largely based on the inheritance of the SJM data – thanks to Niko Toš's providence still preserved in a digital readable form, the ADP opened a parallel line of infrastructure activity of providing access to data. Data preservation and access then gradually spread into acquiring data from other research institutes, which consequently lead to the functional establishment of ADP as a national data service provider.

11.2 Consortium of European Social Sciences Data Archives – CESSDA

For research collaboration, which crosses borders of a single project, discipline, nation or country, the top down approach, is of great importance. Only organizational and financial support on the national and international level enables development of sustainable services, software and equipment related to assuring long-term access to research data. On the EU level such role is being played by The European Strategy Forum on Research Infrastructures – ESFRI. Through collaborative efforts ESFRI identifies “Research Infrastructures (RIs) of pan-European interest meeting the long-term needs of Europe's research communities across all scientific areas.”² ESFRI landscape defines five research infrastructure fields altogether, including Social & Cultural Innovation, which covers six projects: Consortium of Social Science Data Archives (CESSDA), Common Language Resources and Technology Infrastructure (CLARIN), Digital Research Infrastructure for the Arts and Humanities (DARIAH), European Social Survey (ESS), Survey of Health, Ageing and Retirement in Europe (SHARE).

CESSDA is of a particular value for social sciences, as it coordinates activities of social science data archives across Europe. Its aim is to promote the re-use of research data, and thereby to support national and international research and cooperation. CESSDA achieves its goals collectively through its members facilitating researchers' access to important data resources of relevance to the

2 ESFRI. Strategy report on research infrastructures. Roadmap 2016. Available: <http://www.esfri.eu/roadmap-2016>

European social science research agenda regardless of the location of either researcher or data.

Currently CESSDA membership consists of 15 national state members and 1 observer. The aim is to achieve full European coverage, to strengthen the network and to ensure sustainability of its data for the widened network.³

CESSDA's main activities are:

- To work continuously to include further data sources from Europe and beyond;
- To promote and facilitate wider European countries participation in CESSDA;
- To develop and coordinate standards, protocols and professional best practices pertaining to the preservation and dissemination of data and associated digital objects and to provide training within CESSDA and beyond on best practices.⁴

Within CESSDA, the ADP serves as the national data service provider for the social sciences on behalf of the Republic of Slovenia. At the same time, through CESSDA's partners, the ADP enables Slovenian researchers the access to comparable international and national data from other countries. Inclusion in this international network allows and stimulates the national development of standardised and interoperable services. With its active role and inclusion in the CESSDA international consortium, the ADP can be ranked among the more advanced data services and infrastructures, and through its performance it influences the development of guidelines on the national, European and global levels.

The data archives are naturally inclined to work in close co-operation with one another. Therefore, the ADP expressed a need for collaboration in different projects: early example was EDAN (East European Data Archives Network) that aimed to co-ordinate and share the effort of coping with the development of data archives services in early 2000's. In the period 2015–2017, the ADP is a partner in the project Strengthening and Widening the European Infrastructure for Social Science Data Archives. The project is financed by the EU Framework Programme for Research and Innovation, Horizon 2020, and brings forward new insights into the possibilities of expanding the European infrastructure of social science data archives. For several years now, the ADP has also been actively involved in

3 CESSDA. About Mandate. Accessed by: <http://cessda.net/About-us/Mandate> (1.12.2016), CESSDA. 2014. Statutes for CESSDA Annexes: Consortium of European Social Science Data Archives.

4 CESSDA. About Mandate. Accessed by: <http://cessda.net/About-us/Mandate> (1.12.2016).

bringing about the conditions to set up social science data archives in Balkan countries by participating in the projects such as Support for Establishment of National/Regional Social Sciences Data Archives (SERSCIDA) and South-Eastern European Data Services (SEEDS).

11.3 Cross-Disciplinary Infrastructure Cooperation on National Level

The ADP as a national service provider for CESSDA is motivated to cooperate with emerging research infrastructures on a national level. In the past all different humanities and social science infrastructure partners have been trying to find prospective opportunities for collaboration. The ADP and Inštitut za novejšo zgodovino – Institute of Contemporary History (Slovenian DARIAH partner) have mutual exchanges in promotion of each disciplines data resources across the users' communities and are aiming to provide specialised service access to data that fall in-between the fields, such as historical census based data. The ADP and members of the Clarin.si (national CLARIN consortium) are currently sharing knowledge and tools in translating European Language Social Science Thesaurus (ELSST), which is one of the ADP's obligations to be fulfilled as a national service provider for CESSDA.

11.4 Open Data Activities

Building on its knowledge and international experience in the field of data service and infrastructure, the ADP also actively participates in public debates, cooperates in working groups, organises workshops and consultations, and helps prepare guidelines on access to open data in Slovenia.

Within the framework of the so called 'targeted research project' Open Data (2010–2013), co-financed by the Ministry of Education, Science and Sports of the Republic of Slovenia and the ARRS (The Slovenian Research Agency), the draft Action plan for the establishment of a system of open access to research data financed with public funds and Policies of open access to research data in Slovenia were prepared (Štebe, Bezjak, Lužar 2013). The final aim of the Open data project was the identification of emerging points for the future more elaborated system of access to research data in all disciplines that was based on a realistic assessment of current conditions and potentials identified in the comparative analysis of the situation in Slovenia and abroad.

The action plan foresees the need for an intermediate period for some disciplinary areas to start establishing research data management support services. Active promotion of ideas and clearly expressed willingness of those most accountable for development of science are needed to support their realisation. Only in such a case will the internationally prevailing agreement on the importance of open access to research data be able to spread into different disciplinary and institutional environments. The determination to introduce changes, accompanied by visible support in necessary activities, is a main responsibility of funding bodies and scientific policy makers. But at the same time, support needs to be gained from the representatives of the scientific community, such as professional associations, councils, advisory bodies, the academy of science, heads of institutes, academic publishers, and other reputed individuals. The changes introduced need to be financially effective, FAIR (Findable, Accessible, Interoperable, and Re-usable),⁵ and orientated towards a visible improvement of the quality of the scientific research. Changes also need to be introduced to generate trust in scientific results from the general public's perspective, by providing greater transparency of scientific conclusions, which could be checked using publicly available data.

The creation of research data, its digital curation, and access to these data need a carefully designed dedicated support service infrastructure to be able to fully exploit the potential and thus justify the investments. The research data life cycle encompasses a wide area of dealing with and managing data, starting with planning and creating data, editing, transforming, evaluating and selecting, performing primary analysis, registering and preserving data, and finally discovering data for access and secondary use. (Štebe *et al.* 2015)

In 2015 the Government of Slovenia, as a follow up to the Open data project, officially adopted the National strategy of open access to scientific publications and research data in Slovenia 2015–2020, which defined scientific results as a public good and imposed a requirement that all researchers in research projects, financed with public funds, take the principles of open access to research data into consideration. Putting the Slovenian National strategy into practice is important for the social sciences in particular because all publicly funded research data that is most interesting for secondary analysis will eventually be preserved by the ADP and will become permanently available.

5 <https://www.force11.org/group/fairgroup/fairprinciples>

11.5 The ADP's Main Activities

Each of the following main activities will be further elaborated and discussed:

1. supporting data creators with ingest, data management and open access to research data;
2. providing access to archived research data in the catalogue of ADP for research and educational purposes;
3. providing support in accessing data from official statistics.

1. Data Depositors

The ADP acquires data that are interesting for social science analysis, with emphasis on problems related to the Slovenian society. Priority is given to theoretically significant and methodologically well designed studies, especially data gathered over a period of time and international comparative data that include Slovenia. When acquiring data, the ADP follows certain criteria for inclusion of data in its holdings, designed so as to avoid unnecessary costs of long-term curation if the data is of little value. The main criteria for long-term curation is that data has large potential for re-use.

Criteria that are respected are:

- data has a rich content, it is adequately conceptualized and thematically contributes to the ADP catalogue,
- appropriate methods are used in generating high quality data,
- integrity and adequacy of data and documentation are provided in order to enable further analysis,
- depositor holds the rights to share data and is willing to deposit data to the ADP.

It is a challenge to predict, which topics will be in demand in several years' time. Increasingly narrower segments of users search for particular bits of data that are hidden in some data files. That fore criteria such as the theoretical and applied relevance, the importance of the population, the sample size and methodological rigour, seem like no longer valid for exclusion of a dataset in the catalogue. One way to address this challenge is to include users into the process of evaluation and selection.

If triangulation is becoming a standard for highest quality research, then researchers would need at least a few data sources about a particular phenomenon, each with its own known biases rather than one dataset of perfect methodological quality. This means that data service providers would be advised to preserve the material of a study even if it might have some methodological deficiencies. From

an archival point of view, it is important to secure extensive documentation, where all aspects of methodology and circumstances of the research process that are important for secondary user, are attached to a dataset. An informed use of “not totally perfect” data could still give valid results. The cost of basic storage of data and material that prevents their being lost or damaged, is not so high that it would hinder broader study acquisition. Further processing to make it easier to use and more accessible is to be reserved only for datasets of highest importance. The ADP data catalogue consists of more than 700 studies. Depositors come from all three public Slovenian universities and private sector as well. Among them, the biggest depositor is Niko Toš's CJMMK with more than 200 studies being deposited at the ADP, many of them belonging to the oldest studies in the catalogue. The majority of the studies in the ADP catalogue contain one of the following three areas: politics and welfare systems, society and culture, and social stratification and groupings.

In a wide range data providers still lack knowledge about research data management. Data received can be poorly documented in some cases. The active rather than a passive approach is needed in processing the submissions to derive easy to use data and comprehensive metadata description, available to users. The main job of data service providers is to “add value” to data, including adding indexing and classification at a variable (concept) level that make it possible to find variables in ‘question bank’ for comparative or longitudinal research of the most important national data collections, similar to enhanced data archive services around international comparative datasets.

Data service providers naturally consider data producers as close partners and try to build good relations with them. Training in data management is something that is offered in mutual interest, to ensure that data providers take care to produce proper documentation at the time of data collection. This is cheaper and more reliable than gathering the information afterwards. The primary researcher has to code his (often tacit) knowledge about data in a way to be understandable for other people so as to ensure proper secondary analysis. Also, confidentiality concerns and disclosure control are best considered in the design phase of a data collection project.

Data service providers by their very existence raise standards in data documentation and in quality of reporting details of methodology. To follow practice of a good data management data producers are obliged to make every phase of the process of data construction transparent: calculate and report response rates of a survey, describe the sample plan, make available original instruments, etc. Published figures are offered for scrutiny through additional independent analysis of raw data, so they must be in accordance with it. In exchange, making the dataset publicly available in a data archive raises the

reputation of the research institute that is able to satisfy these high quality requirements and transparent reporting practices.

In order to raise awareness among researchers about proper data management for open access, the ADP took part recently (2014–2015) in an EU project called Facilitate open science training for European research (FOSTER). The aim was to set in place sustainable mechanisms for EU researchers to foster open science in their daily workflow, thus supporting researchers optimizing their research visibility and impact, in line with the EU open access policies.⁶ Within this project the ADP prepared training material and carried out three workshops on the Research Data Management:

- Role of librarians in opening up research data and managing bibliography of researchers (18 June 2014, Ljubljana, Slovenia).
- Preparing research data for open access, Preparation, deposition, preservation (10 December 2014, Ljubljana, Slovenia).
- Research data management and open data (course for doctoral students) (23, 24, 25 July 2015, Ljubljana, Slovenia).

Workshops were video recorded and are freely available on the Internet. Beside these the ADP prepared a Guide for Data Producers: Preparing Research Data for Open Access (Štebe *et al.* 2015), which is freely available under CC licence. Supporting role becomes even more relevant with EU Research and Innovation programme Horizon 2020 Open Data Pilot and new national open access strategy, which requires 'Research data management' plan to be prepared for projects being funded by public money. The ADP thus regularly organizes trainings for data depositors, doctoral students and librarians, aiming to equip them with skills needed to assure long-term curation and data sharing.

2. Access to Research Data

Access to research data enables the further development of research findings and gives incentives for confrontations of diverse interpretations – coming from various theoretical, disciplinary and methodological positions – from which verifiable discoveries may be made through discussions in the scientific community. Data and interpretations of it may only be subjected to criticism when made widely available for analyses of all kinds of problems, and represent a basis upon which new research might be fostered. This creates the foundations for scientific progress. Openly accessible research data, both individually, and when combined with other data, represent an infinite treasure house for different

⁶ <http://www.fosteropenscience.eu/project/>

social sciences and interdisciplinary research. Old data sets are becoming valuable not only for replication and longitudinal comparison; they can increasingly be used in different ways than originally thought to answer new research problems. The most common users of research data and services of ADP are undergraduate and doctoral students, followed by researchers and teachers. Research data and related materials and services are mainly used for writing term papers and carrying out practical work at the courses at the university, as well as for research projects and for writing scientific papers.

As already Scheuch (2003) has observed, there is a concern that as access expands and technology evolves, user's expertise will lag behind. There is no necessity that extended data provision will enhance the quality of scientific production. Additional support is needed for parallel developments in other areas such as programmes that educate about the potential of, and best practice for, secondary analysis. Data archivists can assess, from experience with the type of questions users begin with, the gaps in users' knowledge. It is part of usual job to provide training for users to enable them to access, search, and use the data.

A recent ADP users' satisfaction survey (2015),⁷ aimed to assess the development path of the organization in order to improve the efficiency of its services. The measurement of user satisfaction was combined with other performance indicators and quality measures of the organization. Respondents were generally satisfied with the research data, related materials and services offered by the ADP. The most important among suggestions for improvement was the upgrading of the organizations' website by facilitating searching and easier navigating of available information. Users have expressed a need for more instructions on access and use of research data. The results support recent efforts of ADP of redesigning the web page services for access to research data. Additionally, the survey shows support for the continuous program of training for researchers that the ADP is offering on topics of Research Data Management, and specific target users oriented data usage promotion program. As part of membership in CESSDA, ADP is contributing to the CESSDA training group, which is preparing workshops on data discovery, aiming to raise awareness about data potential in European countries and to strengthen knowledge and skills for using these data.

Experienced data archive users are the best advocates of an advanced use of data services. They possess knowledge about what purposes the data could be used for and about techniques of analysis. Discussion lists, forums and seminars where users can exchange that knowledge among themselves, help educate newcomer. Discussion about problems about particular datasets together with

7 2016. ADP user satisfaction survey [dataset]. Ljubljana: Faculty of Social Sciences, Social Science Data Archives.

representatives of data providers could improve the quality of research and make data more useful. Data archives are, by their position, involved in co-operation with users and data providers that evolve around the most important datasets, such as continuous longitudinal studies and similar projects that are supported from government or other public funds. That co-operation could easily evolve into active exchange of knowledge among members of scientific community. Extended knowledge about how to use data is not something that the data archives staff can offer by itself. Knowledge about a particular dataset and the concepts, techniques and methods around them is highly specialised, complex, extensive and not always easy to understand.

3. Data from Official Statistics

In the period of 2011–2015 the ADP participated in the international project Data without Boundaries (DwB),⁸ funded by the European Commission (FP7).⁹ The main goal of the project was to support equal and easy national and international access to official microdata for the European Research Area. To achieve this, a harmonized infrastructure data access model was developed, irrespective of national boundaries, yet flexible enough to fit national arrangements and support international cooperation. The main emphasis of the project was to improve cross-border access to detailed non-anonymised microdata. The project aims to overcome national, technical, cultural and legislation barriers to use official statistics' microdata for research.¹⁰

As a follow up of that project, extended collaboration with the Statistical office of Republic of Slovenia developed. In parallel with working on processing data and metadata of official statistics, the ADP carried seminars for teachers on topics of employment, with the examples of how to further introduce use of anonymised public use files in classes. This was based on a version of Labor force survey, accessible in the ADP holdings. Recently, the ADP also provides metadata on some register based and survey data produced by the Slovenian Statistical Office. This year, ADP carried out a similar seminar, focusing on educational use of anonymised public use files of a sample of the Slovene Census 2012. Currently, the ADP, in collaboration with renowned lecturers and Statistical Office, is preparing a teaching material, including tailored data set and a textbook, to be used by professors and students, helping them to improve knowledge and skills needed when using official statistics microdata.

8 <http://www.dwbproject.org/>

9 http://ec.europa.eu/research/fp7/index_en.cfm

10 <http://www.adp.fdv.uni-lj.si/eng/projekti/dwb/>

11.6 Conclusions

One of the barriers to open access to data is the desire of data producers to exploit their data more widely, which can be critical in countries where there is a widespread lack of culture of data sharing. Data archives need to respect the needs and interests of data providers and negotiate conditions of access so that those interests are protected. There is always a guarantee given to protect ownership and copyright, which means that secondary users are obliged to include a full citation of the author of a dataset. In some cases, embargo period can be arranged, or data accessibility can be restricted for use in a specified narrower range of purposes (*e.g.* only academic use and not commercial). The scientific community itself can put additional emphasis on ethical concerns about fostering solidarity among scholars, as we know, that secondary analysis is sometimes the only data source for those that are excluded from the main sources of research grants. Even so, a data producer does have a competitive advantage. He or she knows the conceptualisation and the theory behind the data well in advance and has knowledge and skills of particularities of the analysis of that problem area.

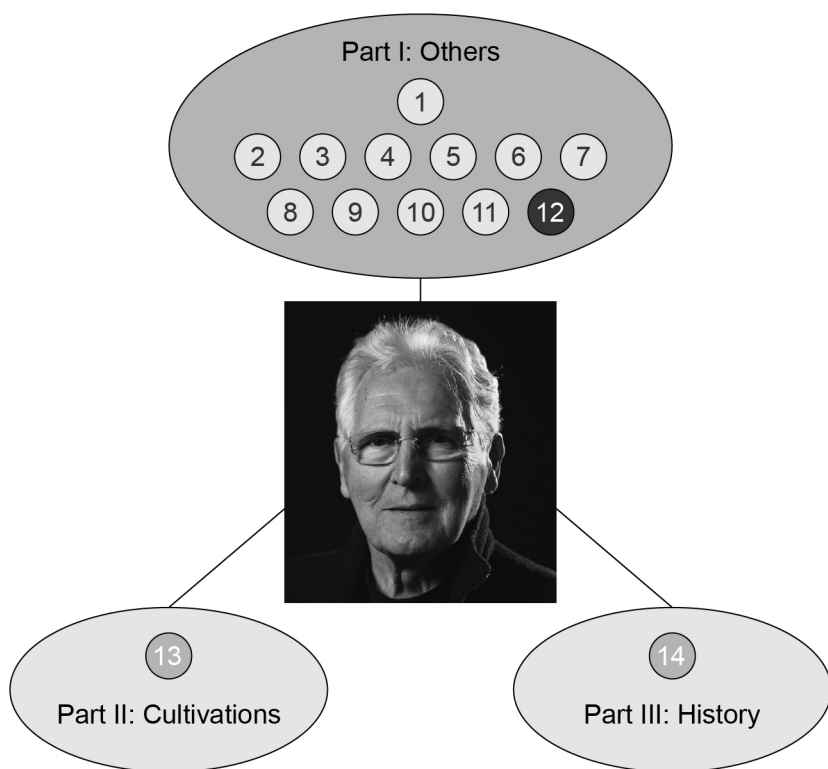
Data archives increase transparency of data and related resources on a national level (what is available), provide professional documentation and support extended usability of resources, including prevention of loss. The quality of research findings could be extended well beyond what is possible by using single data resources. This can lead to a deeper understanding of the ever changing and dynamic nature of social reality in a given society (time and space dimension). The circle of scholars dealing with research on high quality material is extended and thus the full potential of studies is achieved. Multiple views (conceptualisations) of the same data encourage discussion and increase the quality of research findings. Access to original data increases the quality of education; experienced researchers share their skills and tacit knowledge of empirical research. Journalists and the general public have a better chance to use the data resources, if kept and made easily accessible in data archives. International co-operation and access to foreign data archives is made easier; other scholars do have access to local data resources on a global level. National data archive's services are widening knowledge about one society. They attract a wider circle of scholars to deal with the specific situation of one country. The argument behind the decision in the early 1960's when the concept of a network of national data archives was agreed against the possibility of one global data archive (Scheuch 2003) was as follows. National data archives are necessary because they provide integrated social science portal, offering close contact with data providers, they know local clientele, and can organise help for less experienced users about how to find and access appropriate information

elsewhere. Due emphasis should be given to institutional and long term financial and personnel stability of such infrastructure projects, if being treated from a perspective of fostering high quality and efficient research. Data archives assure added value to data that makes possible their further exploitation. Therefore, sustainable organisational environment is needed.

12

My Long and Robust Relationship with Niko Toš

Paul M. Zulehner



We soon realized that the same technique we used in the field of adult education could be applied to children too.

Further experiments taught us that charts and models could be understood by the little ones of four years of age. We were able to make experiments in a Montessori nursery school, where we adapted the subjects in question to the lowest level of knowledge.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

In this short essay I want to focus my attention on the unlikely event of creating a long-lasting and stable relationship with Niko Toš, despite our significant differences within academic disciplines and with respect to our political orientations and general perspectives of the world. For my entire professional life, I was embedded in theological circles and debates while Niko worked as a pioneer for social research and sociological methodology at the Faculty of Social sciences in Ljubljana. This Festschrift for Niko is actually celebrating fifty years of his activities for the Public Opinion and Mass Communication Center at the Faculty of Social Sciences which was founded in the year 1966.

But it was our common interest in promoting empirical studies in the field of sociology of religion which provided a stable platform for our interactions and co-operations which lasted so far for almost twenty years and which will continue to last for the years to come although our scientific productivity, due to our age, will be most probably diminishing and the number of new research projects will approach a zero-level in the years to come.

In this short article I would like to shed some light how our unlikely coming together and our growing friendship could happen at all and how it could survive turbulent political periods,

1989 turned out the most decisive year for Eastern and Central Europe. Forty years of communist domination came to an end. I became Professor for pastoral theology in Vienna in 1984. My research interest was quickly directed towards Eastern Europe and to the situation of the churches in the countries of Central and Eastern Europe. I created a network of scientists with the aim of exploring the development of the religious dimension in the communist-dominated cultures.

The communist ideology emphasized religious freedom. But religion was qualified as "opium of the people" living in poverty and oppression. Therefore, religion will disappear on its own once Communism has abolished poverty. This position was unquestioned. Marko Kersevan criticized with its help Communism itself because he observed a survival of religion. He concluded that Communism

has not defeated poverty. At the same time the communist rulers were enemies of the churches. They were considered collaborators of social conditions that one wanted to overcome.

So I looked for scientists who wanted to work on my research project. A large study in the sociology of religion was planned. In all post-communist countries, the situation of religion and the church should be analyzed. The following main questions were asked:

- What happened to the religious dimension under Communism?
- How did the relationships between the churches and the people evolve during this period?
- And last but not least: How should the churches position themselves in society after the end of Communism?

I produced a first research-design with the Hungarian sociologist of religion Miklos Tomka. With this design, we started in 1997 to look for co-operation partners in many post-communist countries: Lithuania, Latvia, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Croatia, East Germany – and also Slovenia.

Miklos Tomka was acquainted with Niko Toš. He appreciated him and suggested to ask him. Niko agreed immediately. The project was very interesting to him. His commitment was so enormous that Tomka and I promoted him to the group of the editors of the study with the title “Aufbruch” (New departure). The project therefore owes Niko and his staff very much thank.

In the two studies in 1997 and 2007 we found out that the religious dimension under communist pressure has developed very differently in the various countries. Catholic cultures withheld these external pressures better than protestant ones. Three protestant cultures have become largely atheistic cultures: East Germany, the Czech Republic, Estonia. Communist indoctrination turned out to be rather successful.

Slovenia, like Hungary, showed themselves as confessionally mixed. In addition, people separated themselves from their religion during communist times. Some privatized their religiosity, others lived without a belief in god. In modern societies one can observe religious diversity. Ideological monocultures are only possible, if they are enforced by all social agents.

Research in the religious field was important during communist times. The state wanted to know whether religious attitudes are declining and whether religion becomes a dying system of belief. Numbers on membership in a church were also raised as indicators for participation and commitment. The research has been used to accelerate the dying of religion. Among representatives of the churches and their theologians, this created a strong distrust of the sociology of religion

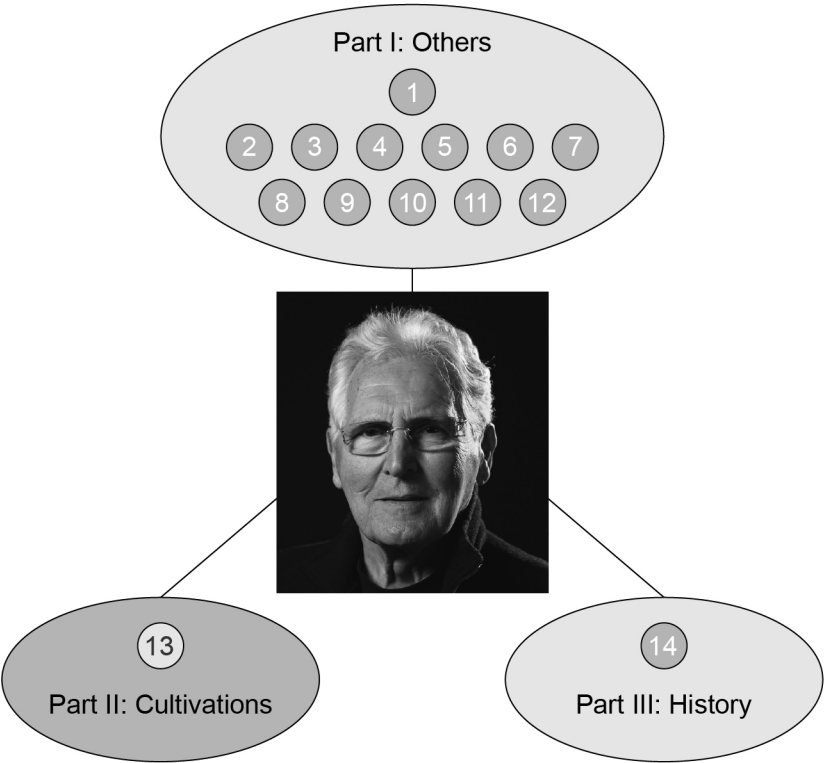
Niko Toš was an important sociologist of religion during communist times. He obtained many research funds. His professional forecasts on the development of religion in Slovenia were not optimistic.

Among my colleagues at the theological faculty in Ljubljana I did not experience pure joy and universal approval with respect to my co-operation with Niko Toš. In general, I can understand their reaction, given the background of the communist era. Part of the resentment against him had and probably still has to do with the rejection of the sociology of religion itself. Part of this distrust is bound to Niko's history and his political views which were far off from their theological horizons. Some considered him a person who worked for the communist system scientifically.

I can look back to our co-operation in the field of sociology of religion in two large studies. I learned to appreciate the scientific integrity of Niko Toš. Miklos Tomka and I never had the impression that one can find anti-religious sentiments or biases in the work of Niko. It was clear to him that theoretical knowledge and political interests often affect one another. But he could separate both. The co-operation in our team supported him in that matter.

Looking back on my almost twenty years of co-operations with Niko I come to realize that while we worked and discussed on matters of the sociology of religion, we interacted on and debated far more topics of political and societal relevance. During all these years our mutual gratitude, esteem and friendship grew as well up to this very day and will flourish well-beyond.

Part II
Scientific Cultivations in Face of Turbulent Times



Psychologists analysed various types of presentation: pictures of smaller or larger human beings representing smaller or larger populations, compared with a smaller or larger number of Isotype symbols representing the same relation. The result: the Isotype technique is better.

Or we wanted to know whether there are particular difficulties for children in showing the years in the verticals and the quantities in the horizontals. The result was that it makes no difference to children.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

The second part of this *Festschrift* offers a dual or a parallel perspective on the evolution of the overall science system and its main differentiations since the end of the Second World War on the one hand and on the complex and diversified achievements of Niko Toš during his long and outstanding academic career on the other hand. It will be astonishing to see that these two processes of widening and differentiations go hand in hand and that Niko Toš was capable to fill a surprisingly large number of the new niches which the evolutionary structural changes and transformations of the general science system offered to be occupied and cultivated.

II.1 Two Basic Transformations of the Overall Science System between the 1950s and 2017

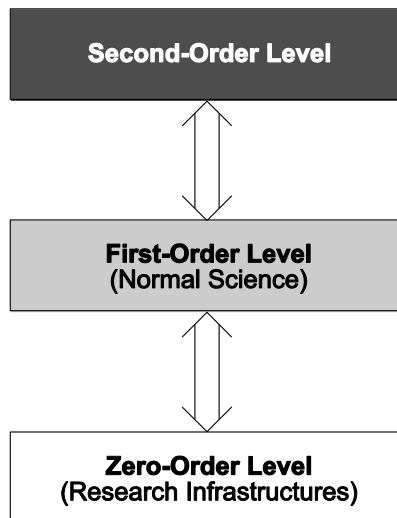
Between the 1950s and today the science system changed in significant ways and it became far more diversified as well as differentiated and it underwent significant structural changes in its cognitive organization. From the infant days of sociology within Slovenia or across Central Europe in the 1950s and the 2010s two very large-scale transformations and shifts occurred within the general science system which had a profound impact for different forms and levels of scientific practices.

- The first fundamental change came about as a level differentiation of the overall science system from a single level system around 1950 to a three levels configuration around 2017, with first-order science, zero-order science and second-order science (see Figure II.1) In broad evolutionary terms and couched in a framework from Herbert Spencer (2009), this level differentiation was the result of a growth from a homogenous to a heterogeneous system where each of the new levels can be characterized

by unique and specific functions. Aside from the traditional or first-order level of exploring the world research infrastructures experienced a significant take off in their institutionalization through the establishment of large-scale operations and organizations. CERN, for example, started its operations with a synchrocyclotron and a proton synchrotron during the 1950s, the nuclear research centre in Jülich in Germany was founded in 1956, etc. But these large-scale facilities were not restricted to disciplines like astronomy or high energy physics. In the 1960s social science data archives appeared on the European science map and observatories moved outside the field of astronomy to the oceans or to the arctic, to name just few and very special places and facilities.

An additional very large-scale widening of levels came as a self-organizing process by scientists themselves to cope with the growing number of studies, tests, results and the like which used similar or identical designs, approaches or explanatory schemes and which differed only in time, space and in research groups from one another. This self-organized reaction can be summarized under a single heading, namely as meta-studies, meta-analysis or, more generally, as second-order analyses and the emergence of a second-order level.

FIGURE II.1 **The main level differentiations within the overall science system**



- The second significant transformation in the overall science system occurred also from the period of the 1940s onwards and this transformation was totally unrelated to the level differentiation, was cognitive in nature and followed the second evolutionary principle from Herbert Spencer, namely form simple to complex phenomena and processes.
Here, philosophers and sociologists of science provided several basic conceptual schemes which exhibited a fundamental distinction between two different types of science and for its organization. Probably the first person to think along these dual lines of science was Friedrich A. Hayek who already in the year 1967 (Hayek 1967) offered a distinction between two types of pursuing science, the one reserved for simple phenomena, the second one for complex phenomena.

TABLE II.1 **Friedrich A. Hayek’s main distinctions between simple and complex phenomena**

Dimensions	Simple Phenomena	Complex Phenomena
Degree of Complexity	Low	High
Measure of Complexity	Small number of Variables	Large number of Variables
Bond between Variables	Causality	Generative Relations
Specification Schema	Laws	Pattern
Mode of Analysis	Covering Law- Model	Pattern-recognition
Prediction	Law-based	Pattern-prediction
Leading Science	Classical Physics	Evolutionary Biology and Complexity Sciences

In 2008, Rogers Hollingsworth and Karl H. Müller (Hollingsworth & Müller 2008) proposed a more general differentiation scheme, culminating in a very long term transformation from the 17th century onwards right to the beginnings of the 21st century from Science to Science II.

TABLE II.2 **A phase transition from Science I to Science II from the 1650s to the 2050s**

Dimensions	Science I	Science II
Leading Fields of Science	Classical Physics	Evolutionary Biology and the Sciences of Complexity
Theoretical Goals	General, Universal Laws	Pattern Formation and Pattern Recognition
Theoretical Perspectives	Axiomatic, Reductionistic	Nested and Embedded Processes
Leading Metaphors	Clocks	Clouds
Core Philosophers	Rene Descartes (Cogito)	Ludwig Wittgenstein (Cogitamus)
Epistemology	Observer Excluded	Observer Included
Ontology	Dualismn (<i>res cogitans/res extensa</i>)	Monism, Self-Organization Capacities
Self-Reference	Excluded	Included
Generative Mechanisms	Trivial Mechanisms	Non-Trivial Mechanisms
Forecasting Capabilities	High	Low
Complexity	Low	High
Perspectives on Change	Linear, Equilibrium	Non-Linear, far from Equilibrium
Distributions	Emphasis on Mild Distributions	Emphasis on Wild Distributions
Potential for Inter-Disciplinary Research	Low	High
Cognitive Distances between the Social Sciences and the Leading Field of Science	High	Medium/Small

This basic transformation from Science I to Science II can be carried on to fundamental changes in research designs as well.

TABLE II.3 **Changes in the theoretical, epistemological and methodological research designs for Science I and Science II**

Methods and Methodology for Research	Science I [Theoretical Physics as Leading Discipline (LD)]	Science II [Life Sciences as Leading Discipline (LD)]
Objects of Investigation	Objects Simple Action Schemes Cognitive Isolationism Single Account Sufficient	Living Systems Embedded Cognition Cognitive Holism Requisite Variety Necessary
Subjects of Investigation	Observer Exclusion	Observer-Inclusion
Interactions (between Subjects and Objects)	Sequential, Linear Equilibrium Dyadic, Asymmetric Forms	Recursive, Non-Linear Eigenforms Triadic, Symmetric Configurations

Obviously, these two basic transformations of the science system brought also profound consequences for the scientists involved who produced and reproduced the overall science system and their transformations.

II.2 The Central Question for Part II of the *Festschrift*

The leading question for Part II asks for the dominant macro-micro patterns which can be ordered along two extreme cases.

- In the first macro-micro configuration, the overall science system experiences a high period of differentiations and transformations whereas an individual researcher stays within a single and unchanging area.
- In the second opposite macro-micro formation the science system experiences a large number of transformations and structural changes and a single researcher exhibits a high degree of correspondence or parallelism in his personal development and these micro-variations follow the macro-changes of the general science system.

It will become the leading question of Part II of this *Festschrift* which of these two macro-micro patterns can be observed with respect to Niko Toš himself.

II.3 Critical Research in Turbulent Times

Finally, the title of Karl H. Müller's article on cultivating fields places a special emphasis on "critical research". At first sight "critical research" could be linked to social research which stresses persistently negative aspects of contemporary

societies, which leans toward a politically left-wing orientation or which tries to follow the former Frankfurt Institute for Social Research and its insistence to promote “Critical Theory” and, consequently, “critical research” (Horkheimer 1967, 1970; Jay 1981; Wiggershaus 2013).

Obviously, “critical research” must be placed in a wild opposition to recent essays on the poverty of criticism (Edlinger 2015) which wants to question the usefulness or the sincerity of critical evaluations or assessments in the fields of literature, music, arts in general as well as in science.

None of these different “critical” contexts applies to Niko’s way of following a line of critical research which is predominantly linked to the era of enlightenment and to Immanuel Kant’s version of a “critique”¹ which is to be understood in the sense of a most general and comprehensive examination, of fundamental differentiations, of basic principles or of primary justifications. Empirical “critical” research on societies and their organization as well as dynamics must be embedded, as in Niko’s case, in a wide variety of fields which in their totality have to become self-supportive and self-enhancing. As Table II.4 exhibits the possibilities for critical research in the traditional enlightenment sense have increased in multiple ways and they comprise, following the two basic transformations of the science system, at least six different areas or domains.

TABLE II.4 **Potential fields for critical research 2017**

	Cognitive Organization of Science	
	Science I	Science II
Second-Order Science	new	new
First-Order Science	old	new
Zero-Order Science	new	new

Table II.4 compares the potential fields for critical research in the year 2017 with the traditional science arrangements in the year 1958 when Niko started his career in the academic world. Within these special standards of comparisons just one of the potential fields for critical social research can be classified as old, conventional or traditional, five of these fields are new for the year 2017, compared to the context of 1958. Due to the emergence of many new science domains or arenas the core question for Part II becomes a completely open and undecided question. Which type of macro-micro patterns prevail, the

1 Between 1781 and 1790 Immanuel Kant wrote three highly influential “Critiques”, namely the critique of pure reason (1781), of parctical reason (1788) and of judgement (1790). See Kant, Werkausgaben.

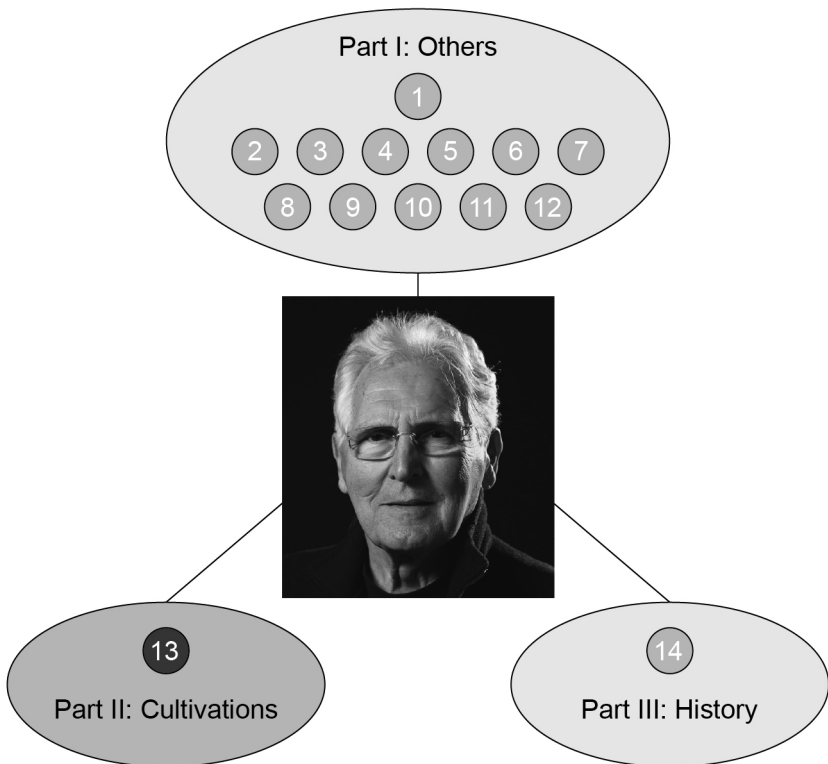
inhomogeneous patterns of macro-micro diversity or the homogeneous patterns of harmonic unfoldings between the macro- and micro-spheres?

Aside from the leading question of Part II it will become an additional target to show the different forms and means to pursue critical research under present conditions.

13

Niko Toš and the Unfolding of Science Domains: Cultivating Diversity or Coherence?

Karl H. Müller



The speed of the performance of a film or of a set of slides is the same for the whole audience and anyone who does not grasp a certain point cannot turn back the pictures as in a book or walk back as in an exhibition.

Posters and exhibitions, therefore, are not merely a poor substitute compared with films, the most modern achievement. They have educational qualities of their own, just as films have – both documentary films and animated diagrams.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

In the introduction to the second part the main problem or the leading question for the academic life of Niko Toš and, thus, also for his *Festschrift* was phrased as a search for the adequate patterns of macro- and micro-relations between the general science system (macro) and an individual life course in science (micro). But even an identical leading question for adequate pattern formations across different science dimensions and contexts leads to entirely different questions which require context-specific answers.

Thus, the leading question for Part II can be separated into at least three independent problems in the same way of diversity and coherence formations. An answer to a specific context in terms of diversity or coherence has no consequences whatsoever to the appropriate answers across other dimensions or contexts.

More specifically, this article will pose three independent questions for pattern formations in terms of diversity or coherence, namely

- the regional rankings between social science production and social science research infrastructures and potential patterns of diversity and coherence involved within this specific context
- the cognitive contexts of differentiations across science fields and across an academic life course in terms of diversity or coherence
- the critical aspects in the overall scientific production and the adequate patterns of diversity or coherence formations within the dimension of criticality.

All three answers cannot be given *a priori*, simply by looking or analyzing the in-depth materials of Part III of this *Festschrift*. In principle, each of the answers to the three leading questions or problems could be presented along two opposite focal points.

- The first macro-micro configuration can be qualified as a pattern of diversity in which the overall, larger or macro-system experiences a rapid period of differentiations and transformations whereas a micro-system or a single researcher stays unchanged and unmoved within a single and stable domain.
- The second opposite macro-micro formation can be categorized as coherence in which the general, the large or the macros-system experiences a large number of transformations and structural changes and a micro-system or a single scientist exhibits a high degree of correspondence, coherence or parallelism in her or his personal development and these micro-variations follow the macro-changes of the more general system.

It becomes the central topic for the present article to offer definite answers to the three leading questions of diversity or coherence in the case of Niko Toš' academic career as well as his scientific outputs over a very long academic life.

The main differentiations and principal unfoldings of the science system between the 1950s and the present time were presented already in the introduction to Part II, namely from Table II.1 to Table II.4 as well as in Figure II.1. From this figure and from these four tables it becomes transparent that the overall science system transformed itself between the 1950s and the present time from a single domain configuration to a multi-level ensemble with at least three levels or arenas.

13.1 The Regional Rankings between Social Science Production, Social Science Research Infrastructures and Niko Toš: Diversity or Coherence?

Before being able to offer an adequate answer on the appropriate macro-micro patterns in the case of the first of the three leading questions for Niko Toš two more general conceptual issues must be addressed, namely

- first, the main regional differentiations and separations across societies as well as in the overall science system and its sub-systems like the social sciences or the social science research infrastructures and
- second, the positions and trajectories of the Slovenian science systems in these processes of the *très longue durée*.

At first sight the first of the three leading questions falls under the category of so-called undecidable questions whose charm lies in their necessity to be decided by us.

Only those questions that are in principle undecidable, we can decide (von Foerster 2003:293)

At second and third sight, however, we will follow a long and winding road to come to an effective decision procedure to the first of the three leading questions, despite its seemingly hopeless configuration.

Following a meta-narrative from four visionaries of societal evolution, namely from Karl Polanyi 1957, 1977, 1978 & 1979, Joseph A. Schumpeter 1934 & 1950, Immanuel Wallerstein 1974, 1979, 1980 & 1984 and, finally, Fernand Braudel 1981, 1982 & 1986, a highly complementary vision¹ of the regional differentiations of societal evolution over the last five centuries can be identified which should provide a useful basis for contemporary discussions on regionalizations as well as periodizations.² Following this meta-narrative on the societal evolution of societal evolution, nations, states, national systems like the national system of health or national innovation systems (Lundvall 1992, Miettinen 2002, Müller 1996, Nelson 1993 or Vuori et al. 1994) can be composed of two principle components, namely of

- specific actor network formations and
- a corresponding knowledge base (Müller 1998, 1998a, 1998b and 1999)

and can be clustered regionally into three world regions, namely into

- core areas,
- semi-peripheral regions and
- peripheral regions.

These systemic as well as regional groupings can be undertaken for a wide variety of national ensembles or networks like the national labor and employment system, for a national cultural and artistic system and for numerous other systems.

As a consequence, the overall science system as well as major partitionings of this general science system such as scientific research infrastructures or other major components of the total science system like the social sciences, the natural sciences, the humanities, the medical sciences or the technical sciences can be grouped both systemically as well as regionally as well.

From Table 13.1. to Table 13.3 one can derive two groups of important assertions on the long-term evolution of

- specific actor networks and
- their corresponding knowledge bases

1 Complementarity can be seen among the four authors by referring to Joseph A. Schumpeter as the visionary of the inner mechanisms of economic evolution, to Karl Polanyi as the propagator of a dual societal evolution between an economic system and a societal 'protective belt' and, finally, Immanuel Wallerstein or Fernand Braudel as the originators of a global capitalist diffusion history from the early 16th century onwards.

2 On some of the fundamental problems in this area, see especially Aveni 1989.

which, in combination, will build up the long-term spatial 'skeleton' for the regional clustering of the overall science system, the social sciences as well as the system of social science research infrastructures.

First, the basic difference between societal formations before 1450/1500 and the world-system emerging in an irreversible manner during the 'long' 16th century should be seen in the rapid evolution of global economic networks with limited local controls at the national levels only. In other words, self-organization and self-regulation have established themselves as the principal ways of societal differentiations and evolution, coordinating not only the production and flows of goods and services, but also of labor, land and the environment.

Second, the world-historic turn towards self-organizing markets does not start late in the 18th or even 19th century but should be viewed, following the analyses of Immanuel Wallerstein and his school or, alternatively, of Fernand Braudel, as an emerging process from the early decades of the 16th century onwards. With the death of Charles V. in 1531 at the latest, the modern world system had reached its supra-critical stage³ upon which no reverse trajectory back to redistributive formations had been in the reachability of the ongoing market-evolution.⁴ Moreover, the central regions of the world system in North-Western Europe were in the process of becoming economically stronger integrated and interlinked.⁵

Third, a global process of economic integration can be observed, differentiating the external regions of the world system either in a semi-peripheral or, most frequently, into a peripheral position and role. This global absorption process has seen some spectacular 'big spurts' and upward-mobility from external to semi-peripheral and, finally, to core status like the case of Japan or from peripheral to semi-peripheral level like the big jump of South Korea after 1945. Surprisingly, no downward mobility of significant dimension can be recorded

-
- 3 It would be an extremely challenging research task to introduce the metaphorical notions of supra- and subcriticality to the market developments in the Mediterranean region, centered around Venice, Genoa, etc. around the 12th and 13th century and the subsequent pattern in North-Western Europe, especially between Northern France, the Netherlands and the Southern and Middle parts of the British Empire. The most interesting problem in this area has to do with the question whether essential systemic indicators can be identified which would indicate subcritical and supracritical masses for a successful and expansion-driven market-development. (See especially Greif 2006 or Mielants 2007)
 - 4 The United Kingdom especially after 2016, after its exit from the European Union, could become the first significant example for a long downward-process from the core into a semi-peripheral position.
 - 5 For a similar evolutionary or developmental vision, see also Pollard 1981 or Rostow 1978.

within the evolving world system since the core regions of the 16th century still belong to the core or to important semi-peripheral areas of the world system five centuries later.

Fourth, a final remark must be reserved to the future developmental potential of the economic world-system. According to Tables 13.2 and 13.3, the half millennium or so of global evolution through self-organizing markets which for the last seventy-five years has entered the stage of transnational evolution possesses a vast array of upward trajectories giving rise to new forms of global stabilization too. Looking back to two historical periods, one important feature of the evolving world-system must be particularly emphasized.

- On the one hand, a closer inspection of the second half of the 19th century reveals the existence of global stabilizers like, following Karl Polanyi, the gold-standard, the liberal state as well as an international equilibrium of great powers (Polanyi 1978:59pp.).
- On the other hand, in the thirty years following 1945 the world-economic ensemble stood under the heavy influence of a *pax americana*, free trade and the Bretton Woods arrangement⁶ which have come into existence within a self-propagating market system.

Thus, it should be viewed as highly probable that in the future, too, new global mechanisms, preferably in an enlarged global institutional framework, will accompany the ongoing transnational evolution and the resulting high horizontal mobility of production processes around the globe. The Great Transformation will continue its great transformations.

Having, thus, specified the long-term sequences and stages, an additional remark must be reserved for its regional boundaries and limitations. In short, one may postulate that the subsequent conceptual schemes with markets, protective belts and a co-evolutionary ensemble can be safely applied to a multiplicity of levels, starting from a global perspective down to a national or regional one down to the level of towns, communities or settings. The lower limit is clearly marked by problem areas where the entangled networks of markets and protective institutions become irrelevant for the problem areas under investigation like many issues in micro-sociology.

In several publications (Müller 2000, 2002) the unusual claim was put forward that the general scheme for regional differentiations of nations, states or specific national networks or systems can also be used for separating societal knowledge bases globally. Societal knowledge bases, too, can be separated into

6 For a summary see Block 1977 or Steil 2013.

- core societal knowledge bases,
- semi-peripheral societal knowledge bases and
- peripheral societal knowledge bases.

Following, thus, a common system of regional distinctions can be put forward which was proposed initially by Immanuel Wallerstein and his colleagues within the world systems approach for socio-economic network formations and nation building at the actor network-levels from the long 16th century onwards (see also Wallerstein 1989, 1991, 1995 & 2004). This tripartite system can be used both for systems, networks and states as well for societal knowledge bases on a global or worldwide scale.

Aside from these regional differentiations for economic systems or nations as well as their corresponding societal knowledge bases, an analogous regional distinction can be drawn for different aspects of the science system and its different regional types and distributions.

TABLE 13.1 **Main Evolutionary Stages in the Great Transformations of Societies and Their Knowledge Bases**

Main-Stages in Knowledge-Based Societies	
Reciprocal Societal Formations	Distributed Knowledge Production
Societies under Dominance of Personal Exchanges	Knowledge Bases under no Formation of Special Institutions
↓↓↓↓↓	↓↓↓↓↓
Redistributive Societal Formations	Centralized Knowledge Production
Societies under the Dominance of a Central Political System	Knowledge-Bases under the Dominance of a Central Knowledge Generating System
↓↓↓↓↓	↓↓↓↓↓
Capitalist Societal Formations	Capitalist Knowledge Production
Societies under the Dominance of Markets	Knowledge Bases within Complex Networks and Markets

TABLE 13.2 **Main Evolutionary Stages in the Great Transformations of Capitalist Societies**

Capitalist Transformations		
	<i>Initial Phase I: 1450–1600:</i>	<i>Irreversible Expansion</i>
	<i>Initial Phase II: 1600–1760:</i>	<i>Consolidation</i>
The Regional Capitalist Differentiation Story		
Gradual integration of reciprocal as well as redistributive societal formations; Global differentiations into Three Distinct Regions: <i>Core Regions, Semi-peripheries</i> and <i>Peripheries</i> . Specific Development Patterns in each of the three global regions, reaching from major differences in the world-trade relations to significantly different roles and capacities of national governments or to different compositions with respect to socio-economic status-groups or classes; Appearance of global networks for coordinating and balancing the world- system, leading i the very long run to the development of global organizations; Emergence of Turing societies as a new societal formation, the rise of cognitive, semi-intelligent and intelligent machines and production systems with a growing potential of replacing human labor, spectacular growth in societal infrastructures, especially with respect to information infrastructures, etc.	Global Diffusion (1760–1920)	
	<i>Industrial Revolution:</i>	1760–1820
	Prosperity	1780/90–1820
	<i>Global Diffusion:</i>	1820–1913/20
	Depression	1820–1842/50
	Prosperity	1850–1870/73
	Depression	1873–1893/96
	Prosperity	1896–1913/20
	Transnational Evolution and the Turing Era (1920–2017ff.)	
	Depression	1920–1938/48
	Prosperity	1948–1966/73
	Depression	1973–1993/97
	Prosperity	1997– ???*)

*) For the special choice of periods, the selections have been undertaken with respect to the common upper and lower boundaries of “long swings”. On this point, see especially Freeman 1983, 1986, Freeman & Soete 1994, 1996 or Kleinknecht 1987.

TABLE 13.3 **Main Evolutionary Stages in the Great Transformations of Capitalist Knowledge Bases**

	Knowledge-Base Transformations
The Global Knowledge-Base Transformation History	<i>Initial Phase I: 1450 – Irreversible</i> <i>1760: Expansion and Consolidation</i>
Gradual integration of distributed as well as centralized knowledge bases; Global differentiation into three distinct regions with respect to the (re)production and to the accessibilities of local or global societal knowledge bases: <i>Centres, Semi-peripheries and Peripheries.</i> Specific development patterns in each of the three global regions in the area of knowledge-bases, ranging from differences in regional knowledge traditions to different roles and capacities for knowledge production at the level of firms and markets; Differential access to the societal knowledge bases in cognitive core-areas; numerous phase transitions from local knowledge traditions and “subversive” knowledge against the established forms of components within cognitive core-regions; Emergence of knowledge-based societies, decisive steps toward a globalized knowledge production capable to integrate both the global and the local knowledge traditions, etc.	Towards Global Distribution (1760–1920) Industrial Revolution: 1760–1820 <i>Global Diffusion: 1820–1913/20</i> Gradual Recombination of R&D and Firms through Firm-Specific Research Laboratories Transnational Evolution and Digital Knowledge-Bases (1920–2017ff.) “Little Science” to “Big Science” Ensembles: 1920–1950 Machine Code as a New and Fourth Layer of Knowledge-Bases (1950–2017ff.) New Stage, due to a New Embedded Code System (Machine Code) or to the Integration of Products of Symbolic Codes into the Machine Coding System, etc.

The first regional separation will be undertaken with respect to the overall or general science system in its cognitive and organizational totality (See also Bornschier 1994, 1996, Bornschier & Suter 1992).

- Core regions of the overall science system: In the first instance, scientific production within core regions is highly distribution-oriented, setting the standards of the state of the art within specific fields of inquiry elsewhere, too. Judged from a ‘scientific balance of international exchanges’, the core science regions are predominantly diffusion driven, exhibiting a global

diffusion potential but being highly selective, in turn, with respect to science production, research programs as well as research traditions elsewhere. Following Hollingsworth & Müller & Hollingsworth 2008, Great Britain from roughly 1620 to 1730, France from about 1735 to 1840, Germany from approximately 1848 to 1933 and the United States after 1945 can and should be classified as the core scientific production centers and as 'science superpowers' during these long-time intervals.

- Semi-peripheral regions of the overall science system: For the second type, a genuine mixture between core features and peripheral features can be recorded, since semi-peripheral science production shows areas of high global competence with a correspondingly high diffusion potential as well as research fields with predominantly receptive features only.
- Peripheral regions of the overall science system: The third regional type, finally, is mainly reception driven, exemplifying a high reception potential but being only marginally reproduced and recombined in other regions. Once again seen from an 'international balance of scientific exchanges', the peripheral regions are characterized by a local diffusion potential only, although they are, albeit with a certain time lag, to reproduce the state of the art-standards set in core or semi-peripheral science regions.

A similar spatial differentiation (see also Babones 2005, Hopkins & Wallerstein 1980, 1996) can be drawn for the social sciences as an element of the overall science system as well.

Core regions of the worldwide social sciences: In the first instance, knowledge production in the social sciences within core regions is highly distribution-oriented, setting the standards of the state of the art within specific fields of inquiry elsewhere, too. Here, the core knowledge base is diffusion driven, exhibiting a global diffusion potential but being highly selective, in turn, with respect to social science knowledge bases and social science research programs or social science research traditions elsewhere.

Semi-peripheral regions of the worldwide social sciences: For the second type, a genuine mixture between core features and peripheral features can be recorded, since semi-peripheral social sciences show areas of high global competence with a correspondingly high diffusion potential as well as social science research fields with predominantly reception-based characteristics only.

Peripheral regions of the worldwide social sciences: The third type, finally, is mainly reception driven, exemplifying a high reception potential but being only marginally reproduced and recombined in other regions. In terms of exchange patterns, the peripheral social sciences are characterized by a local

diffusion potential only, although it is able, albeit with a certain time lag, to reproduce the state of the art-standards in the social sciences set in core or semi-peripheral regions.

Finally, a third regional separation can be drawn for the research infrastructures in the social sciences and humanities⁷ (See also Chase-Dunn 1982, 1984, 1991 & 1992).

- Core regions for research infrastructures in the social sciences and humanities: In the first instance, knowledge production for research infrastructures in the social sciences and humanities is highly distribution-oriented, setting the standards, heuristic guidelines and the hegemonic classifications for other regions, too. The core research infrastructures in the social sciences and humanities exhibit strongly asymmetric patterns of diffusion, showing a global diffusion potential but being highly selective, in turn, with respect to standards, research programs and research traditions for research infrastructures in the social sciences and humanities elsewhere.
- Semi-peripheral regions for research infrastructures in the social sciences and humanities: For the second type, a genuine mixture between core features and peripheral features can be recorded, since semi-peripheral research infrastructures for the social sciences or humanities demonstrate areas of high global competence with a correspondingly high diffusion potential as well as research infrastructure fields with predominantly receptive features only.
- Peripheral regions for research infrastructures in the social sciences and humanities: The third type, finally, is mainly reception driven, exemplifying a high reception potential for research infrastructures in the social sciences and humanities but being only marginally reproduced and recombined in other regions. Once again, the peripheral knowledge production for research infrastructures in the social sciences and humanities is characterized by a local diffusion potential only, although it is able, albeit with a certain time lag, to reproduce the state of the art-standards and research programs initiated in core or semi-peripheral regions.

With respect to the long-term dynamics and the evolution of the overall science system and its subsystems in the Slovenian context a series of major long-term co-evolutionary patterns can be identified for the specific dynamics within Slovenia as well as globally.

⁷ Following the ESFRI-classifications, the social sciences as well as the humanities will be grouped as a single entry with respect to their corresponding research infrastructures.

- For the long-term dynamics between the three different science ensembles, namely the overall science system, the social sciences as well as social science research infrastructures, family resemblances (Ludwig Wittgenstein) between these three components cannot be taken for granted. Instead, the starting point must lie in the assumption of patterns of strict independence between these three science components worldwide and no traces of ecological fallacies are involved in these multi-level analyses and patterns.⁸
- Despite the avoidance of ecological fallacies an overall coherence pattern can be observed with respect to the relations and dynamics of the social sciences on the one hand and of social science research infrastructures on the other hand from the 1950s or the 1960s onwards, after research infrastructures in the social sciences were more and more embedded within the global science system.
- Turning more specifically to the Slovenian situation, knowledge production in the social sciences never left its peripheral status during the period from the late 19th up to the end of World War II. The social sciences in Slovenia within the former Austro-Hungarian Empire as well as in former Yugoslavia up to the 1950s exhibited the characteristic status of a peripheral type.
- After the 1960s the Slovenian social sciences left their peripheral status and moved to semi-peripheral trajectories, due to the participation in many European or US-based projects and initiatives especially in empirical social research and due to the powerful role of the Faculty of Social Sciences at the University of Ljubljana which became the hegemonic center for the social sciences in Slovenia.
- Within the Slovenian context the social science research infrastructures and the social sciences were linked to a stable virtuous cycle mainly by the initiatives and activities of Niko Toš from the 1960s onwards in which the high level of activities in the node of empirical social research within the social sciences were accompanied by corresponding initiatives in the social science research infrastructure node, round and round.

With these regional separations for special segments of the global science system as well as the main dynamic patterns and trends in Slovenia this article is capable of providing a definite answer to its decisive first leading question on the macro-micro patterns and whether they follow the focal point of macro-micro diversity or of macro-micro parallelism.

8 On ecological fallacies and their far-reaching implications, see, e.g., Freedman 1999, Goodman 1953 & 1959, Lubinski & Humphreys 1996, Robinson 1950 or Rose 1973.

For Niko Toš the first leading question can be phrased in a rather unusual way which, however, has a unique comparative advantage because this problem can be decided effectively.

For Niko Toš and his life-long scientific work in the social sciences and in social science research infrastructures, what are the dominant regional rankings between his overall social science productions as macro-domain of and his productions in social science research infrastructures as micro-component?

After the long conceptual explorations for regional differentiations within science and society the answer can be provided that we can observe a general pattern of coherence and definitely not of diversity. More details for justifying this answer can be offered in Part III of this *Festschrift* which shows the enormous achievements of Niko Toš in both areas and the high levels of coherence between them.

13.2 The Differentiations of Science Domains and Niko Toš' Publications: Diversity or Coherence?

The second leading question must be answered completely independent from the first one and must be answered, in principle, in a totally different manner. But the answer to the second leading question for this article has been given although probably no reader of this *Festschrift* has noticed it. Already in the section of the Acknowledgements for this *Festschrift* a strong hint was offered on the wide thematic variety in the publications of Niko Toš which clearly transcend any specific disciplinary boundaries and other restrictions.

13.3 Cultivating Critical Research across Science Domains: Diversity or Coherence?

In one of the earliest studies on the similarities between the Vienna Circle and its focus on logical positivism and the Frankfurt School and its emphasis on Critical Theory (Müller 1985) a surprising conclusion was reached that both groups exhibit a strong coherence, despite all blatant diversities. Even at second glance such a result was totally counter-intuitive, especially for the year 1985, just 25 years after the so-called debate on positivism (Positivismusstreit) and despite the very powerful articles by Max Horkheimer pr Herbert Marcuse against logical positivism and the Vienna Circle (Horkheimer 1937, 1937a, Horkheimer & Marcuse 1937). But the main argument for a strong coherence was not based on writings, on research designs or on surface appearances, but

on similarity of contexts, on the history of reception and on socio-economic counterparts or wider effects.

But a similar argument for strong coherences can be established in the case of Niko Toš and his writings as well who reached and surpassed relevant critical thresholds in all his writings, simply by being there and simply by keeping a clear and straightforward course despite turbulent times and a large number of wildly different contexts.

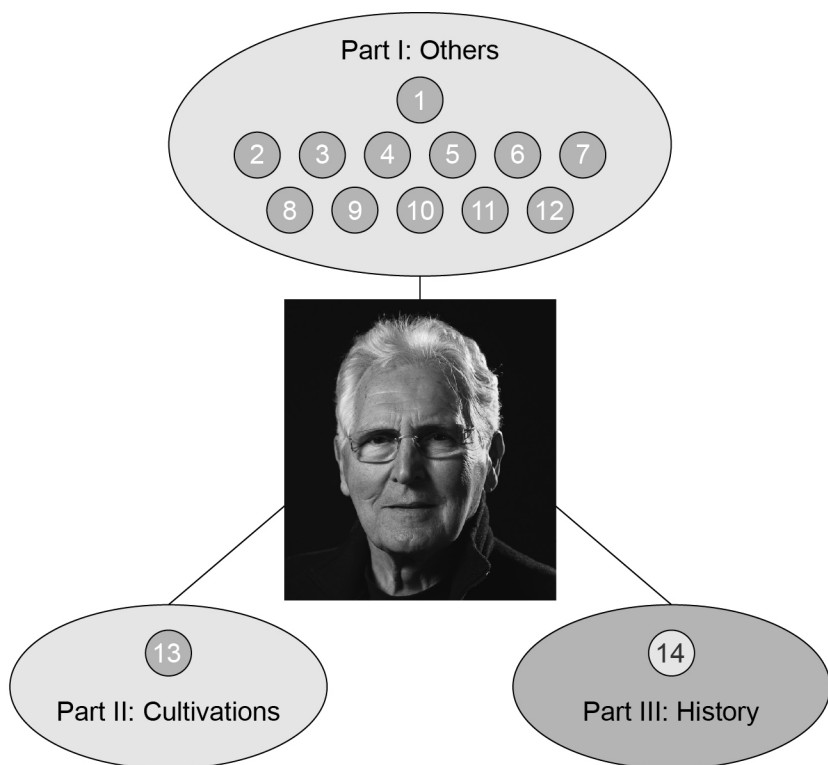
13.4 Cultivating Diversity or Coherence? Three Identical Answers

At this point we can present the results for the three independent leading questions which can be summarized as coherence across or despite different contexts. Niko Toš was not only capable of lifting empirical social research in Slovenia to a respectable semi-peripheral range, but moved the social science research infrastructures to a coherent level as well. Quite independently his outputs exhibit a remarkable diversity and scope which differs significantly from his initial focus on a small research field only, namely empirical social research. Finally, Niko Toš can also demonstrate growing critical abilities throughout his publications which reached this critical quality due to their different contexts across decades.

It becomes most probably the strongest compliment for an active scientist for more than six decades that all his outputs and publications can be qualified as strongly coherent across major dimensions or perspectives.

Part III

Achievements and Milestones of Niko Toš



This acknowledgement of the peculiarities of different fields of visualization is of great importance. One should avoid ranking them all together and giving relatively high or low marks to each. They all have different qualities that cannot be combined into a whole and given a single index number.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

The third part of this *Festschrift* presents a very detailed overview of the academic career of Niko Toš and its major milestones and achievements in terms of research projects and publications from the very beginnings in the late 1950s nearly up to the publication year of this *Festschrift* in 2017. This overview is based, once again, on a small set of rules and principles which can be summarized in the following manner.

- First, Part III presents the academic career of Niko Toš in chronological order whereas Part II provides more of a structural ordering which is based on two transformations within the science system itself.
- Second, Part III is strongly focused on all sorts of publications from journal articles, or empirical studies up to national or international books, in short on all sorts of accessible research outputs.
- Third, this part of the *Festschrift* relies on the unique Slovenian science documentation system COBISS (Cooperative Bibliographic System and Services in Slovenia) and its record for individual researchers.
- Fourth, Part III aims at completeness and at a complete recording and documentation of Niko Toš research and publication activities.
- Fifth, Part III can present also the original Slovenian names and the Slovenian titles of studies, articles, research reports or books.
- Sixth, Part III presents the academic career of Niko Toš within the context of the Slovenian as well as the former Yugoslavian science system whereas Part II is centered on the long-term evolution and dynamics of the global science system, its differentiations and its unfoldings.
- Seventh, and finally, Part III places Niko Toš career at least partially into the wider contexts, changes and transformations of Slovenia and the Slovenian society. The overall title of this *Festschrift* and its focus on ‘turbulent times’ reflects itself in the in-depth documentation of chapter 14.

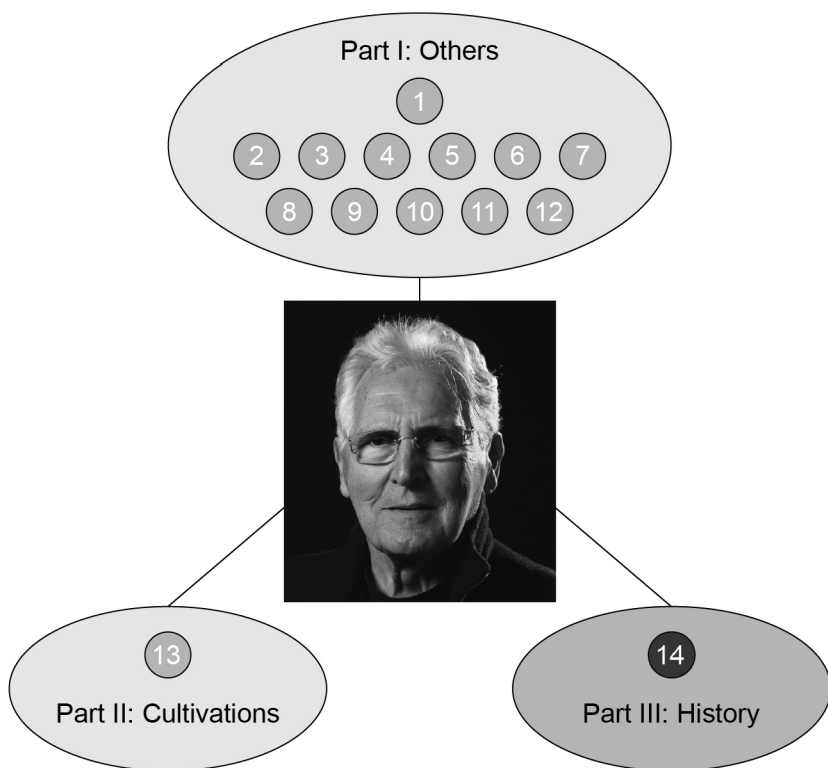
With Part III of this *Festschrift*, a logical endpoint has been reached because the center of this publication has been described from multiple perspectives and

in multiple contexts in Part I, was embedded in the general evolution of the global science systems and its unfoldings and differentiations in Part II and was presented in his publications and achievements in a strictly chronological order within his local Slovenian home base.

14

Niko Toš, Pioneer for the Social Sciences and for Social Science Research Infrastructures in Slovenia

Tine Hribar | Zdravko Mlinar | Veljko Rus



Isotype leads to the presentation of events stripped of superfluous details by means of an international language-like technique. Training people to deal with the mass of material in a documentary photograph also leads them to the international visual environment of modern man. Experience with pre-literate tribes and with children has shown how difficult it is to attract the attention of the audience to a definite point in the picture, for example in a film. The multitude of details very often does not permit the audience to concentrate on the very point the lecturer thinks important.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

Section I: Presentation of Research and Teaching Activities, 1958–2015

Niko Toš (born in 1934)¹ belongs to the group of scholars that founded Slovenian academic, pedagogical, and research sociology. Even as a law student, while he was working in the judicial system, he shaped a critical attitude towards independent activity in justice administration and, after being encouraged by his professor Jože Goričar (1958),² he dedicated himself to sociology.

1 After finishing secondary education with the so called “matura” final examination (1953), Toš enrolled in the Faculty of Law in Ljubljana, got married and started regular employment in autumn 1955 (working as a declarations clerk, an invoice clerk, and a statistician), and, after receiving a grant from the national public prosecution service as a student, he started working there in the autumn of 1956, and in 1957 and 1958 he performed the role of the public district prosecutor. After graduating (in 1958) he abandoned his work in law, was accepted for postgraduate study in political sciences at the Institute of Social Sciences in Belgrade, which he abandoned due to illness in his family, and shortly thereafter became involved as an aspirant and assistant in the work of the University of Ljubljana’s newly founded Institute of Sociology and Philosophy. In the 1960/61 academic year he taught the subject Introduction to Social Sciences to three successive groups of natural science students (Faculty of Natural Sciences and Technology). In the 1961/62 academic year he began teaching the course Methodology of Social Research full time in what was the university level Ljubljana School of Political Sciences at that time, where he received full employment on January 1st, 1963. He obtained his master’s degree with the thesis *Vidiki socialne diferenciacije in zavest o njih* (Aspects of Social Differentiation and Awareness of Them; Faculty of Sociology, Political Sciences and Journalism, 1977) and his doctoral degree with the thesis *Politična zavest in angažiranje* (Political Consciousness and Engagement; Faculty of Sociology, Political Sciences and Journalism, 1986). He retired as a full-time professor and researcher at the Faculty of Social Sciences in 2014.

2 Jože Goričar (1907–1985), professor of sociology, Faculty of Law, University of Ljubljana.

Toš' over fifty years of teaching and research activity in the social sciences, particularly in sociology, can be summed up and evaluated in several thematic intersections.

1.1 Entrance into the Social Sciences

During his short research stay in the postgraduate programme in political sciences at the Institute of Social Sciences in Belgrade Toš met and made connections with prominent social scientists from the Belgrade, Zagreb and other Yugoslav university centres.³

After starting his work at the University of Ljubljana's Institute of Sociology (ISU, 1960), he participated in planning its first research projects, carrying out the first applied media research project, called *Nedeljski dnevnik* (Sunday News 1961),⁴ and especially in planning the first (and still most comprehensive) empirical research study in sociology and communication science in Slovenia and Yugoslavia, "Sredstva množičnega komuniciranja na Slovenskem" (Means of Mass Communication in Slovenia, MKS 1962).⁵ The MKS study represents the starting point for the entire later development of sociological research in Slovenia. During this period and later, the Belgrade sociological school could be identified as social-philosophical and Marxist, and the Zagreb sociological school as systemic-theoretical. In contrast, the Ljubljana sociological school had the characteristics of both, and can be in summary defined as a critical sociological-empirical school. It was Toš' activity, in addition to that of other scholars, that typically contributed to this, with research projects that he planned and headed from the mid-1960s until the end of the 1990s.

3 He met important Yugoslav social scientists, professors Rudi Supek, Vojin Milić, Ljubomir Tadić, Zagorka Golubović, Dragoljub Mičunović, Eugen Pusić, Ivan Kuvačić, Mladen Zvonarević, Dušan Breznik and a number of active younger social scientists that he worked with as a colleague and a researcher in the decades to follow.

4 Along with professors Stane Saksida, Mišo Jezernik, and Tine Bratina.

5 In empirical research, its sociological research on the media and culture was based on a representative stratified sample ($n = 12,000$; Marjan Blejec), was the Yugoslav debut in this area, and provided an important methodological experience for the group of researchers that worked on it (Stane Saksida, France Vreg, Marko Peršič, Mišo Jezernik, Ana Barbič, Niko Toš and others).

I.2 The Beginning of Teaching and Research Work: The First Proposal for Public Opinion Research, and for Establishing Methodology as a Subject

In 1962, Toš was invited by professor Lado Vavpetič, at that time the director of the Faculty of Law, Institute of Public Administration, to prepare a public opinion research programme for supervising work in public administration.⁶ The programme prepared by Toš was based on the research experience of the Marienthal Group (Lazarsfeld *et al.*), on contemporary German research experience (professors René König, Erwin Scheuch 1962) and on the methodological handbooks by professor Rudi Supek (1960 and professor Vojin Milić 1962). These resources were also efficiently used in his simultaneous design of education programmes because in the autumn of 1961 he was invited to participate by the management of the newly founded Ljubljana School for Political Sciences (VŠPV). He took on the tasks of preparing the academic programmes for the subjects Methodology of Research in Social Sciences and Sociology of Public Opinion.

Since 1962, Toš' activity has been closely connected with the development and activities of the institution that developed from the original VŠPV⁷ into the University of Ljubljana's present Faculty of Social Sciences (FDV).

As a teacher of sociological research methodology, he first prepared a teaching tool (in 1964) that he gradually developed and published as a textbook (*Methods of Research in Social Sciences*, 1975, 1976, 1978, 1988, 1997). He contributed significantly to the formation of the academic programmes that opened up the School to scholarship; he consolidated its methodological teachings, and in 1964 he started to systematically introduce students to research work. Among other things, he developed additional programmes for methodological education of sociologists. Toš formed a firm standpoint towards the necessity of relating teaching to research, and together with his colleagues actively supported the idea of founding a "social sciences centre" that would include the fundamental disciplines in social sciences; namely, sociology and political and communication sciences as related pedagogical and research programmes.⁸

6 The idea for this kind of research study was brought by Lado Vavpetič from his study stay in Paris, where he had met two prominent professors and researchers Maurice Duverger and Jean Stoezl who was the director of the French Institute for Public Opinion (IFOP) at the time.

7 The abbreviations denote this institution's growth in teaching and research, that is, its academic growth since the time it was the VŠPV, which Toš's activities importantly contributed to. The proof of this is also in his reception of two faculty awards (FDV 1981, 2009).

8 This was also his standpoint in the study commission of the Slovenian Sociological Association (1966) which decided that the study of sociology would be carried out by the VŠPV, which eventually resulted in the establishment of the Faculty of Sociology, Political Sciences and

I.3 Development of Research: The Slovenian Public Opinion Programme (SPO)

Toš made an essential contribution to the establishment and growth of the research pillar of today's Faculty of Social Sciences: he prepared the idea for the first research unit, known as the Public Opinion and Mass Communication Research Centre (CJMMK), which was established in the autumn of 1966. For almost fifty years, Toš ran the CJMMK as its head (1966–2014). From 1979 to 1989 and from 1999 to 2002, he ran the Research Institute of the Faculty of Sociology, Political Sciences and Journalism (RI FSPN) and the Institute of Social Sciences (IDV), respectively, as its director, and oversaw the growth of the newly emerging sociological disciplines and their grounding in research. Under his management, the institute developed to become the central Slovenian institution for research in the social sciences, and it was further strengthened and expanded when it merged with the Institute of Sociology (1990). This and the extensive renewal of the academic programmes completed during his term as dean (1989–1991), were expressed in new names: Faculty of Social Sciences (FDV) and the Institute of Social Sciences (IDV).

Throughout this time, Toš' research activity was focused on CJMMK, particularly on its Slovenian Public Opinion programme (SPO), which he founded in 1966/67 and ran from 1968 onwards as a longitudinal research programme. On its twentieth anniversary, the SPO programme was evaluated by Bogdan Osolnik and Slavko Splichal,⁹ who highlighted some basic characteristics of its twenty-year course. They found that not only were SPO surveys oriented toward research on topical political and economic events in Slovenia, Yugoslavia, and the world, which was mainly typical of contemporary American and Western European public opinion surveys, but at the same time these surveys were and still are seen as a long-term, systematic, empirical grounding of social science disciplines. They found that it was no longer possible to even imagine the development of certain disciplines without the Slovenian Public Opinion Surveys (SPOS). The disciplines that they listed as empirically grounded by the SPOS include the sociology of religion, inter-ethnic relations, culture, sports, social structure, stratification of mobility, political culture, parties, mass media, values and international relations. They also found

Journalism (FSPN). These endeavours are also reflected in Toš's role during the takeover of the ISU Library and the formation of the unified Jože Gorjanc Library of Social Sciences and Documentation at today's Faculty of Social Sciences (FDV).

9 Estimates by Bogdan Osolnik and Slavko Splichal, written in 1990 as a review of the SPO project, are summarised here from their introductory text in the volume *Values in Transition I* (N. Toš, ed., SPO Documents, 1997:840 pp).

that the beginning of the public opinion research in Slovenia marked the period of the consolidation of sociology's academic institutionalisation. Although globally, especially compared to the Western world, SPOS did not represent a revolutionary innovation, their distinct value lay in representing a critical developmental impulse in the context of the ideologisation of the social sciences, which was typical of all socialist societies.¹⁰ The evaluators found that after twenty years of its development, the SPO project was defined by two key dimensions: methodologically it was inseparably linked to the development of empirical research in Slovenia, and from the aspect of its research subject (politically significant opinions) it was most closely linked to the creation of realistic possibilities for the development of democratic society. Even back then, the evaluators emphasised the significance of the SPO project as the largest database in the social sciences covering the longest time period, which classifies SPOS among the most important databases of this kind in Europe. Within a twenty-two-year period, data on practically all dimensions of the material and intellectual development of Slovenia and the Slovenians that could be collected through surveys were collected, systematically processed, and thoroughly documented within the SPO project. The evaluators pointed out the SPOS's exceptional significance for methodological education in under- and postgraduate programmes. In their opinion, the logic and necessity of introducing computer science into the social sciences was grounded (1970) by the SPOS in Slovenia, and in turn the significance of methodology, statistics, information science, and so on in the social sciences. Up until today, Toš as the holder of the SPO project made the greatest contribution to this kind of establishment of the project and to its further development.

I.4 Methodological Growth of the SPO Project

From 1968 to 1990,¹¹ when it was headed by Toš, the SPO project methodologically grew and its content was developed. This was done through the essential contribution of the SPO core research team, consisting of professors at the FSPN and FDV including Peter Klinar, Zdravko Mlinar, Zdenko Roter, Cveto Trampuž and Boštjan Markič. Within the project, a group of some seventy additional highly qualified researchers and professionals was formed and they performed

10 In Eastern European communist countries, research on public opinion or empirical sociological research in general was prevented and blocked, or even abolished; for example, in Czechoslovakia after 1968. The fate of research in Serbia and Croatia was similar.

11 The growth during the SPO project in terms of content is described in books *Values in Transition I* (N. Toš, ed., SPO Documents, Ljubljana 1997:840 pp) and *Comparative Social Science* (N. Toš, ed., SPO Documents, Ljubljana 2001:444 pp).

demanding methodological and logistical tasks. Those involved included a large group of social scientists, sociologists, political scientists, economists, information scientists and statisticians, as well as large groups of students that participated in shaping the thematic foundations of individual surveys, their methodological grounding and execution. Among the early researchers that were first employed at the CJMMK, thirteen received faculty ranks and became university instructors or researchers at the Faculty of Social Sciences and other social science faculties or became experts in various national institutions in Slovenia. The development of teamwork within the SPO project is an extraordinary example of long-term successful co-operation of a large number of social scientists in a single project. The credit for this goes to Toš.

Early on, during the late 1960s, the SPO project showed the need to develop statistical-analytical computer-information science knowledge and attract experts. Answering the needs of the SPO project and the developing specific disciplines in sociology, and in political and communication sciences, a programme in social science statistics and computer science was consolidated and the information science programme was developed at the faculty. Toš contributed significantly to this development. Together with professor Zdravko Mlinar, Toš detected the need for empirical data to be systematically kept and openly accessed. Following European models,¹² Toš founded the Social Science Data Archive of the Faculty of Social Sciences (*Arhiv družboslovnih podatkov*, ADP), which has been characterised ever since as an important infrastructural activity in social sciences. The CJMMK programme was the first direct “user” of computer services. Together with the mathematician professor Cveto Trampuž, Toš planned and founded the Computer Centre (*Računalniški center*, RC).¹³

I.5 Growth of SPO Programmes

The evaluation by Osolnik and Splichal mentioned above points to the significance of the SPO longitudinal programme for the establishment and growth of the developing specific directions and disciplines in social sciences. This is particularly evident in the following fields:

- Sociology of religion. In the very first SPO survey (1968), together with professor Zdenko Roter, Toš implemented the idea of research on religion,

12 *Zentral Archiv für Empirische Sozialforschung* (Central Archive for Empirical Social Research), Cologne, headed by Erwin Scheuch and Ekkehard Mochmann.

13 The RC was the first institution of this kind at a social science faculty in Yugoslavia and beyond. The RC's operation enabled the development of empirical research and strengthened the idea of the faculty programmes' expansion to information science within the social sciences.

consolidating and expanding this research. Over the decades, a unique database was formed that provides a source for analysing the secularisation processes and attitudes to church and religion that were conducted by prominent Slovenian social scientists of religion.¹⁴ The topics in the science of religion along with the SPO's analytical opportunities, particularly after its inclusion in the European and World Value Surveys, also encouraged Toš to conduct a series of analyses in religious studies in 1990 and publish them as articles and volumes,¹⁵ placing him among the important researchers in religious studies. His activities in this field are acknowledged by the fact that he was invited into the research group (professors Paul Zulehner, Miklós Tomka, Toš) that conceived of the extensive empirical religious studies and pastoral-sociological project "Religion and Church in Eastern (and Central) Europe",¹⁶ known for its book series *Gott nach dem Kommunismus* (God after Communism).

- Social structure, social stratification, mobility and migration. Although all of these aspects sporadically appeared during the SPO's longitudinal programme, due to their outstanding social topicality and significance for sociology these thematic fields were also expressed within the SPO programme as extensive autonomous basic empirical research studies. The first among the projects studying social structure was headed by academy member, professor Jože Goričar in co-operation with Toš. In the early 1970s, the project "Sociological Aspects of Emigration, Emigrant Social Inclusion and Return in the Home Country" was conceived and run by Toš (as its primary co-ordinator) together with professors Peter Klinar and Stane Saksida.¹⁷

This is an example of systematic theoretical and empirical research on international migrations of Slovenians, and at the same time of a project that transmitted its findings to the relevant professional and social-political institutions in employment and migration. For several years, the project was

14 Professors Zdenko Roter, Marko Kerševan, Marjan Smrke, Vinko Potočnik, Srečo Dragoš, Sergej Flere, Aleš Črnič and others.

15 N. Toš, ed., *Images of Church and Religion*, SPO Documents, Ljubljana, 1999, 232 pp

16 The survey resulted in publishing a book series entitled *Gott nach dem Kommunismus* (God after Communism) in eight extensive volumes, which was jointly published by Toš together with Paul Zulehner and Miklós Tomka within the Pastoral Forum of Vienna.

17 The project took place under the working title "Slovenians in the Federal Republic of Germany" and was based on the stratification model, which included extensive empirical research studies carried out among Slovenian workers in West Germany, those that returned to Slovenia, and among those known as "pairs". The initial project later developed into the "Action Programmes of Guidance for Slovenian Remigrants from the FRG".

used as an outstanding “training ground” in research for sociology students within the course on methodology and the related research seminar.¹⁸

The same thematic context also includes the study that took place in the mid-1980s titled “Class Structure of Contemporary Yugoslav Society” (*Razredna bit sodobne jugoslovanske družbe* 1986). The study was conceived by professors Peter Jambrek, Vlado Goati, Ivan Šiber, Vladimir Obradović and Toš (as its primary co-ordinator). It is a comprehensive study and was the very last all-Yugoslav sociological empirical research study, built on a class/stratification theoretical starting point and planned to include representative samples of adult residents of all the republics and regions (of the former Yugoslavia) based on a comprehensive standardised sample.¹⁹

- Sociology of sports. Toš joined the implementation of research studies in sports and physical activities by including extensive operationalisations of Slovenians’ physical and sports activities in the SPO surveys. Based on the SPO data, the multivariate analyses within the stratification model (professors Krešimir Petrovič, Stane Saksida, Konstantin Momirovič) formed the basis for a new discipline (kinesiology) to be established and studied in Slovenia.²⁰
- Culture. Various aspects of cultural activities and cultural “consumption” are present throughout in the longitudinal conception of the SPO project. Within the SPO programme, the “Books and Readers” thematic research study was planned and conducted by Toš, Gregor Kocijan and Darka Podmenik. The project continued for several years and its results are presented in several books and publications. The SPO programme was also extended to the observation of theatre and cinemagoers, concertgoers (music and attitudes toward musical genres), visitors to museums and exhibitions, and the observation of other aspects of culture.

18 An extensive corpus of publications from the project is collected in the series *Migrations*, and in a large number of study documents, bibliographies, research reports, monographic publications, articles, and books, and also in the form of papers and articles published abroad. The entire body of material from the study “Slovenians in Germany” was published in the first part of the book *Values in Transition IX* (N. Toš, ed., SPO Documents, FDV IDV, Ljubljana 2014:9–308).

19 The project document of the study written by the members of the research team mentioned above in cooperation with a wider circle of advisers was published as a book (in Serbo-Croatian). Information about the study, the project and the analyses conducted along with a complete review of the findings shown by republics and regions are published in the second part of the book *Values in Transition IX* (SPO Documents, FDV IDV, Ljubljana 2014:309–578).

20 The proof of this lies in a series of publications issued in joint publications by what was then the Faculty of Sport, University of Ljubljana and the Public Opinion Research Centre at the Faculty of Social Sciences University of Ljubljana.

- The sociology of space. Spatial aspects, values in spatial planning, attitudes to housing conditions, views of urbanisation, the rural-urban relation and so on were first defined by Zdravko Mlinar and Toš in the 1969 SPO survey. Within the SPO programme, the spatial aspect is especially expressed in the study “People’s Opinion about Road Network Development”, which, while aiming to be an applied study, broadly encroaches into the field of spatial sociology.²¹
- Sociology of healthcare and medicine. At Toš’ initiative, aspects of health and attitudes to healthcare and doctors appear early on in the SPO programme. This thematic complex was formulated by Toš into comprehensive research studies based either on his team’s own operationalisation or through following foreign models.²² This is his original contribution to the development of the sociology of health. The analytical and publishing results of this direction in research are collected in books²³ and a series of articles.
- Criminology. In the 1980s, as part of its research on values, the SPO survey also sporadically included observations of attitudes towards repression, the understanding of the repressive role of the state and, later in the 1990s, observations of attitudes towards corruption, discrimination and mobbing.²⁴
- Topics in political science. by far Toš’ largest contribution lies in the formulation, inclusion and analysis of aspects of political science within the longitudinal basis of the SPOS, and in conducting thematic studies in this field. In its very starting point, the SPOS project included research on the relation between citizens and the political system. These surveys observed individual aspects of this relation, such as participation in the system (self-management), the attitude to and participation in social and political organisations, particularly in the League of Communists, the understanding

21 N. Toš, Z. Mlinar, *People’s Opinions about the Development of the Road Network in Slovenia* (CJMMK, FSPN 1973:158 pp). The study was planned by Toš and Mlinar together with Mišo Jezernik and Stane Saksida. The subject of this study appears in a number of analyses and records, and is described in a special CJMMK publication. Because the study took place during the “road scandal” and included probing Slovenian public opinion on this, the publication of its findings, which showed that most Slovenians supported further highway construction, triggered sharp political reactions to and criticism of the researchers.

22 K. H. Müller, *Social-Medicinal Research Study*, Institute for Advanced Studies, Vienna.

23 N. Toš, B. Malnar, *Social Aspects of Health*, SPO Documents, Ljubljana 2002, 238 pp; K. Müller, B. Malnar, S. Kurdija, *Health and Medicine in Transition*, Edition Echoraum, Vienna, 2014.

24 These aspects were included in studies by Toš after he discussed them in co-operation with experts from the Institute of Criminology at the Faculty of Law, Ljubljana (Katja Vodopivec), the Commission for the Prevention of Corruption (Drago Kos), the Clinical Institute of Occupational, Traffic and Sports Medicine (Metoda Dodič-Fikfak) and others.

of the role of the state and a number of other aspects and views of the functioning of the socialist system.²⁵ All of this found an adequate expression in analyses and publications.²⁶ At Toš' initiative, the SPO survey strongly supported the emancipation current and the civic movements of the 1980s, particularly from 1986 to 1991, which resulted in Slovenia gaining its independence. The SPO surveys documented the dominant critical views of the socialist system and its social conditions.²⁷ Especially worth mentioning in this regard are the early SPO surveys (1969, 1971) that observed the public attitude to certain systemic (constitutional) foundations, such as its attitude to the maximum land ownership limit (the "agro-maximum"), the attitude to private property and private production, trade and service activities based on it, the attitude to political organisations, the political representation system, and so on. Interference with these topics through research triggered sharp political criticism and obstructions of the normal course of the research work in general and the SPO project in particular.²⁸ Findings and analyses from this period are recorded in several volumes.²⁹

With the transition to new social and systemic conditions, the central area of Toš' research included the democratisation processes and their institutional stakeholders. He selected and defined new aspects of political science and methods in its research: the understanding of the role of the state, the formation and expression of political interests, political organisation, the attitude to and trust in institutions of the democratic system, political parties, party preferences, elections and election preferences, the understanding of the division of power, the attitude to the parliament and the government,

25 Within the context of the political sciences, this can be illustrated by the study written by Josip Županov and Toš, *Opinions of Slovenian Economists about the Assertion of Constitutional Principles Regarding the Associated Labour and the Right to Past Work* (CJMMK, Ljubljana 1973:85 pp).

26 One of the earliest studies of this kind includes *Access to Information, Viewpoints and Participation of the Members of the Communist League of Slovenia* (N. Toš et al., Ljubljana 1968:242 pp). Other publications: N. Toš et al., *The Slovenian Pulse*, Public Opinion 1988–89, RI FSPN, Ljubljana 1989, 383 pp; N. Toš et al., *Slovenian Public Opinion 1987*, Delavska enotnost, Ljubljana, 104 pp.

27 During the 1970s in a political altercation at the FSPN (Veljko Rus, Tine Hribar, Vladimir Arzenšek, Janez Jerovšek, Vlado Benko, Zdenko Roter, France Vreg, Niko Toš), Toš was sharply critically assessed as a bearer of "bourgeois methods and theories in research and teaching".

28 The time course of the surveys implies the withdrawal, during the early 1970s, of the SPO programme's financial resources needed for fieldwork.

29 N. Toš, ed., *Slovenian Challenge*, SPO Documents, Ljubljana 1992, 235 pp; N. Toš, ed., *Slovenian Challenge II*, SPO Documents, Ljubljana 1994, 313 pp, etc.

trust in the judiciary, internal security, the attitude toward the police, international security, the attitude toward the military and so on. Therefore his research during this period focused on the democratisation trajectories in Slovenia in the European context. All of these aspects found their relevant expressions in analyses and publications by Toš, particularly in the books *Zaupanje v vlado* (Trust in the Government; co-authored with Max Kaase and Kenneth Newton), and *Vrednote Slovencev in Evropejcev* (Values of Slovenians and Europeans; co-authored with Veljko Rus), and in volumes edited by Toš: *Values in Transition (Vrednote v prehodu I–VIII, 1997–2014)*.

- Defence studies and other topics. Apart from the topics listed above, the SPOS supported research on defence and military science. As early as the 1970s and 1980s, a series of research studies on topics in this field was planned by Toš within his SPO research team (with Zdenko Roter). During the 1990s (and continuing today), this course of research was expanded with the longitudinal concept of research on military science and security issues (international and national security, the understanding of the role of the military in new social circumstances, the attitude to military profession, and similar), creating the empirical basis for research within the Defence Studies Research Centre at the FDV.

This set of topics also includes research on the attitude towards ecological problems and ecological awareness.³⁰ Also relevant are examples of research on infrastructural programmes, such as “Slovenians’ Opinions about the Development of the Electro-Energetic System”³¹ and the “Opinions about the Development of Road Network”.

1.6 SPO: Inclusion in International Comparative Social Sciences Programmes and Projects

In 1990/91 Toš succeeded in including the SPO programme in all central international comparative social science research programmes. Until the 1990s, the SPO was only limited to Slovenian territory (exceptionally to Yugoslav territory). After gaining independence and entering the space of international comparative research, Slovenia found a place in the sociological atlas of the world for the first time. The findings of research studies from Slovenia conducted by Toš are indexed in all important world databases. With Toš’ major personal engagement, the SPO research group was included in the following international social science networks:

30 N. Toš, ed., *Ecological Soundings*, SPO Documents, Ljubljana, 1993, 159 pp

31 C. Trampuž, N. Toš, *Standpoints on the Development of the Electro-Energetic System*, SPO Reports, Ljubljana, 1984, 222 pp

- International Social Survey Programme (ISSP 1991)
- World Value Survey (WVS 1991)
- European Value Survey (EVS 1991)
- The Comparative Study of Electoral System (CSES 1996)
- European Social Survey (ESS 2002).³²

All five of these international projects form the basis of a number of analyses, studies and publications. Noteworthy here are especially the publications within the book series *Values in Transition*³³ and the key thematic and methodological analyses and studies.³⁴ All the international projects listed taking place longitudinally: ISSP annually, ESS biennially, WVS and EVS every five years and CSES after each parliamentary election.

Typically they are methodologically rigorous and thematically very broad. It is to the credit of Toš and his team that all these projects take place within the CJMMK/FDV and are run and carried out by a single research team, which is a unique example in Europe. Headed by Toš, the CJMMK became the most important national centre for comparative research in the social sciences in Europe.

Moreover, Toš has participated in a number of other international research programmes and groups, among which the following should be highlighted:

- Political Orientations in Central and Eastern Europe; this survey was conceived and took place in 1991 (repeated in 1998), and was headed by professors Hans-Dieter Klingemann, Samuel Barnes, László Bruszt and a number of other social scientists.
- Religion and Church in Eastern and Central Europe; the survey was conceived by professors Paul Zulehner, Miklós Tomka and Toš under the auspices of the Pastoral Forum, Vienna.

32 All of these projects were initially, and then over many years, nationally coordinated by Toš. In the case of the ESS, he participated in planning the research study within the European Scientific Foundation (2000) and was the first member of the SAB, as well as a long-term member.

33 The ISSP project is described in the book *Values in Transition VII* (N. Toš, ed., Ljubljana 2013:844 pp), the WVS and EVS projects are presented in the book *Values in Transition VI* (N. Toš, ed., Ljubljana 2012:594 pp), the ESS project is described in the book *Values in Transition V* (N. Toš, ed., Ljubljana 2012:578 pp), and the CSES project is outlined in the book *Values in Transition VIII* (N. Toš, ed., SPO Documents, Ljubljana 2014:658 pp).

34 V. Rus, N. Toš, *Values of Slovenians and Europeans*, SPO Documents, Ljubljana, 2005:461 pp; K.H. Müller, N. Toš, eds., *Three Roads to Comparative Research: Analytical, Visual and Morphological*, Edition Echoraum, Vienna 2009:536 pp.

- Euromodule; Quality of Life Research. Toš was included in the research team by the initiator of the research, professor Wolfgang Zapf, the former director of Wissenschaftszentrum für Sozialwissenschaften Berlin (Social Science Center Berlin).³⁵

His experience in international comparative research was comprehensively described and evaluated by Toš together with his colleagues in the book *Comparative Social Science* (Primerjalno družboslovje, co-edited with Karl H. Müller, SPO Documents 2011:444 pp).

I.7 Methodological and Organisational Innovations

During the many years of carrying out the SPO project, Toš introduced and guided the implementation of a number of methodological and organisational innovations. This is primarily reflected in

- His successful application and development of the social survey concept
- Developing sampling procedures
- Adoption and application of new methods of complex statistical analysis
- The gradual transition from the written questionnaire (PAPI) to computer-assisted (CAPI) interviewing
- Planning and building a telephone studio as a basis for telephone-assisted research (CATI)
- Testing the possibility of using online surveys in empirical research

Within his SPO research team and supported by professor Cveto Trampuž, Toš established the first telephone-assisted survey studio in Slovenia; telephone survey tests were carried out from 1990 to 1995. After the studio was built and equipped with adequate software support, Toš planned (and from 1995 to 2014 headed) the SPOS project investigating public attitudes towards topical circumstances and events in Slovenia. During this period over 150 telephone surveys were carried out,³⁶ mainly in topical aspects of political sociology (satisfaction with the political system and living conditions, attitudes toward and trust in key institutions of the system, support for the government and its measures, party preferences, left-right orientations, selected topical aspects of political events etc.). In the past twenty years, the research that took place under the working title Politbarometer strengthened contacts between the researchers

35 The bases and findings of all three projects are outlined in the book *Values in Transition VIII* (N. Toš, ed., SPO Documents, Ljubljana 2014:658 pp).

36 From 1995 to 2014, the surveys (CATI) based on the telephone directory samples included over 120,000 respondents.

and the media or political community, which aroused much interest as well as rejections. As the coordinator of the survey, Toš regularly reported on individual monthly measurements to the public at press conferences, and forwarded the summarised impressions to interested parliamentary groups in the Slovenian National Assembly (*i.e.*, the Parliament). The comprehensive body of data from this twenty-year research project is the subject of integrated documentation and evaluation procedures that are now in progress and will be concluded in 2016.

1.8 The Significance and Relevance of the SPOS as a Historical Source

The fifty-year course of empirical research in public opinion and the SPO project (1968–2014) offers specific meaning and weight to the comprehensive research material. The Slovenian historian professor Peter Vodopivec wrote his view of the SPOS results in an informal evaluation and record based on his review of the first four books from the *Values in Transition* series. “The SPOS results also open up completely new possibilities and perspectives for historical research. Four volumes³⁷ of the collected and published material encompassing the period of over two decades that saw Yugoslavia sinking into its final crisis and the disintegration of the Yugoslav socialist system, and almost two decades of post-communist changes and life in independent Slovenia, first enabled the researchers to follow, over a longer period of time, the changes in the political, public and social atmosphere, attitudes, determinations and values of the population, relations between various social groups, viewpoints of politics, political elites and political conditions, and so on, and to follow them with relative security, and on the basis of documents. In this light, for whoever may write about these more than four decades of (Slovenian) history today, or conduct research on their diverse developmental aspects, the findings of the public opinion surveys are an indispensable and priceless resource. As a historian I literally cannot imagine research on the recent history without relying on them.”

1.9 The Values in Transition Book Series

Toš succeeded in planning and carrying out an outstanding documentary and publishing project by publishing research material from all the surveys he headed within the CJMMK from 1968 to 2014. The *Value in Transitions* series³⁸ is his

37 In 2014, volumes eight and nine of the *Values in Transition* series were published, with volume ten currently in preparation.

38 The *Values in Transition* book series from volume one (1997) to volume nine (2014) is included in bibliography in the appendix.

own original idea reflecting his understanding of the researcher's responsibility to the professional community and general public, and to over 115,000 participating respondents and over 1,000 interviewers in the SPO surveys from 1968 to 2014.

I.10 Book Editing Activities

In his publishing and book-editing enthusiasm, Toš did not limit himself to publishing his own texts or texts created within the SPO programme. In 1972 together with professor France Vreg he participated in setting up the Sociological and Political Sciences Library, Obzorja Maribor Publishing, within which twenty-four books in the social sciences were published. In 1990, together with professor Tine Hribar, he planned the programme for the Scientific Library of the FDV, which he then headed as the editor. So far it has published sixty-one research volumes, mainly comprising research texts by his younger colleagues. Toš is the editor of the book series *Reflections*, representing the best works of Slovenian column journalism and research journalism, so far publishing four books, with an additional two in preparation. In co-operation with professor Paul Zulehner (Vienna) and professor Miklós Tomka (Budapest), he edited eight books on the sociology of religion and pastoral sociology published under the joint title *Gott nach dem Kommunismus* (God after Communism; Schwabenverlag, Ostfildern, Germany). As the primary co-ordinator of the project *Slovenians in Germany*, he launched the publication *Migrations*, which was published in thirty-six issues during the course of the project. With Karl H. Müller (Vienna), he participated in editing the sociological book series in the *Echoraum* programme (Vienna). Toš served as a member of boards and councils of editors for various social science journals.

I.11 Work in Professional Associations and Other Public Institutions

The distinguished reputation enjoyed by Toš as sociologist in the academic community and in the Slovenian and Yugoslav professional community is reflected in a number of prominent roles he has played:

- He was the founding member of the Slovenian Sociological Association (SSD 1965) and the Slovenian Political Science Association (SPD). In the SSD he was first active as its vice-president (1965–1969) and then as its president for four terms (1969–1977). This was the period of the “years of lead” for Slovenian and Yugoslav sociology, which stretched into the early 1970s. Toš succeeded in maintaining the SSD's operations mainly through organising scholarly conferences. The most important conferences include the *Determinants of Social Development* (Maribor 1971) and *Social*

Conflicts and Socialist Development of Yugoslavia (Portorož 1972). The latter was planned by professor Zdravko Mlinar, the then president of the Yugoslav Sociological Association (JUS) along with professor Veljko Rus and Toš, who was responsible for the preparation for the most important Yugoslav sociology conference ever.³⁹

- He was a member of the research council of the International Sociological Association (ISA, Research Council; 1983–1987).
- As the vice-president of JUS for two terms (1975–1979), Toš co-operated with professor Rudi Supek, the president, in running the JUS during a period of a sharpened political criticism against the work of sociologists and institutions in the field. In 1981 he was elected president of the JUS, with professor Veljko Rus as vice-president (two terms: 1981–1985). Toš and Veljko Rus managed to reconnect Yugoslav sociologists and position their critical analyses in public space. This is particularly reflected in their carrying out two key events:
 - A roundtable with the topic “Contemporary Yugoslav Society: Sociological Dimensions of Crisis and Ways of Exiting from It” (1982). The event was jointly organised by the Faculty of Sociology Political Sciences and Journalism’s Research Institute, and it triggered sharp political responses judging sociology as “crisology”.⁴⁰
 - The second central event (1983) initiated by Toš and Veljko Rus took place in Portorož and was jointly organised by the JUS and RI FSPN. It examined the topic of integration and disintegration processes in Yugoslav society.⁴¹ The event had a broad Yugoslav (political) and international response, and it further exacerbated the relations between sociology and dogmatic politics.
- As its director, Toš worked at the University Development Centre in Ljubljana (CRU) (1974–1979).⁴² During his work for the CRU, along with the collective (of psychologists and sociologists), Toš consolidated the programme offering counselling for and guidance into the professions which require a degree in higher education. He participated in planning the unified

39 The materials from the event were published in three volumes: *Social Conflicts and Socialist Development of Yugoslavia* (vols. 1–3, JUS, SSD, Portorož 1972).

40 N. Toš, ed., *Contemporary Yugoslav Society: Sociological Dimensions of Crisis and Ways of Exiting from It*, JUS, RI FSPN, Ljubljana 1982.

41 V. Rus, N. Toš, eds., *Integracioni i dezintegracioni procesi u jugoslovenskom društvu* (Integration and Disintegration Processes in Yugoslav Society), JUS, RI FSPN, Ljubljana 1983.

42 Toš was invited to run the centre by academy member professor Janez Milčinski, rector of the University of Ljubljana at that time, and later the president of the Slovenian Academy of Sciences and Arts.

information system for enrolment in Slovenian higher education, worked within spatial development efforts at the University of Ljubljana, particularly in relation to the Social Sciences Centre, and placed the CRU in international research by addressing the impact of higher education socialisation (the Form project). Through their work within this project, three collaborators with the CRU attained faculty ranks as university instructors in pedagogy, sociology and information science.

- From 1999 to 2002, Toš was a member of and the president of the Council for Science and Technology of the Republic of Slovenia. This period saw the conclusion of a year-long debate about the legal regulation of research, and work on preparing a programme for the long-term development of research in Slovenia. After the establishment of the Slovenian Research Agency (ARRS), he was a member and the first president of its management board. In this role he contributed to establishing the legal basis for the ARRS's operations, which was then changed in later years.

I.12 Selected Awards

In 2002, Slovenia's president awarded Toš the Silver Order of Freedom of the Republic of Slovenia for his scientific, research and teaching work and for his contributions to the development of Slovenian social science. In 1981 he was awarded a Certificate of Recognition by the Faculty of Sociology, Political Science and Journalism (FSPN) for his realisation of the aims and reputation of the faculty. In 1984 he received the Acknowledgement of Federal Social Councils for his contribution to the work of the Reform Commission (the so called Kraigher Commission), in 1986 the Yugoslav Order of Labour with Silver Wreath and in 1998 the Plaque of the University of Ljubljana for his contribution to its development. In 1989, together with his SPO group, he received the Boris Kidrič Foundation Award for the work by the SPO group in 1987 and its publications from 1987 to 1988. In 2004 he was awarded honorary membership by the Slovenian Sociological Association, and in 2009 he received the Plaque of the Faculty of Social Sciences for his merits to developing and furthering the reputation of the faculty.

Section II: A Summary of Achievements

Niko Toš (Toš 1934) belongs to the group of scholars that founded Slovenian academic, pedagogical and research sociology. He entered the space of Slovenian and Yugoslav social science in the moment of its initial disciplinary, pedagogical

and research growth. The starting point of his work included his understanding of sociology as a socially critical discipline that observes structures and processes in (then Yugoslav and) Slovenian society in wider, European and global contexts. Inseparably connecting teaching with research, Toš has asserted the idea of “public sociology”.

II.1 Innovation

He was the first to conceive the concept of teaching (and the subject of) methodology, which he developed and grounded over several decades. He used research studies in his teaching and included students in research projects. As a researcher, professor and dean he established important innovations that contributed to the transformation of the Ljubljana School of Political Sciences to become a Faculty within the University of Ljubljana. He introduced thematic and methodological innovations in his research practice, and established research infrastructure (the Archive of Social Science Data, the Computer Centre, the telephone studio; he initiated the merging of two social science libraries, and the building of the new Faculty of Social Sciences, etc.). He contributed considerably to the establishment of the concept and the building of the social sciences centre as well as the construction of the Faculty of Social Sciences.

He was the first to assert the concept of the research centre as an independent research unit, and later as the Director of the Research Institute, took care of the thematic growth and organisational establishment of a number of research centres.

As early as 1966 he innovatively established a unique longitudinal programme of Slovenian Public Opinion, and the Public Opinion and Mass Communication Research Centre (CJMMK). The SPO survey was not only a political-opinion project, but also the fundamental social science empirical project that was asserted as the centre of Slovenian empirical social science. He did not limit his work to the framework of what was ideologically admissible, but opened up problems and questions in regard to their social and scientific relevance. He reached beyond the dogmatic historical-materialist delineation, and developed a modern empirical-sociological approach. He was also exposed to political criticism.

Moreover, his innovative ideas are evident in his opening up of new problem and disciplinary fields. He also excelled through his outstanding ability to connect individuals, groups and a large number of social scientists in research networks.

II.2 Public Reception

Toš' original monographs and those written by him in joint authorship, along with his work as an editor, continuously enjoyed great public response with the professional and general political public. Not only data, but also concepts and findings from the SPO surveys were included by Slovenian and other social scientists in their research; responses from the political public were often contradictory. In the 1970s and later, Toš came under sharp political criticism. He oversaw the regular transfer of data and analyses to the public, which is shown in a large number of round tables, interviews, conversations with journalists (press conferences), etc. His centre was awarded the Prometheus of Science recognition by the Slovenian scientific foundation for excellence in communication and the efficient promotion of social science research. Throughout its operation the SPO research project has acquired considerable public response in Slovenia. Books and studies resulting from Toš' and CJMMK's publishing activity are classified in book collections of all social science institutions and most public libraries in Slovenia. His research studies, with the exception of the time during the 1970s, obtained wide professional and public response, and during the 1970s they also received sharp political criticism and disapprobation. Personally, he received the same response both as a prominent representative of Slovenian and one of Yugoslav social science.

II.3 Importance for the Development of Disciplines, Experts and Social Sciences in General

More than any other research programme, Toš' research studies have served as the grounds for the formation and development of numerous new scientific (sub) disciplines (sociology of politics, religion, spatial development, sports, health, defence studies, ecology, etc.). He developed co-operation with numerous social institutions and sectors, and numerous researchers and professionals, reaching far beyond institutional and disciplinary limits. Over several decades a large number (over 70) of early researchers were included in his programmes; many of them later became asserted as university professors, researchers or professionals in diverse social fields. For many of them the SPO programme presented important training in methodology and research.

II.4 Importance for the Development of Slovenian Society

Not only as the head of the SPO programme, but also in other professional and social roles, Toš has always focused on critical consideration of key social

problems. This is shown in the thematic engagement of his research studies (stratification, class status, migration, processes of democratic institutionalisation, participation, political pluralism, secularisation, values, etc.) and in his role with their establishment and examination within the Slovenian and Yugoslav Sociological Associations: social conflicts, integration and disintegration processes, sociological dimension of social crisis, etc. With the SPO project Toš was directly included in social movements that brought systemic upheaval and the establishment of the foundations for a new democratic society. The results of his research and analyses are woven into important developmental programmes and political decisions.

II.5 Contribution to Slovenia's Recognition in the World

With the SPOS, Toš has successfully entered the space of international comparative research at the first possible entry point (1990) – and with great personal engagement. This is how CJMMK became the holder of all the most important social scientific international comparative world surveys (WVS, EVS, ISSP, ESS, CSES, etc.). Slovenia has been recognised on the world social science Atlas; the SPOS results are used in the analyses by numerous social scientists including the most prominent ones (such as Roland Inglehart, and others). Thus, in empirical research in the social sciences the CJMMK from Slovenia represents a European example of best practice. Members of the SPO group also enjoy an outstanding reputation. These are researchers who, in the recent period, have appeared as national co-ordinators in international projects. CJMMK's databases are included in all important national social science data archives. Toš has therefore contributed to Slovenia's recognition within the European and world social science community.⁴³

Section III: Presentation of the Selected Bibliography by Niko Toš for the Period from 1962 to 2014

Around 800 units (after the exclusion of those that are irrelevant) are recorded in the bibliographical review of original works by Niko Toš based on the publicly accessible database of bibliographies of researchers.⁴⁴ Of these units,

⁴³ This presentation of Niko Toš' work is an adaptation of the report on his work written by professors Zdravko Mlinar, Veljko Rus and Tine Hribar, all members of Slovenian Academy of Sciences of Arts, November 2014.

⁴⁴ The Union Database cobiss.si/cobib.si, 2. 11. 2014.

190 (1.01–1.16) belong under the category of scientific and professional articles, published conference papers, and essays and chapters in scientific and professional monographs. Among all publications in this group, over one fifth (41) was published in foreign reviews and scientific monographs, and a smaller portion (10) in the English language in Slovenian journals and monographs; these include over one fifth (33) of those in which Toš appears in co-authorship with foreign researchers and a slightly larger number (45) of those in which he is co-author with Slovenian authors. The thematic review of this part of the bibliography shows that his articles and monographs focus on

- the themes of citizen-state relationship, people's attitudes to the system and politics, or on new systemic framework for the democratisation processes, trust in institutions of the system, political parties, elections, and similar (53 units);
- themes from the wider sociological field (stratification, mobility, values, family, etc.) (59 units);
- themes in the science of religion (15 units);
- methodological, cognitive-theoretical topics and topics in the field of sociology of science (19 units);
- nationalism, national identity (6 units), etc.

The following categories also stand out in terms of the number of bibliographical units: interviews (1.22, 25 units), scientific and professional monographs (2.01–2.02, 12 units), university textbooks (2.03, 7 units), final reports on research, and analyses and studies (2.12–2.13, 230 units), concluded scientific databases (2.20, 146 units), etc. All databases are kept in the ADP FDV and are openly accessible.

The review of the bibliography shows that units from the period after the year 2000 are adequately displayed, while the units of previous periods are not.

The review of thematic variations and their condensation through time shows Toš' most productive time in publishing to be in the period after 1990. This period includes most of his important monographic studies, which address processes of democratisation of Slovenia in the international context, as well as studies in the field of comparative religious science. Above all, typically, in his early period, he dealt with the pedagogical conceptualisation of methodology, while recently he engaged in a distinctly in-depth work on methodological and cognitive-theoretical problems of comparative research, along with the development and range of empirical research in general.

In the continuation, an illustrative selection of bibliographical units is given – according to genres and types of publications:

III.1 Book Series Values in Transition I.–IX.

This is a unique book project that documents the entire content and course of the SPOS project from 1968 to 2014. Niko Toš is the author of the concept and primary co-ordinator of the included surveys, and editor/author/co-author of the published monographic studies.

673. TOŠ, Niko (urednik). Vrednote v prehodu IX.: iz zakladnice socioloških raziskav: migracij Slovencev (1973–1987) in socialne strukture jugoslovanske družbe (1983–1987), (Knjižna zbirka Dokumenti SJM, 23). Ljubljana: Fakulteta za družbene vede, IDV-CJMMK; Wien: Echoraum, 2014. 577 str., tabele, graf. prikazi. ISBN 978-961-235-700-9. [COBISS.SI-ID 275870464]
674. TOŠ, Niko (urednik). Vrednote v prehodu VIII.: Slovenija v srednje in vzhodnoevropskih primerjavah: [1991–2011], (Knjižna zbirka Dokumenti SJM, 22). Ljubljana: Fakulteta za družbene vede, IDV-CJMMK; Wien: Echoraum, 2014. 658 str., tabele, graf. prikazi. ISBN 978-961-235-675-0. [COBISS.SI-ID 271672576]
676. TOŠ, Niko (urednik). Vrednote v prehodu VII.: Slovenija v mednarodnih in medčasnih primerjavah: SJM – ISSP 1991–2012, (Knjižna zbirka Dokumenti SJM, 21). Wien: Echoraum; Ljubljana: Fakulteta za družbene vede, IDV-CJMMK, 2013. 844 str., graf. prikazi, tabele. ISBN 978-961-235-615-6. [COBISS.SI-ID 266352640]
678. TOŠ, Niko (urednik). Vrednote v prehodu VI.: Slovenija v mednarodnih primerjavah 1992–2011: [evropska, svetovna raziskava vrednot 1992–2011], (Knjižna zbirka Dokumenti SJM, 20). Wien: Echoraum; Ljubljana: Fakulteta za družbene vede, IDV-CJMMK, 2012. 593 str., ilustr., tabele. ISBN 978-961-235-609-5. [COBISS.SI-ID 263764736]
677. TOŠ, Niko (urednik). Vrednote v prehodu V.: Slovenija v evropskih primerjavah: evropska družboslovna raziskava 2002–2010, (Dokumenti SJM, 19). Wien: Echoraum; Ljubljana: Fakulteta za družbene vede, IDV-CJMMK, 2012. 578 str., graf. prikazi, tabele. ISBN 978-961-235-590-6. [COBISS.SI-ID 262262016]
684. TOŠ, Niko, MALNAR, Brina, BERNIK, Ivan, HAFNER-FINK, Mitja, MIHELJAK, Vlado, KURDIJA, Slavko, UHAN, Samo, ŠTEBE, Janez, ŠVARA, Sergio, KOVAČIČ, Matej, BEŠTER FALLE, Rebeka, BRODER, Živa, VOVK, Tina, TOŠ, Niko (urednik). Vrednote v prehodu IV.: slovensko javno mnenje 2004–2009, (Dokumenti SJM, 16). 2. dopolnjena izd. Ljubljana: Fakulteta za družbene vede, IDV-CJMMK, 2009. 806 str., graf. Prikazi, tabele. ISBN 978-961-235-377-3. [COBISS.SI-ID 247823360]

691. TOŠ, Niko, MALNAR, Brina, HAFNER-FINK, Mitja, UHAN, Samo, KURDIJA, Slavko, MIHELJAK, Vlado, ŠTEBE, Janez, BERNIK, Ivan (avtor dodatnega besedila), TOŠ, Niko (urednik). Vrednote v prehodu III, Slovensko javno mnenje 1999–2004, (Dokumenti SJM, 10). Ljubljana: Fakulteta za družbene vede, IDV – CJMMK, 2004. 641 str., graf. prikazi, tabele. ISBN 961-235-098-1. [COBISS.SI-ID 120059136]
703. TOŠ, Niko, KLINAR, Peter, ROTHER, Zdenko, MARKIČ, Boštjan, MLINAR, Zdravko, TRAMPUŽ, Cveto, HAFNER-FINK, Mitja, KURDIJA, Slavko, MALNAR, Brina, MIHELJAK, Vlado, ŠTEBE, Janez, ŠVARA, Sergio (avtor dodatnega besedila), UHAN, Samo, TOŠ, Niko (urednik). Vrednote v prehodu II, Slovensko javno mnenje 1990–1998, (Dokumenti SJM, 6). Ljubljana: IDV – CJMMK, 1999. XX, 939 str., tabele. ISBN 86-80227-97-8. [COBISS.SI-ID 78656000]
705. TOŠ, Niko, KLINAR, Peter, ROTHER, Zdenko, MARKIČ, Boštjan, MLINAR, Zdravko, TRAMPUŽ, Cveto, TOŠ, Niko (urednik). Vrednote v prehodu I, Slovensko javno mnenje 1968–1990, (Dokumenti SJM, 5). Ljubljana: Fakulteta za družbene vede, Inštitut za družbene vede, Center za raziskovanje javnega mnenja, 1997. XXVI, 840 str., tabele. ISBN 86-80227-73-0. [COBISS.SI-ID 69143040]

III.2 The Selection of Scientific (Professional) Articles and Monographs by Niko Toš (Published in Slovenian Social Science Journals and Books)

1. TOŠ, Niko. (De)secularisation or (re)confessionalisation processes in Europe. *Teorija in praksa*, ISSN 0040-3598, jan.-feb. 2013, letn. 50, št. 1, str. 172–204, 263-264, ilustr. [COBISS.SI-ID 31869021]
2. KUSTEC LIPICER, Simona, TOŠ, Niko. Analiza volilnega vedenja in izbor na prvih predčasnih volitvah v državni zbor 2011. *Teorija in praksa*, ISSN 0040-3598, maj-avg. 2013, letn. 50, št. 3/4, str. 503-529, 685, ilustr. [COBISS.SI-ID 3741896]
4. MÜLLER, Karl H., TOŠ, Niko. The organization of modern societies: core-periphery or vertically stratified?. *Teorija in praksa*, ISSN 0040-3598, maj-jun. 2012, letn. 49, št. 3, str. 566–588, 603, ilustr. [COBISS.SI-ID 31364701]
9. MÜLLER, Karl H., TOŠ, Niko. Towards new cognitive foundations for survey research. *Teorija in praksa*, ISSN 0040-3598, nov.-dec. 2010, let. 47, št. 6, str. 1316–1339, ilustr. http://dk.fdv.uni-lj.si/db/pdfs/tip20106_muller_tos.pdf. [COBISS.SI-ID 30046301]

10. TOŠ, Niko. (Ne)zaupanje v institucije: potek demokratične institucionalizacije v Sloveniji (1991-2006). Teorija in praksa, ISSN 0040-3598, maj-avg. 2007, letn. 44, št. 3/4, str. 367-395, graf. prikazi, tabele. http://dk.fdv.uni-lj.si/db/pdfs/tip20073-4_Tos.pdf. [COBISS.SI-ID 26562397]
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III.3 The Selection of Scientific (Professional) Articles and Monographs (Published in Foreign Social Science Journals and Books)

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156. TOŠ, Niko. Slowenien: ein neuer Nationalstaat im Wandel: anmerkungen zur nationalen Identität der Slowenen. V: LEY, Michael (ur.), GEHMACHER, Ernst (ur.). Das Ende des Nationalismus: neue Fremdenfeindlichkeit und neonationalistische Aufbrüche in Ost- und Westeuropa. Wien: WUV-Universitätsverlag, 1996, str. 151–176. [COBISS.SI-ID 16894557]
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III.4 The Selection of Book Publications in the Slovenian Language

In the selected units, Toš is the author/co-author and initiator or editor/co-author.

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268. TOŠ, Niko, POTOČNIK, Vinko, FLERE, Sergej, SMRKE, Marjan, UHAN, Samo, DRAGOŠ, Srečo. Podobe o cerkvi in religiji: (na Slovenskem v 90-ih), (Dokumenti SJM, 7). Ljubljana: FDV – IDV, Center za raziskovanje javnega mnenja in množičnih komunikacij, 1999. 232 str., ilustr. ISBN 961-235-032-9. [COBISS.SI-ID 106702080]
270. KAASE, Max, NEWTON, Kenneth, TOŠ, Niko. Zaupanje v vlado. Ljubljana: Liberalna akademija: Znanstvena knjižnica FDV, 1999. 362 str., graf. prikazi, tabele. ISBN 961-90301-5-X. [COBISS.SI-ID 104426752]
272. MLINAR, Zdravko, TOŠ, Niko. Neizkoriščeni potenciali za družbeni razvoj, (Tema dneva, 8). Ljubljana: Komunist, 1971. 138 str. [COBISS.SI-ID 5122568]
680. TOŠ, Niko (urednik), MÜLLER, Karl H. (urednik). Primerjalno družboslovje: metodološki in vsebinski vidiki, (Dokumenti SJM, 18). 2., dopolnjena izd. Ljubljana: Fakulteta za družbene vede, IDV – CJMMK, 2011. 444 str., ilustr. ISBN 978-961-235-440-4. [COBISS.SI-ID 257519872]
722. TOŠ, Niko (urednik). Slovensko javno mnjenje. Ljubljana: [Fakulteta za sociologijo, politične vede in novinarstvo], 1971. 368 str., tabele. [COBISS.SI-ID 2376712]

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711. TOŠ, Niko (urednik). Slovenski utrip: rezultati raziskav javnega mnenja 1988-1989, (Knjižnica FSPN). Ljubljana: FSPN, 1989. VIII, 383 str., tabele. [COBISS.SI-ID 15147264]
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709. TOŠ, Niko, GANTAR, Pavel, BAŠIĆ-HRVATIN, Sandra, KOS, Drago, TRAMPUŽ, Cveto, MALNAR, Brina, KURDIJA, Slavko, UHAN, Samo, TOŠ, Niko (urednik). Ekološke sondeže: iz raziskav slovenskega javnega mnenja 1984-1992, (Dokumenti CJMMK). Ljubljana: Fakulteta za družbene vede – IDV, CJMMK, 1992. VIII, 159 str., ilustr. [COBISS.SI-ID 32925184]
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687. TOŠ, Niko (urednik). Paberkovanje po vrednotah, (Dokumenti SJM, 12). Ljubljana: FDV, IDV, Center za raziskavo javnega mnenja in množičnih komunikacij, 2005. 238 str., graf. prikazi, tabele. ISBN 961-235-197-X. [COBISS.SI-ID 220084480]
707. TOŠ, Niko (urednik). Dozorevanje slovenske samozvesti, (Dokumenti SJM, 4). Ljubljana: Fakulteta za družbene vede, IDV, Center za raziskovanje javnega mnenja in množičnih komunikacij, 1995. 176 str. ISBN 86-80227-01-3. [COBISS.SI-ID 47458560]
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685. TOŠ, Niko (urednik). Pogledi na reforme: družboslovne refleksije na predlog reform: Slovenija 2005–2006, (Znanstvena knjižnica, 57). Ljubljana: Fakulteta za družbene vede, 2006. 316 str., ilustr. ISBN 961-235-237-2. [COBISS.SI-ID 228331776]
272. MLINAR, Zdravko, TOŠ, Niko. Neizkoriščeni potenciali za družbeni razvoj, (Tema dneva, 8). Ljubljana: Komunist, 1971. 138 str. [COBISS.SI-ID 5122568]

500. TOŠ, Niko. Reklamna funkcija množičnih medijev: poročilo iz raziskave. Ljubljana: Center za raziskovanje javnega mnenja in množičnih komunikacij, 1971. 110 str. [COBISS.SI-ID 20670208]

III.5 The Selection of Book Publication in Foreign Languages

The selected works are co-authored or initiated/co-edited by Niko Toš.

264. MÜLLER, Karl H., TOŠ, Niko. Towards a new kind of social science: social research in the context of science II and RISC-societies, (Complexity, design, society, vol. 20). Vienna: Echoraum, cop. 2012. 259 str., ilustr. ISBN 978-3-901941-39-9. [COBISS.SI-ID 31766365]
701. TOŠ, Niko (urednik), MOHLER, Peter Ph. (urednik), MALNAR, Brina (urednik). Modern society and values: a comparative analysis based on ISSP project, (Scientific library, 39), (Comparative social research). Ljubljana: Faculty of Social Sciences; Mannheim: Zuma, Center of Survey Research and Methodology, 1999. XV, 387 str., graf. prikazi, tabele. ISBN 961-235-028-0. ISBN 978-961-235-028-4. [COBISS.SI-ID 105144064]
681. KAJFEŽ-BOGATAJ, Lučka (urednik), MÜLLER, Karl H. (urednik), SVETLIK, Ivan (urednik), TOŠ, Niko (urednik). Modern RISC-societies: towards a new paradigm for societal evolution, (Complexity design society, vol. 14). Vienna: Echoraum, cop. 2010. 569 str., ilustr. ISBN 978-3-901941-23-8. [COBISS.SI-ID 6418809]
688. TOŠ, Niko (urednik), MÜLLER, Karl H. (urednik). Political faces of Slovenia: political orientations and values at the end of the century – outlines based on Slovenian public opinion surveys, (Complexity, design, society, vol. 2). Wien: Edition Echoraum, cop. 2005. 451 str., ilustr., tabele. ISBN 3-901941-11-8. [COBISS.SI-ID 24073053]
683. TOŠ, Niko (urednik), MÜLLER, Karl H. (urednik), FÁBIÁN, Zoltán (urednik), KREJČÍ, Jindřich (urednik), ZIELIŃSKI, Marcin W. (urednik). Three roads to comparative research: analytical, visual, and morphological, (Complexity, design, society, vol. 8). Vienna: Echoraum, cop. 2009. 536 str., ilustr. ISBN 978-3-901941-17-7. [COBISS.SI-ID 28581981]
696. TOŠ, Niko (urednik), MIHELJAK, Vlado (urednik). Slovenia between continuity and change, 1990–1997: analyses, documents and data, (Founding elections in Eastern Europe). Berlin: Edition Sigma, 2002. 242 str., graf. prikazi. ISBN 3-89404-223-0. [COBISS.SI-ID 4593489]

702. TOMKA, Miklós (avtor, urednik), TOŠ, Niko, POTOČNIK, Vinko, MASLAUSKAITE, Aušra, NAVICKAS, Andrius, TOŠ, Niko (urednik), ZULEHNER, Paul M. (urednik). Religion und Kirchen in Ost(Mittel) Europa: Ungarn, Litauen, Slowenien, (Gott nach dem Kommunismus). Ostfildern: Schwabenverlag, 1999. 366 str., graf. prikazi. ISBN 3-7966-0975-9. [COBISS.SI-ID 19291229]
706. ŠUBRT, Jiří (urednik), TOŠ, Niko (urednik). Crossroads of transition: a Czech-Slovene colloquium. Praha: Philosophy Faculty, Charles University, 1995. 232 str., graf. prikazi. ISBN 80-85899-11-6. [COBISS.SI-ID 16319581]
273. BAČEVIĆ, Ljiljana (urednik), BAHTIJAREVIĆ, Štefica (urednik), GOATI, Vladimir (urednik), MILAS, Goran, MILJEVIĆ, Milan, MIHAJLOVSKI, Stojmen, MIRČEV, Dimitar, PANTIĆ, Dragomir, POPLAŠEN, Nikola, TOŠ, Niko, VASOVIĆ, Mirjana. Jugoslavija na kriznoj prekretnici. Beograd: Institut društvenih nauka, Centar za politikološka istraživanja i javno mnjenje, 1991. 335 str. ISBN 86-7093-041-2. [COBISS.SI-ID 2221580]
441. BOSNIĆ, Slobodan, GOATI, Vladimir, JAMBREK, Peter, OBRADOVIĆ, Vlado, ŠIBER, Ivo, TOŠ, Niko. Klasno biće savremenog jugoslovenskog društva: projekat naučnog istraživanja. Beograd: Centar za društvena istraživanja Predsedništva centralnog komiteja SKJ, 1985. 187 f. [COBISS.SI-ID 2997085]
713. TOŠ, Niko (urednik). Integracioni i dezintegracioni procesi u jugoslovenskom društvu: zbornik referata, (Knjižnica FSPN). [1. natis]. Ljubljana: Jugoslovensko udruženje za sociologiju: Raziskovalni inštitut Fakultete za sociologijo, politične vede in novinarstvo, 1983. 680 str., tabele. [COBISS.SI-ID 14039297]
714. Okrugli sto Jugoslovenskog udruženja za sociologiju, Ljubljana, 27–28. maj 1982, TOŠ, Niko (urednik). Savremeno jugoslovensko društvo: sociološko istraživanje uzroka krize i mogućnosti izlaska: material za okrugli sto, Ljubljana, 27-28 maj 1982. Ljubljana: Jugoslovensko udruženje za sociologiju: Raziskovalni inštitut Fakultete za sociologijo, politične vede in novinarstvo, 1982. 200 str. [COBISS.SI-ID 20042503]

III.6 University Textbooks

276. TOŠ, Niko, HAFNER-FINK, Mitja. Metode družboslovnega raziskovanja: [(gradivo za predmet)]. Ponatis. Ljubljana: Fakulteta za družbene vede, 1998. IV, 217 str., ilustr., tabele. ISBN 86-80227-81-1. [COBISS.SI-ID 80247296]

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III.7 The Selection of Final Research Reports

Toš's personal bibliography includes 127 units of reports from the longitudinal study Politbarometer (1996–2008); individual reports are records on each conducted study, the presentation of results and the analysis. The reports comprise 30–50 pages.

Other selected reports:

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An average citizen should be able to get information about subjects in which he is interested, as he can get his geographical knowledge from maps in an atlas. There is no field where some humanization of knowledge through the eye would not be possible. This is the goal of Isotype – to communicate knowledge as far as possible, reducing the gulfs between nations and language groups. Isotype can be of use to people between the ages of four and a hundred, to Europeans and Africans, Americans and Russians, Indians and Chinese.

Otto Neurath, *From Hieroglyphics to Isotype. A Visual Autobiography*

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It is essential ... to emphasize that Niko Toš experienced high societal turbulences throughout his career ... This *Festschrift* offers an intellectual biography which begins with Niko Toš as an empirical social researcher within the former Yugoslav Republic under the rule of Josip Broz Tito. After Tito's death in 1980, Niko Toš turned into a "Slovenian" sociologist during the period of a rapid dis-integration of Yugoslavia and the growing dominance of Serbia under Slobodan Milošević. In 1991 Slovenia declared its independence which was followed immediately by the Ten Days War from June 27, 1991 to July 7, 1991 as well as by the much longer wars for independence of Croatia (1991–1995) and Bosnia (1992–1995). In 2004 Slovenia joined the European Union and in 2007 Slovenia was the first formerly "Eastern" country to become a member of the Eurozone. Throughout these turbulent decades Niko Toš continued to pursue his work in empirical social research, his permanent empirical observations of developments and changes within the Slovenian society and his very successful initiatives and attempts to link social research in Slovenia with international and global initiatives and programs.

Brina Malnar | Karl H. Müller