MAX-PLANCK-INSTITUT FÜR WISSENSCHAFTSGESCHICHTE
Max Planck Institute for the History of Science

2018

PREPRINT 490

Frank W. Stahnisch (Ed.)

Émigré Psychiatrists, Psychologists, and Cognitive Scientists in North America since the Second World War

Dieses Preprint ist in einer überarbeiteten Form zur Publikation angenommen in: *History of Intellectual Culture*, Band 12/1 (2017–18):

https://www.ucalgary.ca/hic/issues. Accessed 5 July 2018. [Themenheft 2017–18: *Émigré Psychiatrists, Psychologists, and Cognitive Scientists in North America since the Second World War*, Guest Editor: Frank W. Stahnisch].

Der vorliegende Preprint erscheint mit freundlicher Erlaubnis des geschäftsführenden Herausgebers, Herrn Professor Paul J. Stortz an der Universität von Calgary, Alberta, in Kanada.

Frank W. Stahnisch

e-mail: fstahnisch@mpiwg-berlin.mpg.de / fwstahni@ucalgary.ca

Émigré Psychiatrists, Psychologists, and Cognitive Scientists in North America since the Second World War

Frank W. Stahnisch (Guest Editor)[1]

Abstract:

The processes of long-term migration of physicians and scholars affect both the academic migrants and their receiving environments in often dramatic ways. On the one side, their encounter confronts two different knowledge traditions and personal values. On the other side, migrating scientists and academics are also confronted with foreign institutional, political, economic, and cultural frameworks when trying to establish their own ways of professional knowledge and cultural adjustments.

The twentieth century has been called the century of war and forced migration: it witnessed two devastating World Wars, which led to an exodus of physicians, scientists, and academics. Nazism and Fascism in the 1930s and 1940s, forced thousands of scientists and physicians away from their home institutions based in Central and Eastern Europe. "Did you ever go half way …" was a central question that all of them had to align with their personal consciousness, their family bonding, and the relationship to their academic peers. No one could leave without finding their individual answers to this existential question that lay at the bottom of their professional and scientific lives.

Following this general theme, the current special issue particularly reflects on the personal stories and institutional narratives of German-speaking scientists and physicians to North America since the 1930s, as a relevant case study from twentieth-century history of medicine and science. By drawing on diaries, questionnaires, institutional histories (including those of the Max Planck Society among others), novels, and personal estates, this special issue as a whole intends to emphasize the impact of forced migration from a North-American perspective by describing the general research topic; showing how the personal lives of many of these individuals were intertwined with their careers and choices of scientific topics, projects, and personal destinies. Moreover, this special issue seeks to explore whether new historiographical approaches can provide a deeper understanding of the impact of European émigré psychiatrists, psychologists, and cognitive scientists on emerging fields of medicine and science, including community and geriatric medicine, developmental neuroscience, and psychiatric traumatology

[1] Afffiliation: Dr. Frank W. Stahnisch, M.Sc. (Edin.) / AMF/Hannah Professor in the History of Medicine and Health Care / Department of Community Health Sciences & Department of History / TRW Building, Room 3E41 / Universität von Calgary / 3280 Hospital Drive N.W. / Calgary, AB, Kanada T2N 4Z6 / fwstahni@ucalgary.ca.

to which the individuals in the respective cohort have strongly contributed in their new host countries.

Keywords [MeSH]:

Canada – cognitive science – forced migration – Germany – history of medicine – National Socialism – neuroscience – psychology – psychiatry – twentieth century – United States

This Special Issue for *History of Intellectual Culture* is an initiative resulting from the proceedings of an interdisciplinary Working Group, entitled "Writing the History of German-speaking Émigré Neuroscientists and Biomedical Researchers, 1933–1989." It was graciously hosted at and supported by the Calgary Institute for the Humanities at the University of Calgary, Alberta, in Canada. Further papers were delivered collectively as "Personal Stories and Institutional Narratives from German-speaking Émigré Physicians, Scientists, and Academics between the 1930s and the 1960s." This constituted a themed panel held on 30 May 2016 in conjunction with the annual meetings of the Canadian Society for the History of Medicine (CSHM) and the Canadian Historical Association (CHA). It was organized under the overall aegis of the Canadian Federation for the Humanities and Social Sciences through the generous support of an Interdisciplinary Session Award to the Guest Editor as Chair of the Local Arrangements Committee. Moreover, on behalf of all authors contributing to this volume, the guest editor wishes to express his gratitude to the group of external peer reviewers, who provided many constructive criticisms and helpful suggestions throughout the writing and publication process for all articles assembled in this special issue.

Table of Contents

Articles

Reviews

Articles

PREFACE

Jim Ellis

Calgary Institute for the Humanities

In his Pulitzer Prize winning study *The Swerve: How the World Became Modern* (2011), the new historicist literary scholar Stephen Greenblatt outlines the chance survival and rediscovery of the classical, first-century B.C.E. Roman poet Lucretius's *On the Nature of Things*.[2] Seemingly lost for centuries, a copy of the work was discovered in a remote monastery by the fifteenth-century C.E. Italian book-hunter Poggio Bracciolini (1380–1459), who recognized it, managed to make a transcription, and re-introduced the poem to the world. Greenblatt shows how Lucretius' account of Epicurean monistic philosophy had a profound influence on the early modern thinkers who subsequently encountered it (at least one of whom, Italian cosmological theorist Giordano Bruno (1548–1600), would go to the stake for sharing its heretical views), altering the course of scientific thinking in the western world.

There are similar stories of the survival and transformation of ideas in this special issue, although the specific historical context of the stories here is of course both tragic and sinister. But one of the shared insights of the essays is that the movement of ideas is not a transparent, immaterial process. In order to travel, ideas must be carried, by persons or other media, and the material basis of transmission, human or otherwise, necessarily affects the ideas transmitted. Ideas, and the development of ideas, are thus as much shaped by contingency as anything else: the history of ideas — and by extension also the history of intellectual culture — is a history of chance survivals and unexpected and sometimes unknown losses. Further, these essays show, contingency also affects these ideas after their transmission and reception: the institutions and sociocultural contexts into which they are received continues to shape their development, as they in turn shape their new contexts. Different intellectual traditions and contexts will encourage different research trajectories; what is welcomed in one setting may be met with indifference in another.

The histories of the émigré psychiatrists, psychologists, and cognitive scientists discussed in this special issue demonstrate these general truths, as well as, of course, offering more specific insights into how these forced migrations altered the development of science both in the contexts from which they were removed, and in the new places and institutions into which

[2] Greenblatt, 2011.

they were relocated. Moreover, we see that the effects of these migrations often went beyond purely scientific contexts, as Daniel Burston shows in the discussion of the life of Karl Stern (1906–1975), who became a novelist and a frequently cited public intellectual in Quebec.

The Calgary Institute for the Humanities has intersected with this larger historical narrative and some of these individual lives in a number of ways. The Calgary Institute for the Humanities is Canada's oldest humanities institute, founded at the University of Calgary in 1976 with the mission of supporting and promoting humanities research; over our history we have hosted many research fellows, conferences, seminars and reading groups. While the Calgary Institute for the Humanities proudly supports research in the traditional humanities disciplines such as history, literary studies, and philosophy, we take a broader approach to what constitutes humanistic research, to embrace many forms of study that explore what it means to be human.

Most recently, we are proud to have been the institutional home for the working group that produced this special issue, as well as hosting Dr. Alexandra Loewenau as a visiting postdoctoral fellow in 2015–2016. Each year, the Calgary Institute for the Humanities is home to a number of interdisciplinary working groups that bring scholars from different disciplines to pursue common projects that might otherwise not find support in more defined disciplinary contexts. In the recent past, groups have explored such topics as the societal implications of energy transition, the ethics of genomics research, the digitization of archives, and questions of social justice in 'smart cities.' Our goal is to help foster the creation of research networks and clusters that will bring diverse scholars from our university and beyond, to engage in multidisciplinary research projects and collaborations.

The interdisciplinary group that investigated the effects of the forced migration on the history of medicine is part of a longer institutional tradition at the Calgary Institute for the Humanities with the history and philosophy of science. The historian of science and University of Calgary professor Margaret J. Osler (1942–2010) was three times a resident fellow at the Institute; in her final resident fellowship, she completed her monograph *Reconfiguring the World: Nature, God, and Human Understanding in Early Modern Europe* (Baltimore, MD: Johns Hopkins University Press, 2010). During an earlier residency, she organized an international conference at the Calgary Institute for the Humanities on the theme of "Epicureanism and Stoicism." This conference resulted in her edited collection *Atoms, Pneuma, and Tranquillity: Epicurean and Stoic Themes in European Thought* (Cambridge, Eng.: Cambridge University Press, 1991), which explored the influence of Lucretian and Epicurean thinking long before Greenblatt's celebrated volume.

As Erna Kurbegović outlines in her article below on the career of Hugh Lytton (1921–2002), the University of Calgary has also had more specific and direct connections with the forced migration of scientists and intellectuals. Lytton was born in Germany and trained in the United Kingdom, and eventually became a professor of Educational Psychology at the University of Calgary. As far as I can tell, Lytton was never a fellow at the Calgary Institute for the Humanities, but his friend and colleague Frank Eyck (1921–2004), whom Kurbegović also discusses in her article, held a fellowship at the Calgary Institute for the Humanities from 1985 to 1986. Our files for that year include three essays Eyck published discussing his family's early history in Berlin, their forced migration to England, and his own subsequent work in psychological warfare and later as a journalist in occupied Germany; one of the projects he was working on at the Institute concerned the journals of his grandmother in Berlin.[3] Eyck was the son of Erich Eyck (1878–1964), the distinguished historian of the Weimar Republic and biographer of the British statesman William Ewart Gladstone (1809–1898) and German Reichskanzler Otto von Bismarck (1815–1898). Taken together, the life stories of father and son parallel those of the scientists and physicians discussed in this issue, both the older generation who trained in Germany and Austria before being forced out by the Nazis, and the younger generation who were educated abroad.

Erich Eyck was born into a cultured Jewish family in Berlin. He received a doctorate in history from the University of Berlin and became a lawyer and public notary. Through the 1920s he was the law editor of the Jewish-owned liberal newspaper *Vossische Zeitung*, and served on the Berlin City Council in the late 1920s. Eyck was active in leftist political circles, including as a member of the *Deutsche Demokratische Partei*, and in 1932 in a public forum he argued for the rule of law in a debate with a National Socialist member of the Reichstag who was defending the Nazi theory of criminal justice. When Adolf Hitler (1889–1945) became chancellor the following month, writes his son, "Eyck's influential activity as a writer and speaker on matters of concern to a democracy and a Rechtsstaat came to an end."[4] His law practice dried up, he was forced out of the civil service, and the newspaper stopped publishing. Erich and his wife Hedwig (*née* Kosterlitz, 1888–1971) emigrated to England, but Erich could not practice law there, and he returned to the discipline he had originally studied in Berlin, which was history; he subsequently completed a renowned three-volume biography of Bismarck, and it is inconceivable that his three-volume biography of Bismarck and the later work Bismarck and the German Empire were not coloured by his direct experience with

[3] Eyck, 1992, p. 287–307; Eyck, 1982, p. 137–147; Eyck, 1995, p. 69–79. All the details below about the lives of Erich and Frank Eyck come from these essays.
[4] Eyck, 1992, p. 306.

twentieth-century German politics; it is also quite likely they never would have been written, had he not been forced out of his legal career.[5]

Frank Eyck was born in Berlin in 1921. He attended a prestigious school in Berlin, but in 1935 the schoolmaster urged his parents to send him to England; he began studying at St Paul's School in London in 1936. Two older sisters emigrated to Australia and Brazil, and his parents arrived in England in 1937. Like Hugh Lytton, Eyck was interned as a "friendly enemy alien" on the Isle of Man in 1940.[6] Soon after his release, he joined the British army, eventually working for the Publicity and Psychological Warfare Branch of the 21 Army Group, at one point producing material for the broadcasts of the propaganda outlet *Soldatensender Calais*.[7] At war's end, he helped in the de-Nazification effort, working to reestablish newspapers and journalism in Hamburg. Later, he studied at Oxford, worked for the British Broadcasting Corporation, and finally joined the University of Calgary in 1968, where he wrote on British and German history. He retired in 1991 as Professor Emeritus of History.

While neither father nor son were scientists, their pre- and post-war experiences offer numerous parallels to the careers of the physicians and scientists discussed in the following articles. Their subsequent academic careers and intellectual interests as historians were very obviously influenced by their experience of migration, and their published work would go on to help shape their disciplines. At the University of Calgary, one tangible piece of evidence of this influence on the institution itself is the *Frank Eyck Memorial Lecture Series*, on the topic of modern German history.

References

Eyck, Erich. 1941–1944. *Bismarck. Leben und Werk*. 3 vols. Erlenbach-Zurich: Rentsch.

Eyck, Erich. 1950. *Bismarck and the German Empire*. London, Eng.: Allen & Unwin.

Eyck, Frank. 1982. Psychological Warfare and Newspaper Control in British-Occupied Germany: A Personal Account. In *Men at War: Politics, Technology and Innovation in the Twentieth Century*, eds., Timothy Travers, and Christon Archer, 137–147. Chicago, IL: Precedent.

Eyck, Frank. 1992. A Diarist in Fin-de-siècle Berlin and her Family Helene, Joseph and Erich Eyck. *Leo Baeck Institute Year Book* 37: 287–307.

Eyck, Frank. 1995. A German Refugee and a Changing Germany. *Worcester College Record* 32: 69–79.

[5] Eyck, 1941–1944; Eyck, 1950.
[6] Eyck, 1995, p. 73.
[7] Eyck, 1982, p. 139.

Greenblatt, Stephen. 2011. *The Swerve: How the World Became Modern*. New York: W. W. Norton & Company, 2011).

INTRODUCTION TO ÉMIGRÉ PSYCHIATRISTS, PSYCHOLOGISTS, AND COGNITIVE SCIENTISTS IN NORTH AMERICA SINCE THE SECOND WORLD WAR

Frank W. Stahnisch

University of Calgary

Abstract:

The reverberations of the Second World War also caused the loss of up to one third of all academic psychiatrists and cognitive scientists from Germany and Central European occupied countries between 1933 and 1945. These disastrous developments for the wider academic landscape in many ways annihilated the basis of German-speaking psychiatric and clinical psychological research. Indeed, many historiographical studies have drawn attention to this very point over recent decades. At the same time, the impact of the vast forced migration wave of Jewish and politically oppositional psychiatrists and scientists from Nazi-occupied Europe has repeatedly been seen as a process of mere "*brain gain*" for North America, while Central Europe — and Germany in particular — experienced the loss. It is this uni-dimensional perspective that is of primary research concern to the articles in this special issue of *History of Intellectual Culture*: In scholarly literature, the case of forced migration so far begs the question as to the research involvement of science in society, the interaction of professional networks, and the establishment of international relations as these evolved during the first half of the twentieth century. As the group of historians assembled in this special issue puts forward, if one takes the emergence of "new intellectual cultures" in North America into account, then it is precisely because of the resulting scientific adaptation processes that forced migration of émigré psychiatry researchers and cognitive scientists has contributed and altered the scientific landscapes on both sides of the Atlantic.

The artificial exodus of physicians, scientists, and academics from the German-speaking countries after 1933 allows for creating new investigative approaches that extend the scholarly view beyond providing access to a plenitude of individual biographies and clinical accounts. This is for example reflected in the archival materials held in historical collections of the Rockefeller Archive (New York), the Canadian National Archives (Ottawa), the Society for the Protection of Science and Learning Archives (Oxford), as well as the plethora of university and college archives in North America. Other worldwide places are of concern here as well, in so far as the process of onward migration is taken into account. The available institutional histories in this research field, together with the detailed analysis of personal experiences and individual

legacies of German-speaking émigré psychiatry researchers and cognitive scientists, offers us deep insights into the manifold contingencies, interrelated contexts, and structures and constraints of knowledge transfer processes. These often occurred as a consequence of the reintegration of differing communities of psychiatric researchers and cognitive scientists in their new host countries. With such historiographical considerations in mind, the focus of our special issue in *History of Intellectual Culture* is on understanding the powerful mergers between methods, technologies, and disciplinary programs that emanated from the above-mentioned research perspectives. While literature on the receiving countries tended to analyze the intellectual, academic, and institutional dimensions of the forced migration process in the first place, the individual fate and social problems of many émigré psychiatrists and cognitive scientists hardly attracted attention. The seven articles and commentary assembled in this special issue track their crucial work for the development of psychological, psychiatric, and cognitive science research in the context of Canada and the United States, while these academic refugees encountered manifold problems and often pursued their careers under completely changed auspices. The topics of this special issue include Turkish refugees, Great Britain as a country for onward migration, differences in the research backgrounds between German- and English-speaking and trained psychiatrists, the group of German-trained cognitive scientists, case examples from clinical psychologists in Canada, as well as examinations of career changes in émigré neuropathologists and émigré psychiatrists involved in indemnification trials of Holocaust survivors and Nazi refugees.*

Keywords:

Austria, Canada, cognitive science, émigré neuroscientists, forced migration, Germany, history of science, postsecondary education, psychology, psychiatry, twentieth century, USA

The author wishes to thank Juergen Renn (Director of Department I, Max-Planck-Institute for the History of Science, Berlin, Germany) for kindly agreeing to publish this preprint in the Preprint Series of the Max-Planck-Institute for the History of Science). He further thanks Mitchell G. Ash from the University of Vienna, Austria, as well as Paul J. Stortz from the University of Calgary, Canada, who read previous manuscript versions and provided important feedback on this introductory article. Keith Hann, University of Calgary, is thanked for his meticulous adjustment of the English language of the final article. The production of this special issue of *History of Intellectual Culture* was supported through a grant for an interdisciplinary working group ("German-speaking Émigré Neuroscientists and Biomedical Researchers, 1933–1963") at the Calgary Institute for the Humanities, University of Calgary Faculty of Arts, and a Canadian Social Sciences and Humanities Research Council enhancement grant ("The Forced Migration of German-speaking Neuroscientists and Biomedical Researchers") through the University of Calgary's Research Grant Committee (# 10005402). Frank W. Stahnisch further thanks Paul J. Stortz for making the Guest-Editorship for this specialized issue on "Émigré Psychiatrists, Psychologists, and Cognitive Scientists in North America since the Second World War" possible. Several of the articles were previously presented during a themed-panel on May 30, 2016 at the Canadian Society for the History of Medicine, in conjunction with the Canadian Historical Association. The guest editor and all authors are grateful for support from the Canadian Federation for the Humanities and Social Sciences, which also enabled the planning for this special issue of *History of Intellectual Culture*.

Introduction

This special issue of *History of Intellectual Culture* analyzes several aspects of the dramatic forced migration wave of intellectuals, academics, and scientists during the times of Nazism and Fascism in Europe between the 1930s and 1940s.[8] It delves into a remarkable story, since probably no other single migratory event in modern global history shaped today's landscape and scientific system in psychiatry, clinical psychology, and the cognitive sciences as much as the large-scale forced migration of approximately 3,000 Jewish and oppositional scientists along with 6,000 physicians and health care researchers.[9]

Among the latter group were almost 600 individuals, trained in psychiatry and its allied fields during the contemporary period,[10] who principally fled to the United States, Canada, Great Britain, and other countries of the Empire-Commonwealth.[11] Although the research topic is no longer new, we only have tentative historical or sociological overview accounts of what the impact and general value of the forced migration to Great Britain and North America meant for the sciences and in postsecondary education.[12] This special issue provides additional research and offers new perspectives from the history of science, the history of intellectual culture, global migration history, North American history, as well as the social history of interdisciplinarity in the twentieth century. The conceptual issue or issues to be addressed in this special issue centre on the massive forced migration of Central European intellectuals,[13] researchers, and physicians that undoubtedly led to one of the most powerful amalgamations of scientific and intellectual fields in psychiatric research and the sciences of the mind and brain, where neurology and psychiatry were also included.[14]

Besides prominent academics—such as the physicist and Nobel Prize laureate Albert Einstein (1879–1955),[15] the social philosopher Theodor W. Adorno (1903–1969),[16] or neurochemist and Nobel Prize laureate Otto Loewi (1873–1961)[17]—the influence of lesser known figures in "normal science,"[18] as well as in medicine and academia, on the fields of higher learning in Western countries remains under-explored. This fact needs to be considered

[8] Weindling, 1996, p. 86–114.
[9] Cornwall, 2004.
[10] Friedlaender, 1997, p. 302–319.
[11] Bartrop, 1995, p. vii–xiv.
[12] Niederland, 1988, p. 285–300.
[13] Coser, 1984, p. 19–89.
[14] This has been convincingly shown in recent research by Max Stadler, 2017, p. 107–135; see also the respective book review by Paul Foley in this special issue of *History of Intellectual Culture*, p. 219–224.
[15] Pais, 1982.
[16] Wheatland, 2009, p. 35–60.
[17] Loeffelholz, 2011, p. 217–225.
[18] Cf. Kuhn, 1962, p. 1–9.

together with the traumatic experiences that many of the refugee physicians, scientists, and psychologists made during their prolonged phases of onward migration to North America:[19]

> The moral was sound. America and Britain gained from the intellectual migration, Germany lost. But the [historiographical lesson] is that most discussions of the topic to date have been overwhelmingly impressionistic, systematically skewed in favour of the most salient individuals and impulses, deficient in adequate quantification if any, and almost wilfully uncritical, as if to keep from diluting the morale of the tale.[20]

We do not have a passable overview yet on what the scientific impact and social value of the overall forced migration wave to Great Britain and North America meant. Our special issue takes this question on in a more focused, case-based, and realist interpretation of scientific and professional biographies by examining the impact of German-speaking psychiatric researchers, clinical psychologists, and cognitive scientists since 1933 — the year of the seizing of power by the Nazi party in Germany. The period of investigation concludes in 1989, which saw the ending of the specific block structures after the "Cold War" and set a limit to certain re-migratory tendencies and exchanges with the Communist East.[21]

The historical results shall give further hints as to how significant the academic developments were for the field of psychology, psychiatry, and the cognitive sciences during the twentieth century.[22] As such, the individual contributions to this special issue are of exceptional value for the historiographical, epistemological, philosophical, and methodological aspects of science studies and history of science, while presenting themselves as exemplary cases of an important yet hitherto neglected theoretical field.[23] This international collaborative undertaking contributes to a growing body of literature in history of science and history of intellectual culture, while focusing on the elements, causes, and factors of interdisciplinarity in modern research landscapes of the mind and brain. The impact of migration patterns on the generation, change, and application of knowledge due to the process of forced-migration has often been left out in the existing scholarship on the forced migration of psychiatric researchers and academics in psychology.[24] The bulk of the work tended to look at art history, film, sociology, psychoanalysis, and philosophy in their British and American diasporas. Our special issue now seeks to link the individual case studies to wider fields of global history, Jewish studies, education research, immigration studies, and the sociology of academic associations.

[19] Krystal and Niederland, 1971, p. 11–28.
[20] These innovative research trends have been described, for example, in: Ash and Soellner, 1996, p. ix.
[21] Fortescue, 1986, p. 2–4.
[22] Oreskes and Krige, 2014.
[23] Cf. Lenoir, 1997.
[24] Ash, 1995.

Historiographical Considerations

As a general development, the twentieth century witnessed the emergence of extraordinary numbers of interdisciplinary research fields.[25] Through these processes, the empirical sciences were correspondingly transformed by integrating and absorbing economic, social, cultural, and philosophical changes. Such interdisciplinary approaches morphed into effective research strategies, particularly in the life sciences and biomedical research, yet also in atomic physics and computer science.[26] While the above-mentioned trend has been often noted in twentieth-century history of science accounts,[27] it raises several analytical concerns in need of scholarly attention: the factors which triggered group work and the emergence of large-scale scientific research institutions need to be more examined.

While many authors have pointed to émigré scientists and intellectuals forced to leave the German-speaking countries since the 1930s[28] as a major factor of innovative research communities in North America,[29] we still lack historical corroboration of refugee academics' impact. In contrast to the better-documented histories of computer science and atomic physics, available research literature in the life sciences remains far from offering a comprehensive picture of German-speaking émigré psychiatry researchers and cognitive scientists in North America, despite impressionistic claims that they gave rise to something "radically new."[30] For cognitive science specifically, it was a new and emerging interdisciplinary research field since the end of the Second World War, drawing on loose connections between psychology, psychiatry, computer science, mathematics, linguistics, and cognitive neuroscience. It became innovatively placed around the cognitive tools that scholars and scientists employed and the techniques they used to understand the experimental, clinical, and thinking pathways of human cognition.[31]

This special issue of *History of Intellectual Culture* delves into this insufficiently explored terrain. It advances our knowledge about the quantitative and qualitative effects of German-speaking émigrés, as well as their influences on the shaping of interdisciplinary research landscapes in North American psychiatry, psychology, and cognitive science —

[25] Deichmann and Mueller-Hill, 1994, p. 160–183; Deichmann, 1992; Deichmann, 2002, p. 449–471; Harwood, 1996, p. 347–377; Appel, 2000.
[26] Hentschel, 1996; Knorr-Cetina, 1999.
[27] For example, see Hughes, 2003.
[28] Farreras, 2004.
[29] Fleming and Bailyn, 1969; Fermi, 1975; Taylor, 1983; Strauss and Roeder, 1983; Pearle, 1984, p. 112–137.
[30] Magoun, 2002, p. 405–410.
[31] Neressian, 1995, p. 194–211.

despite the often marginal, eccentric, and underprivileged state in which they found themselves in their host countries:[32]

> No matter how well they may do, exiles are always eccentrics who feel their difference (even as they frequently exploit it) as a kind of orphanhood. Anyone who is really homeless regards the habit of seeing estrangement in everything modern as an affection, a display of modish attitudes. Clutching difference like a weapon to be used with stiffened will, the exile jealously insists on his or her right to refuse to belong.[33]

The large total of approximately 9,000 scientists, intellectuals, and physicians in the United States and Canada and more than half a thousand individuals who were trained in psychiatry, clinical psychology, and cognitive science (using data from the Leo Baeck Institute and European Encyclopaedia of Emigration Research)[34] was a significant proportion of the approximately 20,000 professionals and intellectuals forced to leave Germany after 1933.[35] In addition, they were a particularly innovative group, who contributed substantially to their new host countries.[36] This process, however, must be seen as often unplanned and contingent on many local factors and personal resources that émigré scholars and scientists brought with them. Sometimes these were "pieces of knowledge" and "practical skills" that could be inserted into pre-existing knowledge communities in their host countries, but very often they were reflections and results of dynamic university and research cultures that had themselves been in flux; for example, the modernization needs in the British scientific and medical system, or the expansion tendencies in Canadian postsecondary institutions during and especially after the Second World War.

The collaborative research articles assembled in this special issue explore how a social process of immigration changed and transformed the modern research landscapes in Canada the United States,[37] as well as in Great Britain.[38] Ensuing academic changes included, for example, (1) the department-based research programs in psychophysiology, clinical neurology, biology, and anatomy towards integrated centres which cut across disciplinary boundaries;[39] (2) faculty-dependent units to autonomous research institutes (e.g. McGill's Allan Memorial Institute and

[32] Strickhausen, 1998, p. 284–297; Stortz and Panayotidis, 2004, p. 381–412.
[33] Taylor, 1983, p. 363.
[34] Niederland, 1988, p. 285–300; Krohn, 1988, p. 446–466; Volkov, 2001, p. 1–36.
[35] Weindling, 1993; Weindling, 1996, p. 86–114.
[36] For example, see Stahnisch, 2010, p. 36–68; Stahnisch, 2016, p. 299–319.
[37] Avery, 1995, p. 109–111.
[38] Cf. Weindling, Marks, and Wintour, 2011.
[39] We need to be aware in this context, that the émigré populations in each case could also have been quite different from one another — psychologists from psychiatrists, psychophysiologists from neuroanatomists —; as earlier historical studies have shown. Only a minority of émigré psychologists for example had medical degrees or worked in medical settings either before or after their enforced migration, while at the same time sharing similar émigré networks, knowing each other at the research institutions they worked in, and cooperating in decision-making processes towards larger academic aims together. See, for example, in: Ash, 1992a, p. 193–207.

the Montreal Neurological Institute), which often became "mini-universities within universities;" [40] and from (3) traditional academic educational paths (in psychiatry and medicine) towards innovative academic careers that did not exist in the nineteenth and early twentieth centuries — leading to "big science" re-organizations after the Second World War).[41] A few important studies of the history of biomedicine and psychiatry are those of Toby Appel (2000), Lilly Kay (1995), Ute Deichmann (1996), and Gerald Geison (1981).[42] Yet they do not sufficiently explore the importance of "interdisciplinarity," while rather focusing on "the cultural production of scientific disciplines"[43] or "a modern system of scientific disciplines."[44] The individual contributions therefore also refer to the career patterns of the émigrés, exemplified in the case studies included in this special issue. Social processes, career patterns, biographical experiences, and scientific changes can thus be seen as related to one another, causally and otherwise, while showing that career changes also represented methodological changes, new work opportunities gave rise to institutional and organizational transformations, and the very experience of the expulsion and forced migration could give rise to new scholarly and scientific questions, as is respectively conceptualized in the case examples assembled here.

Our collaborative special issue forges some explanations of the results from large-scale forced migration of European psychiatry researchers and cognitive scientists, by also looking at the experimental studies of cognition that have been carried out in clinical settings and by medicine-oriented researchers.[45] Among the latter group were also figures like Tilly Edinger (1897–1967) at Harvard University, who became a founder of modern palaeoneurology, and who enriched the North American research landscape. Further cases include Otto Loewi at Rockefeller University, a Nobel Prize winner who laid the foundations of modern neurosynapse research, Heinz Lehmann (1911–1999) at McGill University in Montreal, who introduced the first synthetic psychoactive drug Chlorpromazine, and Eric Kandel (born 1929) at Harvard University, a Nobel Prize winner who worked on memory processes in laboratory research settings. [46] To understand their pivotal scientific role, the German-speaking context is important. It provided early and intriguing interdisciplinary forms of research organization in major urban centres such as Vienna (1880s), Berlin (1910s), and Munich in the 1920s.[47] This

[40] Clinghorn, 1984, p. 551–556.
[41] Weinberg, 1967; Hughes, 2003.
[42] Appel, 2000; Kay, 1997, p. 283–293; Geison, p. 20–40.
[43] Lenoir, 1997.
[44] Nowotny, 1999, p. 247–262.
[45] Peters, 1996, p. 161–167.
[46] Focke, 1984; Leys and Evans, 1990; Haentzschel, 1992, p. 43–53; Kandel, 1996, p. 54–66; Stahnisch, 2006, p. 414–442.
[47] Stahnisch, 2009a, p. 41–54; Stahnisch, 2009b, p. 187–214.

also means that the time frame for inclusion of the individual case studies is an extended one, from 1933 to 1989 (the end of the "Cold War"), connecting scholars and scientists who were trained in Germany or Austria with those scholars and scientists, like Eric Kandel, who migrated as children and acquired most of their training in the so-called host countries. As will nevertheless become apparent from the individual contributions to this special issue, the age at migration and of generational differences in general was very significant for the assembled studies on the topic. The set time frame further allows us to address both the immediate consequences of disruption and constraints to the careers of émigré psychologists, psychiatrists, and cognitive scientists, through examining issues of change in concepts, programs, and disciplinary settings. This helps to place the impact of the émigrés in a more systematic form of examination, facilitating new understandings how émigrés allegedly contributed to many respective changes during the specific periods of their careers.

Previous studies on émigré scientists, physicians, and academics — including the exhaustive approach of the German social historians Herbert A. Strauss and Werner Roeder along with detailed historical investigations of change in the sciences and humanities by science and political historians Mitchell Ash and Alfons Soellner —[48] have concentrated on individual biographies and the big political events that affected refugees.[49] Their volume has set a trend departing from the older "contributions perspective," and it already established a process-oriented approach as a result of the kind that our special issue is here proposing as well. *Forced Migration and Scientific Change* instituted this turn that has been continued with further publications by Ash, Soellner, and others during the following decade,[50] advocating for a fundamental change of historiographical perspective and favouring a process-oriented perspective that envisaged specific dynamics of change.

Our special issue of *History of Intellectual Culture* rather aims at considering the "brain gain" in North America and Great Britain that the new arrivals precipitated.[51] Yet it also ponders technical skills, organizational patterns, and specific scientific know-how transported *with* refugee academics from Germany, Austria, and Hungary.[52] Studies of émigré psychologists, psychiatrists, and cognitive scientists provide a framework for in-depth analyses of essential topoi of historical epistemology and the interchange of practice and theory,[53] the

[48] Strauss and Roeder, 1983; Ash and Soellner, 1996.
[49] Also, see Coser, 1984; Decker, 2003, p. 850–873.
[50] Cf. Ash, 1992b, p. 198–207; Sturm and Ash, 2006; Ash, 2011, p. 6–10; Soellner, 1996; Marks, Weindling, and Wintour, 2011.
[51] Cf. Medawar and Pyke, 2001; Koch and Koch, 1980, p. 230–245.
[52] Hubenstorf, 2001, p. 277–288.
[53] Stroesser, 1993; Peiffer, 1998, p. 99–109; Burgmair and Weber, 2003, p. 343–378; Roelcke, 2004, p. 92–109.

organization of group research, and cultural differences in institutional settings.[54]

Since it is the aim of this international special issue to enrich current debates about "scientific cultures" or "science in context,"[55] the assembled articles show how new interdisciplinary research fields developed: for example, in psychiatry research, clinical neuroscience, and cognitive psychology.[56] It does not come as a surprise then that also the first "Neuroscience Study Program," one of several new interdisciplinary academic societies evolving in the early 1960s from the biophysics research of Francis O. Schmitt (1903–1995) at the MIT in Cambridge, MA,[57] included a substantial number of émigré researchers and academics. Historiographically, the study further concentrates on interactions with physiologists, psychoanalysts, physicians, yet also mathematicians and computer scientists, etc.[58] These fields were particularly altered through the process of forced migration. The objective of our special issue is hence a thorough analysis how émigré psychologists, psychiatrists, and cognitive scientists shaped research approaches after their arrival in Canada and the United States.[59]

The specific research questions addressed in this special issue of *History of Intellectual Culture* align with larger discourses in history and philosophy of science and modern science and technology studies.[60] Since knowledge in the life sciences has increasingly been integrated into today's discourses of politics, economics, and culture, its context emerged more and more relevant.[61] Psychiatry research and the neurological sciences became involved in what French historian and philosopher Michel Foucault (1926–1984) termed modern "biopolitical discourses," most notably in discussions around eugenics and euthanasia programs since the 1930s.[62] Related discourses impinge for example on eugenics and biological psychiatry in North America.[63] Yet, what is still lacking is a detailed historical account of the developments in early and mid-twentieth century psychiatry research and biomedicine that highlight the interdisciplinary dynamics in psychiatric clinics, psychophysiological laboratories, and mental health institutions.

---

[54] Faulkner and Menninger, 1989; Harrington, 1996; Grob, 2000, p. 232–240; Hollinger, 2000, p. 145–163; Borck, 2005.
[55] In fact, forced migration phenomena in psychology, psychiatry, and the cognitive sciences cannot be seen as independent from such larger trends. They rather exemplify specific cases of broader social and cultural contexts of modern scientific developments. See, for example, the perspectives given by: Christopher Geertz, 1993; Biagioli, 1999.
[56] Pickenhain, 2002, p. 241–246; Troehler, 1983, p. 203–214; Finger, 1994; Millett, 2001, p. 522–542.
[57] Schmitt, 1990.
[58] Pow and Stahnisch, 2016, p. 253–274; Braitenberg, 1970, p. 43–48; Parnes, 2003, p. 435–454.
[59] Holdorff, 2016, p. 227–252; Koch and Koch, 1980, p. 230–254.
[60] Shapin, 1990, p. 990–1007; Thompson Klein, 1990, p. 17–76; Roelcke, 2002, p. 21–55.
[61] De Chadarevian, 1998.
[62] Mueller-Hill, 1984; Kater, 1989; Aly, 1989; Kroener, 1997, p. 37–53; Karenberg, 2006.
[63] Hincks, 2004, p. 161–165; Pressman, 1998; Dowbiggin, 2003; Pickwren, 2004.

By reflecting on the intriguing case studies in this special issue, it becomes easier to grasp the career and life developments of émigré psychologists, psychiatrists, and cognitive scientists over time, their interaction with the receiving contexts in the countries they first migrated to (e. g. England and Turkey) as well as those they ultimately settled in (e. g. Canada and the United States), and the interaction with networks from other disciplines (between psychology and cognitive science, or between medicine and psychoanalysis with trauma therapy). The breadth of the focal perspectives chosen here, as well as the length of the study period, allow going beyond several limitations in previous approaches or the current state of the art in this field and offer insightful perspectives on the émigrés' participation in dynamic developments that have been much needed and that are emphasized here.

Pursuing such a topic necessitates scrutiny of biomedical working groups and collective biographies on "a meso-level" (i.e. between academic societies and individual scientists), as French sociologist Bruno Latour (1999) contrived. Methodological approaches such as Latour's "actor-network-theory" or Kuhn's "disciplinary matrices" can provide useful historiographical angles regarding the interplay between science and society so prominently implicated by psychiatry research and cognitive science.[64]

It is one of our hypotheses that conceptual changes in modern mind and brain sciences and related fields were triggered by increasing scientific acceptance of interdisciplinary research models in North America. It is highly desirable, for that very reason, to investigate the contributing fields, because "external" disciplinary threats to individual research disciplines such as psychiatry, neurology, and pathology resulted in many attempts at fostering collaborative transactions. This trend is for example reflected in the appearance of dynamic metaphors and cultural and political notions, such as 'energy,' 'power,' or 'motion,' seen by many scholars as paving the way for a dynamic understanding of the central nervous system at the beginning of the twentieth century.[65] The general development of psychiatry research and the cognitive sciences compel us to take a closer look at the role of German émigré scientists and academics between the 1930s and 1970s along with the postwar period.[66] This is strikingly reflected by the steady growth of the Neuroscience Research Program since 1963 from two-dozen participants at its meetings to the foundation of the international Society for Neuroscience (SfN) with more than 500 attendees in the 1970s. Today these numbers have grown vastly, so much so that an annual meeting brings together 30,000 neuroscientists and psychiatrists at the SfN. Two thirds of the founding presidents of the Society for Neuroscience

[64] Kuhn, 1963, p. 10–12; Latour, 1999, p. 276–289.
[65] Breidbach, 1997; Hagner, 1999, p. 144–176.
[66] Swazey and Worden, 1975; Tower, 1984, p. 48–70.

were participants in the preceding Neuroscience Research Program, and nearly all neuroscientists winning Nobel Prizes between 1963 and 2000 had been SfN members.[67] Similar developments can also be found in the Cognitive Science Society, the American Society for Microbiology, the American Society for Human Genetics, yet also the German Max Planck Society for the Advancement of Science for that matter.

The research presented in this special issue of *History of Intellectual Culture* further scrutinizes the social contexts of German-trained psychiatric and psychology refugees with the scientific and clinical concepts they used, their laboratory practices, along with interchanges of tacit knowledge, laboratory protocols, and organizational patterns for assessing their impact on Canadian and American academia. Historical experiences, background knowledge of émigré psychiatry researchers, cognitive scientists, along with the "cultural embeddedness" of experimental systems are examined, paying tribute to Karin Knorr-Cetina's notion of "intensification of society" in the research clinic and laboratory.[68] Viewing the development of modern psychiatric and cognitive psychological research as influenced, if not driven,[69] by sociocultural changes leads to a historiographical approach which takes local research determinants into account and pays attention to differing organizational cultures.[70] Our special issue also explores historical archival evidence in establishing which discursive networks acted as new cultural backgrounds for émigré psychiatrists, neuroscientists, and academics in their receiving host countries.[71] The focus of attention lies on the momentum of organizational re-arrangements out of which *new epistemic cultures* emerged. It ponders important advances of seeing science in context,[72] when asking which notions of benefit, necessity, and status of "interdisciplinarity" were used by researchers and academics of the period. The current special issue can itself be understood as an example of a particular form of "interdisciplinarity,"[73] blending ethnographic and sociological approaches with methodologies of historical investigation.[74] In addition, it develops a central field in twentieth-century history of science and history of intellectual culture through the specific perspectives and lenses by the contributions assembled in this volume.[75]

[67] Adelman, 2010, p. 15–23.
[68] Knorr-Cetina, 1982, p. 85–101.
[69] Schmidgen, Geimer, and Dierig, 2004.
[70] For example, see Weber, 2002, p. 1107–1111; Kreft, 2005.
[71] Cf. Hoffmann and Stahnisch, 2014.
[72] Latour, 1987; Rheinberger, 2001; Pickering, 1994.
[73] Lepenies, 1978, p. 45–69.
[74] Cf. Geertz, 1993; Biagioli, 1999.
[75] Worden, Schmitt, Swazey, and Adelman, 1975.

The Individual Article Contributions to this Special Issue

"Émigré Psychiatrists, Psychologists, and Cognitive Scientists in North America since the Second World War" provides a cluster of intriguing case studies of émigré psychiatrists and psychologists and their work. It is introduced through a Preface by Jim Ellis as the Director of the Calgary Institute for the Humanities. The Calgary Institute for the Humanities at the University of Calgary's Faculty of Arts supported the production of this special issue of History of Intellectual Culture through a grant for an interdisciplinary working group (German-speaking Émigré Neuroscientists and Biomedical Researchers, 1933–1963). Like other humanities institutes, the Calgary Institute for the Humanities seeks to foster the most innovative interdisciplinary conversations, by bringing together scholars from different disciplines to address common humanities issues from a variety of scholarly perspectives, as is represented in the current publication.

Case examples from clinical psychology in Canada are discussed in the third article, which takes Dr. Hugh Lytton's (1921–2002; born Heinz Lichtenstein) memoir as a starting point. His writing captured the feeling of many German Jews during the Nazi period in the 1930s. After realizing that there was no future for young Jews in Germany, Lytton immigrated to Britain in 1936 and embarked on a journey that would notably affect his personal life and career. Initially, Lytton thought that he would become a rabbi but his experiences in Britain put him on a path toward academia and research work. Similar to the experiences of other refugees, who had to leave their families, homes, and livelihoods behind, living in the host country proved challenging for Lytton but he persevered. He began to study languages, and this proved useful when he joined the British military and served as an interpreter at the Allies' Nuremberg Trials in 1947. Throughout this time, he became interested in social psychology, which led to a research fellowship at the Tavistock Clinic in London to train in clinical psychology. Dr. Lytton obtained a PhD in 1966 from the University of London, and went on to publish his internationally renowned work, *Parent-Child Interaction: The Socialization Process Observed in Twin and Singleton Families* (1980). Erna Kurbegović uses Lytton's memoir, personal documents, and publications to trace Lytton's journey in three countries—Germany, Britain, and lastly Canada—where in 1969 he eventually settled and obtained a faculty position in the University of Calgary's Department of Educational Psychology. Lytton's story provides an important case study for the history of forced migration during the Nazi period, and it provides useful insights into how life experiences can affect an individual's path in the academic world. It provides a fine example of scientific change following an unexpected shift of discipline and the transfer of experiences in the British educational system

to a Canadian context, while supporting other examples known in the scholarship and thus enriching the forced migration picture.

Career changes occurred in many émigré researchers trained in neuropathology before the Second World War. This characterizes particularly a research area that the next article by Daniel Burston takes on, using the biographical case of Karl Stern (1906–1975). Stern was a German-Jewish psychiatrist and neurologist who trained at the Kaiser Wilhelm Society's German Research Institute of Psychiatry in Munich, and at the universities in Frankfurt am Main, and Berlin. He fled Germany in 1937 — first to London, then to Canada, where he taught at McGill University and the University of Ottawa —, becoming Chief of Psychiatry at several major clinics in Ottawa and Montreal from the early 1950s to the late 1960s. In 1951, he published *The Pillar of Fire*, a memoir that chronicled his childhood, adolescence, and early adulthood, describing his medical and psychiatric training during the midst of the stampeding Nazification of Germany, such as at the German Research Institute for Psychiatry of the Kaiser Wilhelm Society in Munich. *The Pillar of Fire* explored the challenges and vicissitudes of forced immigration and acclimating to new cultural surroundings, as did Stern's novel, *Through Dooms of Love*, later published in 1960. Stern's autobiographical reflections on his experience of up-rootedness and losing his home country are interwoven with his conversion narrative from Judaism to Roman Catholicism, along with a consequent alienation from the communities that still embraced his ancestral faith. Other sources that attest to Stern's lingering sense of estrangement in the midst of his flourishing career in Canada are his letters to Dorothy Day (1897–1980), the published recollections of his nephew Walter von Baeyer (1904–1987) — himself an eminent neurologist and psychiatrist, who had trained in the Kaiser Wilhelm Society, both at the German Research Institute for Psychiatry and at the Breslau Neurological Institute —, who visited the Sterns' home in Montreal during the 1950s.

The fifth article is by Frank W. Stahnisch and Christopher Kemp, looking at the involvement of émigré psychiatrists in the indemnification trials of previous Nazi refugees and Holocaust survivors. The concentration here is on refugee neurologist and psychiatrist William G. Niederland (1904–1993), an East-Prussian psychiatrist of Jewish descent. He immigrated to North America in 1940 on a highly remarkable route, which basically brought him all across the globe — from Europe to China, and from there to the United States via the Pacific isles. Yet of course, it is not primarily his adventurous flight from the Nazi regime — although it had much to do with the direction of his professional career and the specific psychiatric work — which is at the centre of his international personal and professional career. Looking at Dr. Niederland's remarkable working biography presents his focus on some international forms of

suffering. His interpretation of the psychiatric contours of 'empathy' were related to an increasingly global world while, conversely, the answers to the conditions he described, scrutinized, and treated originated from intensive medical counselling. The article underscores the role of personal experience of émigré physicians and psychiatrists in the reconceptualization of those clinical symptoms, which Niederland saw in his medical practice. His notions of 'trauma' and 'empathy' emerged from the very living conditions of European refugees and Holocaust survivors themselves.

The next article of this special issue switches thematic gears by examining a group of German-trained cognitive scientists. Vincent von Hoeckendorf explores the broader interdisciplinary field, which gave rise to the new research tradition, and he draws on mathematics, neurology, cybernetics, and psychology approaches in his contribution. This interdisciplinary field was forged on the notion that psychology and neuroscience had similar goals and study "objects;" and as such they should combine their research efforts. Moreover, the new cognitive science model was able to bridge several gaps between psychology and neuroscience. The question however remained: why particularly did the 1940s and 1950s see such an emerging interest in interdisciplinary work? And how did the German-speaking émigrés in the United States and Canada contribute to that development? As the author intriguingly shows, the idea of integrating psychology and neurophysiology had a long history dating back to the mid nineteenth century with the advent of the neuron doctrine. Since that time, neural network theories were contemplated, partially formulated, and later dropped again. So, there have been long interruptions in this particular line of investigation for a variety of social and epistemic reasons. This article explores also the history of the field and explains the role of émigré cognitive scientists in that development. It raises important questions about how today's theories have come to differ from the historical precursors, and how recent evidence on brain physiology and neurotechnologies allowed for better understanding the advantages and disadvantages in the integration of psychology and neuroscience.

Great Britain as a country for onward migration and the differences in the research backgrounds between German-speaking and English-trained psychiatrists are the topic of the seventh article. Aleksandra Loewenau addresses the case of German and Austrian émigré psychiatrists and neurologists in Great Britain since 1933, after the Nazis expelled them from their positions for racial and political reasons. When placing these occurrences in a wider historiographical perspective, the author's in-depth analysis delves into the living and working contexts of the refugee neuroscientists on the British Isles. She thereby analyzes the very issues that influenced the international forced migration of physicians and psychiatrists during the

1930s and 1940s. Only a fraction of refugee neuroscientists, however, was admitted to Great Britain. Those lucky ones were assisted by an aggregate of charitable, communal, and academic organizations. From archival documentation, it emerges that the British government and medical circles were rather lethargic, if not outright hostile, towards German-speaking Jewish refugee psychiatrists who wished to escape Nazi Germany. A special consideration is given to the aid programs that already began their activities in the first year after the Nazis had seized power, with the foundation of the British Assistance Council by the economist and political philosopher Sir William Henry Beveridge (1879–1963) in 1933.

Since the countries of refuge were not limited to North America, yet were significantly facilitated through third countries, such as Turkey and Great Britain, the last article in this issue focuses on German-speaking refugees who found refuge in Mustafa Kemal Atatürk's (1881–1938) Turkish Republic. The interesting case of émigrés in Turkey remains largely under-researched, and a great deal of historical work still remains to be pursued.[76] Guel A. Russell takes this work on by focusing on the Turkish Republic's offer of university positions to thirty German academics in 1933, who were dismissed with the coming to power of the National Socialist Government. That initial number went up to fifty-six with inclusion of the technical assistants. By 1948 the estimated total had even increased to almost two-hundred. Given renewable five-year contracts with salaries substantially higher than their Turkish counterparts, foreign émigrés were to implement the westernization program of higher education. The ten-year-old Turkish Republic's social reforms had encompassed equal rights for women and removed gender bias in hiring. Such a high concentration of émigré academics in one institution provided a unique opportunity for studying a subject, which had been neglected in scholarly literature. It provides insights into the issue of onward migration from Europe to North America, by particularly exploring several case examples from psychology and psychiatry research.

Our special issue for *History of Intellectual Culture* ends with a historiographical Commentary by Paul J. Stortz,[77] which takes the entirety of this special issue into account and reflects on the new picture of the intellectual migration of the 1930s and 1940s in the wider context of intellectual history and the modern university system. In line with the existing scholarly literature, the new case studies can show that psychiatric research and cognitive psychology existed at important contemporary crossroads, which the contributing authors

[76] As one of the few exceptions, see the German language article by Erichsen, 2006, p. 219–234.

[77] By the time of the submission of these contributions to the Preprint Series of the Max Planck Insitute for the History of Science in Berlin, Germany, this Commentary piece by Professor Stortz was not yet available. It will however be included in the finalized Special Issue of *History of Intellectual Culture* for January 2019.

identify as a result from an important merger between new disciplinary movements with important external, social and economic, factors. These reshaped the field as it moved towards today's complex research landscape in the mind and brain sciences,[78] yet in concrete ways the émigré psychiatrists, psychologists, and cognitive scientists also contributed to these transformations and emphasized interdisciplinary trends. The permeable boundaries and enriching motives have rendered them as very well suited historical issues to be explored in this specialized issue—with all the major repercussions in North America that we still witness in the academy and research world today.

Altogether, this special issue of *History of Intellectual Culture* clearly shows that the long-term migration of scientists and physicians affected both the academic migrants and their receiving environments. On the one side, the encounter between the newly arriving émigré scientists and scholars confronted two different traditions and systems. On the other side, migrating scientists and physicians had themselves been confronted with foreign institutional, political, economic, and cultural frameworks when trying to establish their own ways of knowledge generation, systems of logic, and cultural mentalities. The twentieth century has been called the century of war and forced migration. It witnessed two devastating world wars, leading to a massive exodus that also included many psychiatrists and neuroscientists from their home countries. Fascism in Italy and Spain beginning in the 1920s and Nazism in Germany and Austria between the 1930s and 1940s forced a very large contingent of researchers and physicians with prior education in psychiatry, psychology, neurology, and related fields to leave their familiar scientific and academic institutions and seek refuge and new academic homes elsewhere in the free and democratic world.

References

Abella, Irving and Harold Troper. 2000. *None is Too Many: Canada and the Jews of Europe*. Toronto, ON: Key Porter Books Limited.

Adelman, George. 2010. The Neurosciences Research Program at MIT and the Beginning of the Modern Field of Neuroscience. *Journal of the History of the Neurosciences* 19: 15–23.

Aly, Goetz (ed.). 1989. *Aktion T4 1939–1945. Die "Euthanasie-Zentrale" in der Tiergartenstrasse 4*. Berlin, Germany: Edition Heinrich, 2nd augm. ed.

Appel, Toby. 2000. *Shaping Biology: The National Science Foundation and American Biological Research, 1945–1975*. Baltimore, MD: Johns Hopkins University Press.

Ash, Mitchell G. 1992a. Historicizing Mind Science: Discourse, Practice, Subjectivity. *Science in Context* 5: 193–207.

[78] See also recently in: Gavrus and Casper, 2017.

Ash, Mitchell G. 1992b. Cultural Contexts and Scientific Change in Psychology: Kurt Lewin in Iowa. *American Psychologist* 47: 198–207.

Ash, Mitchell G. 1995. *Gestalt Psychology in German Culture, 1890–1967. Holism and the Quest for Objectivity*. Cambridge, MA: Cambridge University Press.

Ash, Mitchell G. 2011. Forced Migration and Scientific Change in the Nazi Era. *Oberwolfach Reports* 51: 6–10.

Avery, Donald. 1995. *Reluctant Host: Canada's Response to Immigrant Workers, 1896–1994*. Toronto, ON: McClelland & Stewart.

Bartrop, Paul R. (eds.). 1995. *False Havens – The British Empire and the Holocaust*. Lanham, NY: University Press of America, Inc.

Borck, Cornelius. 2005. *Hirnstroeme. Eine Kulturgeschichte der Elektroenzephalographie.* Goettingen, Germany: Wallstein.

Braitenberg, Valentin. 1970. Hirnforschung zwischen Lokalisationslehre und Systemanalyse. *Attempto* 35: 43–48.

Breidbach, Olaf. 1997. *Die Materialisierung des Ichs: Zur Geschichte der Hirnforschung im 19. und 20. Jahrhundert*. Frankfurt am Main: Suhrkamp.

Burgmair, Wolfgang, and Matthias M. Weber, 2003. "'das Geld ist gut angelegt, und Du brauchst keine Reue haben'. James Loeb, ein deutsch-amerikanischer Wissenschaftsmaezen zwischen Kaiserreich und Weimarer Republik. *Historische Zeitschrift* 277: 343–378.

Clinghorn, Roger. 1984. The Emergence of Psychiatry at McGill. *Canadian Journal of Psychiatry* 29: 551–556.

Cornwall, John. 2004. *Hitler's Scientists: Science, War, and the Devil's Pact*. London, England: Penguin, 2004.

Coser, Lewis A. 1984. *Refugee Scholars in America. Their Impact and Their Experiences*. New Haven, NJ: Yale University Press.

De Chadarevian, Soraya. 1998. *Molecularizing Biology and Medicine 1910s to 1970s.* Amsterdam, The Netherlands: Harwood Academic Publishers.

Decker, Karoline. 2003. Divisions and Diversity: The Complexities of Medical Refuge in Britain, 1933–1948. *Bulletin of the History of Medicine* 77: 850–873.

Deichmann, Ute. 1996. *Biologists under Hitler*. Cambridge, UK: Harvard University Press.

Deichmann, Ute. 2002. Emigration, Isolation and the Slow Start of Molecular Biology in Germany. *Studies in History and Philosophy of Biological and Biomedical Sciences* 33: 449–471.

Deichmann, Ute, and Benno Mueller-Hill. 1994. Biological Research at Universities and Kaiser Wilhelm Institutes in Nazi Germany. In *Science, Technology, and National Socialism* (eds.) Renneberg, Monika, and Mark Walker, 160–183. Cambridge, England: Cambridge University Press.

Dowbiggin, Ian R. 2004. *Keeping America Sane: Psychiatry and Eugenics in North America and Canada, 1880–1940*. New York City: Cornell University Press, 2003.

Erichsen, Regine. 2006. Vom Nationalsozialismus vertriebene Wissenschaftler auf dem Markt. Die Arbeitsvermittlung des Englischen Academic Assistance Council (SPSL)

am Beispiel von Tuerkeiemigranten. *Berichte zur Wissenschaftsgeschichte* 19: 219–234.

Faulkner, Howard J., and Karl A. Menninger (ed.). 1989. *The Selected Correspondence of Karl A. Menninger, 1919–1945*. New Haven, NJ: Yale University Press.

Fermi, Laura. 1975. *Illustrious Immigrants. The Intellectual Migration from Europe 1930–1941*. Chicago, IL: Chicago University Press.

Finger, Stanley. 2001. *Origins of Neuroscience*. New York City: Oxford University Press, 1994.

Fleming, Donald, and Bernard Bailyn (eds.). 1969. *The Intellectual Migration: Germany and America, 1930–1960*. Cambridge, MA: Belknap Press.

Focke, Wenda. 1984. *Begegnung. Herta Seidemann Psychiatrin-Neurologin 1900–1984*. Konstanz: Hartung-Gorre.

Fortescue, Stephen, 1986. *The Communist Party and Soviet Science*. London, England: Palgrave MacMillan.

Friedlander, Saul. 1997. *Nazi Germany and the Jews: The Years of Prosecution*. London, England: Routledge.

Gavrus, Delia, and Stephen T. Casper (eds.). 2017. *The History of the Brain and Mind Sciences: Technique, Technology, Therapy*. Rochester, NY: University of Rochester Press.

Geison, Gerald. 1981. Scientific Change, Emerging Specialities, and Research Schools. *History of Science* 19: 20–40.

Grob, Gerald N. 2000. Mental Health Policy in Late Twentieth Century America. In *American Psychiatry after World War II (1944–1994)* (eds.) Menninger, Roy W., and John Nemiah, 232–240. Washington, D. C.: American Psychiatric Press.

Haentzschel, Helmut. 1992. Der Exodus von Wissenschaftlerinnen. 'Juedische' Studentinnen und was aus ihnen wurde. *Exil* 12: 43–53.

Hagner, Michael. 1999. Gehirnfuehrung: Zur Anatomie der geistigen Funktionen, 1870–1930. In *Ecce cortex. Beitraege zur Geschichte des modernen Gehirns* (ed.) Hagner, Michael, 144–176. Goettingen, Germany: Wallstein.

Harrington, Anne. 1996. *Reenchanted Science, Holism in German Culture from Wilhelm II. To Hitler*. Princeton, NJ: Princeton University Press.

Harwood, Jonathan. 1996. Weimar Culture and Biological Theory: A Study of Richard Wolterede (1877–1944). *History of Science* 24: 347–377.

Hentschel, Klaus (ed.). 1996. *Physics and National Socialism. An Anthology of Primary Sources*. Berlin, Germany: Birkhaeuser.

Hincks, Christopher M. 2004. Canadian Psychiatry. *Canadian Medical Association Journal* 57: 161–165.

Holdorff, Bernd. 2016. Emigrated Neuroscientists from Berlin to North America. *Journal of the History of the Neurosciences* 25: 227–252

Hollinger, David A. 2005. Why are Jews Preeminent in Science and Scholarship? *Aleph. Historical Studies in Science and Judaism* 2: 145–163.

Hubenstorf, Michael. 2001. Vertreibung und Verfolgung. Zur Geschichte der oesterreichischen Medizin im 20. Jahrhundert. *Das Juedische Echo* 50: 277–288.

Hughes, Jeff. 2003. *The Manhattan Project: Big Science and the Atomic Bomb*. New York City: Columbia University Press.

Kandel, Eric J. 1996. *In Search of Memory. The Emergence of a New Science of Mind*. New York City: W.W. Norton & Company.

Karenberg, Axel. 2006. Neurosciences and the Third Reich (Special Issue). *Journal for the History of the Neurosciences* 15.

Kater, Michael. 1989. *Doctors Under Hitler*. Chapel Hill, NC: The University of North Carolina Press.

Kay, Lilly E. 1997. Rethinking Institutions: Philanthropy as an Historiographic Problem of Knowledge and Power. *Minerva* 35: 283–293.

Knorr-Cetina, Karen. 1982. Das naturwissenschaftliche Labor als Ort der 'Verdichtung von Gesellschaft.' *Zeitschrift fuer Soziologie* 17: 85–101.

Knorr-Cetina, Karin. 1999. *Epistemic Cultures: How the Sciences Make Knowledge*. Cambridge, MA: Harvard University Press.

Koch, Lothar, and Eric Koch. 1980. *Deemed Suspect. A Wartime Blunder*. Toronto, ON: Methuen.

Kroener, Hans-Peter. 1997. Von der Rassenhygiene zur Humangenetik: NS-Wissenschaftler diskutieren ihre Rolle, ihr Fach und ihr Selbstverstaendnis. In *Kontinuitaet und Neuanfang in der Hochschulmedizin nach 1945* (eds.) Aumueller, Gerhard, Lauer, Hans, and Heinrich Remschmidt, 37–53. Marburg, Germany: Schueren.

Krohn, Claus-Dieter. 1988. Vereinigte Staaten von Amerika. In *Handback der deutschsprachigen Emigration 1933–1945* (ed.) Krohn, Claus-Dieter, 446–466. Darmstadt, Germany: Primus.

Krystal, Henry, and William G. Niederland. 1971. *Psychic Traumatization; Aftereffects in Individuals and Communities*. Boston, MA: Little, Brown.

Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago, IL: Chicago University Press.

Latour, Bruno. 1987. *Science in Action: How to Follow Scientists and Engineers through Society.* Cambridge, MA: Harvard University Press.

Latour, Bruno. 1999. "One More Turn After the Sociological Turn ... ." In *The Science Studies Reader* (ed.) Biagioli, Mario, 276–289. New York City: Routledge.

Lenoir, Timothy. 1997. *Instituting Science: The Cultural Production of Scientific Disciplines*. Stanford, CA: Stanford University Press.

Lepenies, Wolfgang. 1978. Towards an Interdisciplinary History of Science. *International Journal of Sociology* 8: 45–69.

Leys, Ruth, and Richard B. Evans. 1990. *Defining American Psychology: The Correspondence Between Adolf Meyer and Edward Bradford Titchener*. Baltimore, MD: The Johns Hopkins University Press.

Loeffelholz, Konrad. 2011. The Persecution of Pharmacologists in Nazi Germany and Austria. *Naunyn's & Schmiedeberg's Archives of Pharmacology* 383: 217–225.

Magoun, Horrace W. 2002. *American Neuroscience in the Twentieth Century: Confluence of the Neural, Behavioural, and Communicative Streams*, ed. and ann. by Louise H. Marshall. Lisse, The Netherlands: Swets & Zeitlinger.

Marks, Shula, Weindling, Paul, and Laura Wintour (eds.). 2011. *In Defence of Learning – The Plight, Persecution, and Placement of Academic Refugees, 1933–1980s*. Oxford, UK: Oxford University Press, 2011.

Medawar, Jean, and David Pyke. 2001. *Hitler's Gift. The True Story of the Scientists Expelled by the Nazi Regime*. New York City: Arkade Publishing.

Millett, David. 2001. Hans Berger. From Psychic Energy to the EEG. *Perspectives in Biology and Medicine* 44: 522–542.

Mueller-Hill, Benno. 1984. *Toedliche Wissenschaft. Die Aussonderung von Juden, Zigeunern und Geisteskranken, 1933–45*. Reinbek, Germany: Rowolth.

Neressian, Nancy J. 1995. Opening the Black Box: Cognitive Science and History of Science. *Osiris* 10: 194–211.

Niederland, Doron. 1988. Jewish Emigration from Germany in the First Years of Nazi Rule. The Emigration of Jewish Academics and Professionals from Germany in the First Years of Nazi Rule. In *Leo Baeck Institute Yearbook*, ed., Niederland, Doron, 285–300. Oxford, England, New York City: Berghahn Books.

Nowotny, Helga. 1999. The Place of People in our Knowledge. *European Review* 7: 247–262.

Oreskes, Naomi, and Andrew Krige (eds.). 2014. *Science and Technology in the Global Cold War*. Cambridge, MA: MIT Press.

Pais, Abraham. 1982. *'Subtle is the Lord …:' The Science and the Life of Albert Einstein*. Oxford, England: Oxford University Press.

Parnes, Ohad. 2003. 'Trouble from Within': Allergy, Autoimmunity, and Pathology in the First Half of the Twentieth Century. *Studies in History and Philosophy of Biological and Biomedical Sciences* 34: 435–454.

Pearle, Kathrin M. 1984. Aerzteemigration nach 1933 in die USA: Der Fall New York. *Medizinhistorisches Journal* 19: 112–137.

Peiffer, Juergen. 1998. Die Vertreibung deutscher Neuropathologen 1933–1939. *Nervenarzt* 69: 99–109.

Peters, Uwe-Hendrik. 1996. Emigration deutscher Psychiater nach England. (Teil 1:) England als Exilland fuer Psychiater. *Fortschritte der Neurologie, Psychiatrie und ihrer Grenzgebiete* 64: 161–167.

Pickenhain, Lothar. 2002. Die Neurowissenschaft – ein interdisziplinaeres und integratives Wissensgebiet. *Schriftenreihe der Deutschen Gesellschaft fuer Geschichte der Nervenheilkunde* 8: 241–246.

Pickering, Andrew. (ed.). 1994. *Science as Practice and Culture.* Chicago, IL: Chicago University Press.

Pickwren, William E. 2004. *Psychology and The National Institute of Mental Health: Historical Analysis of Science, Practice, and Policy*. Washington, D. C.: American Psychiatric Association.

Pow, Stephen, and Frank W. Stahnisch. 2016. Eugenics Ideals, Racial Hygiene, and the Emigration Process of German-American Neurogeneticist Franz Josef Kallmann (1897–1965). *Journal of the History of the Neurosciences* 25: 253–274.

Pressman, Jack D. 1998. *Last Resort: Psychosurgery and the Limits of Medicine*. Oxford, England: Oxford University Press.

Rheinberger, Hans-Jörg. 2001. *Experimentalsysteme und epistemische Dinge. Eine Geschichte der Proteinsynthese im Reagenzglas*. Goettingen, Germany: Wallstein.

Roelcke, Volker. 2002. Programm und Praxis der psychiatrischen Genetik an der Deutschen Forschungsanstalt fuer Psychiatrie unter Ernst Ruedin: Zum Verhaeltnis von Wissenschaft, Politik und Rasse-Begriff vor und nach 1933. *Medizinhistorisches Journal* 37: 21–55.

Roelcke, Volker. 2004. Wissenschaften zwischen Innovation und Entgrenzung: Biomedizinische Forschung an den Kaiser-Wilhelm-Instituten, 1911–1945. In *Sozialdarwinismus, Genetik und Euthanasie. Menschenbilder in der Psychiatrie* (eds.) Bruene, Martin, and Theo R. Payk, 92–109. Stuttgart, Germany: Wissenschaftliche Verlagsgesellschaft.

Schmidgen, Henning, Geimer, Peter, and Dierig, Sven (eds.). 2004. *Kultur im Experiment.* Berlin, Germany: Kulturverlag Kadmos.

Schmitt, Francis O. 1990. *The Never-Ceasing Search.* Philadelphia, PA: The American Philosophical Society.

Shapin, Stephen. 1990. Science and the Public. In *Companion to the History of Modern Science* (ed.) Olby, Richard C., 990–1007. London, England: Routledge.

Soellner, Alfons. 1996. *Deutsche Politikwissenschaftler in der Emigration. Ihre Akkulturation und Wirkungsgeschichte, samt einer Bibliographie*. Opladen: Westdeutscher Verlag, Opladen.

Stadler, Max. 2017. Circuits, Algae, and Whipped Cream: The Biophysics of Nerve, ca. 1930. In *The History of the Brain and Mind Sciences: Technique, Technology, Therapy* (eds.) Gavrus, Delia and Stephen T. Casper, 107–135. Rochester, NY: University of Rochester Press.

Stahnisch, Frank W. 2006. Zur Zwangsemigration deutschsprachiger Neurowissenschaftler nach Nordamerika: Der historische Fall des Montreal Neurological Institute. *Schriftenreihe der Deutschen Gesellschaft fuer Geschichte der Nervenheilkunde* 14: 414–442.

Stahnisch, Frank W. 2009a. Transforming the Lab: Technological and Societal Concerns in the Pursuit of De- and Regeneration in the German Morphological Neurosciences, 1910–1930. *Medicine Studies. An International Journal for History, Philosophy, and Ethics of Medicine & Allied Sciences* 1: 41–54.

Stahnisch, Frank W. 2009b. Die amerikanische Rockefeller Foundation, deutsche Hirnforschung sowie einige Raetsel der internationalen Forschungsfoerderung und des Wissenschaftsaustauschs zwischen 1930 und 1945. *Schriftenreihe der Deutschen Gesellschaft fuer Geschichte der Nervenheilkunde* 15: 187–214.

Stahnisch, Frank W. 2010. *German-Speaking Émigré Neuroscientists in North America after 1933: Critical Reflections on Emigration-Induced Scientific Change*. Berlin, Germany: Max Planck Institute for the History of Science.

Stahnisch, Frank W. 2016. Learning Soft Skills the Hard Way: Historiographical Considerations on the Cultural Adjustment Process of German-Speaking Émigré Neuroscientists in Canada, 1933 to 1963. *Journal of the History of the Neurosciences* 25: 299–319.

Stahnisch, Frank W. and Guel A. Russell (ed.). 2016. New Perspectives on Forced Migration in the History of Twentieth-Century Neuroscience. *Journal of the History of the Neurosciences: Basic and Clinical Perspectives* 25: 299–319.

Stortz, Paul, and Lisa Panayotidis. 2004. Select Bibliography on the History of the Professoriate in Canada since 1985. In *Historical Identities: The Professoriate in Canada* (eds.) Stortz, Paul, and Lisa Panayotidis, 381–412. Toronto, ON: University of Toronto Press.

Strauss, Herbert A., and Werner Roeder (eds.). 1983. *International Biographical Dictionary of Central European Émigrés 1933–1945. The Arts, Sciences, and Literature*. Munich, Germany: K. G. Saur.

Strickhausen, Walter. 1998. Kanada. In *Handbuch der deutschsprachigen Emigration 1933–1945* (ed.) Krohn, Claus-Dieter, 284–297. Darmstadt, Germany: Primus.

Stroesser, Wolfgang. 1993. *Deutsche Gesellschaft fuer Neuropathologie und Neuroanatomie e. V. 1950–1992. Eine Untersuchung zur Entwicklung der Gesellschaft und zur Foerderung des Faches Neuropathologie in Deutschland*. Berlin, Germany: Deutsche Gesellschaft fuer Neuropathologie und Neuroanatomie e. V.

Sturm, Thomas, and Mitchell G. Ash (eds.). 2006. *Psychology's Territories. Historical and Contemporary Perspectives from different Disciplines*. Mahwah, NJ: Lawrence Erlbaum.

Swazey, Judith P., and Frederic G. Worden. 1975. On the Nature of Research in Neuroscience. In *The Neurosciences: Paths of Discovery* (eds.) Worden, Frederic G., Swazey, Judith P., and Adelman, Gerald, 13–28. Cambridge, MA: MIT Press.

Thompson Klein, Julie. 1990. *Interdisciplinarity. History, Theory, and Practice*. Detroit, MI: Wayne State University Press.

Troehler, Ulrich. 1983. Theodor Kocher und die neurotopographische Diagnostik: Angewandte Forschung mit grundlegendem Ergebnis um 1900. *Gesnerus* 40: 203–214.

Volkov, Sulamit. 2001. Jewish Scientists in Imperial Germany (Parts I and II). *Aleph. Historical Studies in Science and Judaism* 1: 1–36.

Tower, Donald B. 1984. The Neurosciences-Basic and Clinical. In *NIH: An Account of Research in its Laboratories and Clinics* (eds.) Stetten, Jr., De Witt, and William T. Carrigan, 48–70. Orlando, FL: Academic Press.

Worden, Frederic G., Francis O. Schmitt, Judith P. Swazey, and George Adelman (eds.). 1975. *The Neurosciences: Paths of Discovery*. Cambridge, MA: The MIT Press.

Weinberg, Alan. 1967. *Reflexions on Big Science*. Cambridge, MA: MIT Press.

Weindling, Paul. 1993. *Health, Race and German Politics between National Unification and Nazism, 1870 to 1945*. Cambridge, England: Cambridge University Press.

Weindling, Paul. 1996. The Impact of German Medical Scientists on British Medicine: A Case Study of Oxford, 1933–1945. In *Forced Migration and Scientific Change. Émigré German-speaking Scientists and Scholars after 1933*, eds., Ash, Mitchell G., and Alfons Soellner, 86–114. Washington, D. C., Cambridge, Massachusetts: The German Historical Institute, Cambridge University Press.

Weindling, Paul, Shula Marks, and Laura Wintour (eds.). 2011. *The Plight, Persecution, and Placement of Academic Refugees, 1933–1980s*. Oxford, England: Oxford University Press.

Wheatland, Thomas. 2009. *The Frankfurt School in Exile*. Minneapolis, MN: University of Minnesota Press.

FROM GERMAN YOUTH TO BRITISH SOLDIER TO CANADIAN PSYCHOLOGIST: THE JOURNEY OF GERMAN ÉMIGRÉ DR. HUGH LYTTON (1921–2002)

Erna Kurbegović

University of Calgary

Abstract:

This article traces the journey and experiences of German émigré Dr. Hugh Lytton (1921–2002), who like many German Jewish scientists and physicians had to leave Germany following the rise of National Socialism in 1933. After realizing that there was no future for young Jews in Germany, Lytton immigrated to Great Britain in 1936 and embarked on a journey that would significantly impact his personal life and career path. Initially, Lytton thought that he would become a rabbi but his experiences in Britain put him on a path toward academia. Similar to the experiences of other refugees who had to abandon their families, homes, and livelihoods behind as a result of Nazi persecution, living in the host country proved challenging for Lytton but he persevered. He studied languages, and this proved useful when he joined the British Military and eventually served as an interpreter. Throughout this time, he was interested in social psychology and this interest led to a fellowship at the Tavistock Clinic to train in clinical psychology. He obtained a PhD in 1965 from the University of London, and went on to publish his internationally renowned work, *Parent-Child Interaction: The Socialization Process Observed in Twin and Singleton Families* (1980). Using Lytton's memoir, personal documents, and publications, this article traces Lytton's journey in three countries—Germany, Britain, and lastly Canada—where in 1969, he eventually settled and obtained a Faculty position in the Department of Educational Psychology at the University of Calgary in Alberta, Canada after its foundation as an independent post-secondary institution three years before. Lytton's personal story offers an important case study in the history of forced migration during the Nazi period and provides insight into how life experiences can affect an individual's path in the academic world.

Keywords:

Canada, Émigré psychologists, Germany, political and racial refugees, psychology and psychiatry, United Kingdom

Introduction[79]

"The future looked bleaker and bleaker, livelihood and even lives were threatened, and anyone who could manage to find some refuge abroad left."[80] This quotation, taken from Dr. Hugh Lytton's (born: Heinz Lichtenstein) memoir, captures the feeling of many German Jews—scientists, intellectuals, and ordinary people alike—during the Nazi rule in 1930s Germany.[81] After realizing that there was no future for young Jews in Germany after the Nazis' seizure of political power in January 1933, Lytton eventually immigrated to Britain in 1936.[82] Although he was not an academic at the time, he embarked on a journey that would significantly impact his personal life and set him on a path toward academia. Lytton's story is not a simple one, and it is further challenged by a great lack of sources available to historically reconstruct his story. Nevertheless, the use of his unpublished memoir, surviving personal papers, published articles, and family interviews allows for a sufficient reconstruction of this émigré's experience of persecution, flight, and re-adaptation; one that captures his life and work in three different countries. While Lytton initially struggled with his decisions to leave his home country, following his departure from Nazi Germany, he adapted well to life in Great Britain, and later on in Canada as well.[83] But the impact of the rejection and expulsion from Germany never left him, and as a result he became detached from his home country. This experience was both similar and different from that of other émigrés, perhaps due to some of the specific circumstances of his life.

Historians writing about this particular period, and especially about émigré academics and scholars, have approached the topic from various methodological perspectives. Some historians have focused on knowledge transfer,[84] discussing the intellectual impacts of émigré researchers and scholars on their research fields in the host countries but also the impact of the new research environment in their host countries on the émigré academics themselves. Others have approached the topic through the lens of institutional narratives,[85] focusing on the work of organizations such as the Society for the Protection of Science and Learning (SPSL) in rescuing scholars who had faced Nazi political and racial oppression. Historians have also

[79] I would like to express my gratitude to the Lytton family for sharing Hugh's story with me. A special thank you to Dr. Avram Lytton and Dr. Frank W. Stahnisch for their comments and suggestions on the earlier versions of this paper. I would also like to thank the two anonymous reviewers for their valuable comments, which helped to greatly improve this manuscript.
[80] Lytton, 1999, p. 21.
[81] See for example, in: Marks, Weindling, and Wintour, 2011; Laqueur, 2001.
[82] Romney and Pryrt, 2003, p. 813.
[83] See for example, Romney and Pryrt, 2003, p. 813.
[84] Compare for instance, Ash and Soellner, 1996; Stahnisch, 2010.
[85] Marks, Weindling, and Wintour, 2011; David Zimmerman, 2007, p. 291–315; Stortz, 2003, p. 231–261.

traced the impact of forced migration on individual scholars[86] and in turn, have provided fascinating case studies of the émigré experience and fate during the second half of the twentieth century. This article contributes to this discussion by focusing on the impact of forced migration on Hugh Lytton's formative years and the continued effect that this had on his personal life and academic career. In Hugh Lytton's case, his émigré experience visibly contributed to the creation of his career as an academic professor of psychology.

Hugh Lytton's Family Background in Nuernberg in Bavaria

Lytton was born in Nuernberg, Germany, in 1921 to a lower-middle class, religious Jewish family. He was a very bright child and enjoyed engaging in philosophical conversations with his family members, particularly his paternal grandfather. Since he came from a fairly religious background, particularly on his mother's side, Lytton learned how to read Hebrew at an early age.[87] Further, there was a social expectation among some of his family members that he would carry on many of the family's religious traditions and duties himself. In his memoirs, Lytton described, for instance, the first time he experienced what it meant to be Jewish in interwar Germany. While staying at a sanatorium for children suspected of suffering from tuberculosis, he misbehaved and one of the Catholic nuns snapped at him "sit down, you nosy Jew-boy!" As he recalled:

> Calling me a *Judenbub* [a Jew-boy] marked me out as belonging to a minority group, a group … that was characterized by unsavory characteristics, such as nosiness … . The fact that I still remember the incident, 70 years later, attests to the effect her words had on me.[88]

Lytton would experience various forms of anti-Semitism over the next few years, and with the rise of Nazism in 1933 this only became more prominent.[89] In his research on anti-Semitism in Europe, historian William Brustein suggests that over centuries anti-Semitism has manifested itself in various forms: religious, racial, political, and economic. "These manifestations" he argues, "would periodically erupt at moments of large-scale Jewish immigration, severe economic crisis, or revolutionary challenge to the existing political and social order."[90] While it is true that anti-Semitism flared up during these crises, it was also a part of a normal

[86] See for example, Deichmann, 1996; Zeidman and Kondziella, 2012, p. 729–746; Stahnisch, 2016, p. 2567–2570; Loewenau, 2016, p. 348–362; as well as Loewenau in this Special Issue of *History of Intellectual Culture*, entitled, "'Reason for Dismissal? – Jewish Faith:' Analysis of Narratives in the SPSL Immigration Applications by German-Speaking Neurologists," p. 155–176.
[87] Lytton, 1999, p. 12–13.
[88] Lytton, 1999, p. 15.
[89] Evans, 2005, p. 7.
[90] Brustein, 2003, p. xii.

experience for many Jews in Germany.[91] This experience was not always uniform. For instance, a wealthy Jewish person might experience discrimination by being barred from a social club or be denied a job, whereas a Jewish person of lower socio-economic status might be more likely to experience verbal or physical abuse. In his autobiography, Lytton's uncle, Emil Goldschmidt (1901–1982?) recalled being taunted by kids on the playground in Nuernberg who sang:

> *Jud, Jud, hep hep hep,*
> *Schweinefleisch macht fett fett fett,*
> *Schweinefleisch schmeckt gut,*
> *Bist ein stinkender Jud.*
>
> *This would roughly be translated as:*
> *Yid, Yid, pong pong pong*
> *Pork will make you strong strong strong*
> *Pork roasted on a grid,*
> *Tastes good, you stinking Yid.*[92]

This was in 1907, and Goldschmidt accepted it as a normal occurrence.[93] Lytton's recollection of his time at the sanatorium in 1920s Germany also attests to this. Perhaps for Lytton, however, his own experience at the sanatorium took on a greater significance in his mind because of what later transpired during the Nazi period.[94]

The political and economic crises in Weimar Germany created favourable conditions for the National Socialists to seize power in January of the year 1933.[95] Almost immediately, the Nazis embarked on a campaign to expel Jews from public life. For instance, on April 7 in 1933 they implemented the so-called Law for the Restoration of the Professional Civil Service (*Gesetz zur Wiederherstellung des Berufsbeamtentums*) which provided the legal basis for discriminating against "non-Aryans" and leftist sympathizers—social democrats, socialists, communists—, and for eventually purging them from the civil service, the university landscape, and the law system.[96] This type of discriminatory campaign was extended to almost every aspect of the Jewish community in Germany, including boycotting Jewish businesses and setting Jewish quotas for university and college education.[97] These legal initiatives continued into 1935 with the implementation of the Nuernberg Race Laws (*Nuernberger Rassengesetze*)

---

[91] Volkov, 2001, p. 1–36.
[92] Goldschmidt, unpublished, p. 4; Lytton, 1999, p. 14.
[93] Antisemitism was widespread in German society even before the rise of National Socialism. German Jews often found themselves made social scapegoats for many of Germany's problems, particularly after the end of the First World War. See Evans, 2005, p. 4–5.
[94] Compare for example, Evans, 2005; and Weindling, 1989.
[95] For more historical information on the rise of National Socialism see Evans, 2005.
[96] Deichmann, 1996, p. 11.
[97] Seller, 2001, p. 26.

which essentially classified all Jews and racial "half-breeds" as "aliens" to German society. The laws also institutionalized racial segregation by limiting citizenship to those of pure German blood and preventing marriage and sexual relations between Germans and Jews, among others.[98] By 1938, the anti-Jewish sentiment turned more severe and in November the government campaign, *Kristallnacht* (the "Night of Broken Glass") led to the destruction of synagogues, Jewish businesses, and innumerable of their homes. Many in the Jewish community were beaten, some were killed, and others were interned in early political detention camps.[99] As the situation grew more uncertain and bleak, many Jews who could obtain visas to other countries, left Germany.[100]

The Emigration to Great Britain and Studies in Psychological Development and Linguistics

By the mid-1930s, many of Lytton's family members hoped that the anti-Jewish position of the National Socialists would change or that the government would collapse, others saw the introduction of anti-Jewish laws as a reason to leave Germany. In this sense, they were not much different from other Jews and oppressed minorities in the Third Reich.[101] Lytton's family had contacts in Great Britain and, in 1936, he received an invitation to complete his education at the University of Hull on the English East Coast – with financial assistance from a Jewish organization, *B'nai Brith*.[102] This organization was established in the 1840s with the goal of uniting Jews and protecting the Jewish identity. Lytton's interest in religion and his vocation to become a rabbi made him an ideal candidate for the organization's recruitment.[103] Almost all of Lytton's family members, on the other hand, remained in Germany.

While arriving in a new country and being immersed in a completely new living and working environment must have been shocking for many Jewish refugees at the time; as this experience in no way compared to the terror in Nazi Germany. While many refugees were desperate to obtain visas to any country willing to accept them, many settled in Britain. The immigration of the refugees was controlled through a partnership of the British Home Office and the Jewish community in Britain.[104] The Jewish Refugee Committee, in particular, was active in assuring the British government that the Jewish community would financially support

[98] Weindling, 2010, p. 315–331; esp. p. 322.
[99] Seller, 2001, p. 26.
[100] See for example, Laqueur, 2001.
[101] See for instance, Taylor, 1983, p. 43–55.
[102] Hugh Lytton papers, Letter from Inter-Aid Committee for Children from Germany to Heinz Lichtenstein, 1 September, 1936 (in Lytton family's possession).
[103] Lytton, 1999, p. 18.
[104] London, 2000, p. 25.

the incoming refugees.[105] This changed in 1938 when the number of refugees from Germany increased following the government sponsored religious pogroms. The British government implemented new visa requirements and decisions were made on a case by case basis.[106] Jewish refugees faced obstacles because entrance into the country was granted based on the social interests of the British government.[107] This restrictive immigration policy favoured wealthy immigrants, those with business and family contacts, and well-known academics and physicians.[108]

For Lytton, having connections in Britain saved him. Upon receiving an invitation from *B'nai Brith*, Lytton was given a brief introductory lesson in English, a language which he did not learn in school.[109] Armed with the basic knowledge of English, he set out for Britain. Lytton was confronted with problems faced by many other refugees arriving in a foreign country: uncertainty, homesickness, loneliness, and the struggle to adapt to a new language and culture.[110] Lytton described the experience as "brutal and a shock to the nervous system," he then added:

> I was totally immersed in English and I felt as if I was drowning in that ocean of sound, which I not only could not dissect into words, but which I then despaired of ever understanding, as I could not see where the first glimmer of comprehension would come from.[111]

The only German he heard was during the German lessons in school and in conversation with his mentors, many of whom were German émigré academics, such as one Dr. Felix Plaut (1877–1940), a neuroserologist from Munich in Bavaria.[112] Having these connections helped Lytton cope with loneliness and the loss of social community and family networks.

While he struggled to adjust to life in an unfamiliar country, at the same time he was worried about his family in Nuernberg. During the *Kristallnacht*, the SA Storm Troopers (*Sturmabteilung*) broke into and vandalized Lytton's family home and assaulted his father. Luckily, his father was not arrested, and soon after this incident, his family sought refuge in Great Britain.[113] Since Lytton was a student himself, he had unfortunately no means of financially sponsoring his parents, but members of the Jewish community in the city of Hull

[105] London, 2000, p. 30.
[106] Seller, 2001, p. 48.
[107] London, 2000, p. 2.
[108] Loewenau, 2016, p. 350.
[109] Lytton, 1999, p. 18.
[110] Seller, 2001, p. 55.
[111] Lytton, 1999, p. 18.
[112] Unfortunately, Lytton did not provide any further information on Plaut except that he served as Lytton's guardian during his early years in England, Lytton, ibid., p. 18.
[113] Lytton, 1999, p. 21.

offered to help. His mother had arrived on a domestic work permit and was soon employed as a household maid, while his father on the other hand had difficulties finding employment yet eventually found a job as a warehouse clerk.[114] Some members of Lytton's extended family found refuge in the United States, South Africa, and even Palestine/Israel but others were not so lucky. In this way, Lytton's story can be seen as characteristic of the Jewish refugee experience during and after the Second World War.[115]

The anti-Jewish policies of the Nazis along with his refugee experience in Britain significantly shaped Lytton's world view. His connections to secular Jewish émigré academic and scholarly mentors along with the influence of a less insular British society allowed him to expand his intellectual ambitions. He became politically involved during those early years and regularly attended Labour Party meetings with his friends.[116] More than a decade later, he would even be arrested during an anti-war protest with the Peace Pledge Union in the city of Liverpool.[117] He recalled of those early years:

> This "free" climate did not immediately change my inward looking Jewish attitudes and orthodox ways, but it did have its effects in the long run … . I became more outward looking, gave up orthodox ways and as part of this process abandoned my career ambition of becoming a rabbi.[118]

This acculturation could be explained by the fact that Lytton was still young when he migrated to Great Britain, and the younger the individual the more likely they had been to adapt to a life in a new society and foreign culture. Further, it could be argued that experiencing oppression in the home country along with losing family members in the Holocaust, contributed strongly to Lytton's lack of attachment to Germany.[119] While Lytton became less orthodox religiously as he continued living in England, the effects of Nazi Anti-Semitism only strengthened his Jewish identity.[120] This is significant as it not only altered Lytton's career path and changed his outlook on religion in general, yet it also severed his relationship with *B'nai Brith* who refused to fund his education.[121] The lack of financial security made life difficult but assistance from his extended family in South Africa allowed him to pursue his university education. In 1939, he entered the University of London with an honours degree in German and French, and hoped to pursue a teaching career.

---

[114] Ibid., p. 21–22.
[115] See for example, Seller, 2001; Laqueur, 2001.
[116] Lytton, 1999, p. 20.
[117] *Peace News* (June 9, 1950), n. pag.
[118] Lytton, 1999, p. 19.
[119] Fleck, 2011, p. 193–210; esp. p. 205–206.
[120] For a further discussion of struggles with identity see Laqueur, 2001; Burston, 2016.
[121] Lytton, 1999, p. 22.

Unfortunately, for Lytton his university studies had been interrupted in 1940 during the *Blitz,* when Great Britain decided to intern all German and Austrian refugees by classifying them as "enemy aliens."[122] The start of the Second World War created an anti-German sentiment on the British Isles, even toward German-Jewish refugees. Historian Maxine S. Sellers has suggested that this problem "can be attributed to a wartime exacerbation of long-term British anti-Semitism; for example, during the war old economic stereotypes were revisited as Jews were accused of profiteering and black market activities."[123] This anti-German sentiment was also partially a result of British insecurities during the war but also due to various incidents that its security service attributed to Germany's supporters.[124] Due to these concerns, the British Home Office decided to review all cases of German and Austrian refugees living in Britain to determine their loyalty.[125] Initially, the tribunals exempted the majority from internment but in May 1940, with Prime Minister Winston Churchill (1874–1965) taking office in Great Britain, defeat looming in France with the beginning of the Battle of Dunkirk, and with growing public pressure to do something about the "enemy alien" refugees, the government implemented mass internment.[126]

Hugh Lytton's Internment on the Isle of Man

Lytton and his father were arrested and eventually interned at Port Douglas on the Isle of Man in the Irish Sea. This must have been a terrifying experience for Lytton, one that was full of uncertainty. It was also a disruptive episode that ended the peaceful existence that he and his family felt as they settled into their new life in Great Britain. Further, this event interrupted Lytton's university education which caused him to fall behind and it put serious pressure on him to catch up once he was released. This experience is similar to that of other Jewish refugees interned in Britain but the reactions varied across the spectrum.[127] Some felt that internment was not unusual during times of war, others resented the British population and the British Jews

[122] Ferry, 2011, p. 87–97; esp. 92.
[123] Seller, 2001, p. 66. It is important to note that anti-Jewish sentiment was not restricted to Britain and was prevalent in most Western societies prior to and during the Second World War. For instance, through immigration restrictions, both Canada and the United States blocked the entrance of Jewish refugees. These policies largely reflected the public sentiment at the time where Anti-Semitism was common. Hostile attitudes towards Jews were also prevalent in Canadian universities and unlike in Britain and the United States, Canadian academics did little to aide their colleagues who were experiencing Nazi oppression. For additional information on Anti-Semitism in Canada see for example, Abella and Troper, 2000; also Zimmerman, 2007; Daniels, 2005; Breitman and Kraut, 1987; Wyman, 1984.
[124] Eyck, 2009, p. 148–149.
[125] Seller, 2001, p. 67.
[126] London, 2000, p. 170.
[127] See for example, Seller, 2001; Igersheimer and Darragh, 2014.

for their negative attitude toward Jewish refugees, still others were outraged that the British could intern refugees escaping Nazi persecution.[128]

In his memoir, Lytton described the living quarters at the Isle of Man as comfortable but the lack of freedom made conditions less than ideal as the internees were fenced in and surrounded by military guards.[129] What is more, the guards lacked an understanding of the difference between Nazi sympathizers and potential spies on the one hand and victims of Nazi oppression on the other hands. As a result, they were unpleasant to both, and this made life in internment miserable for many of the refugees.[130] Unfortunately, Lytton did not give a very detailed account of his time at Isle of Man, but it is possible to gain a better understanding of the situation from other sources.[131] For instance, Lytton's colleague and friend, the German émigré historian Frank Eyck (1921–2004) at the University of Calgary, who also spent time in internment, described the experience as "far from pleasant." According to Eyck, "our letters were carefully censored … any activity outside the camp was always guarded by the military. There was an intense feeling of powerlessness among the internees."[132] While they never feared for their lives, the disruption, distress, and uncertainty must have brought back memories of 1930s Germany.

During his few months of internment, Lytton connected with more German émigrés scholars and academics including medieval historian, Dr. Hans Liebeschuetz (1893–1978), who assumed the role of a mentor to him. Liebeschuetz emigrated to Great Britain from Hamburg, Germany, and eventually obtained a teaching professorship at the University of Liverpool. Liebeschuetz introduced Lytton to Plato's *Republic*, which they read together and discussed while being interned.[133] Lytton's interactions with German-speaking émigré scholars and academics, both before and during his internment, must have had a significant impact on him as it was during this period that he himself contemplated a career in academia. It was also during internment that social psychology first piqued Lytton's interest. Being within an interment setting must have been an interesting way for Lytton to observe social interactions between a vast number of individuals and groups from very different backgrounds.[134]

[128] Seller, 2001, p. 71–72.
[129] Lytton, 1999, p. 24.
[130] Eyck, 2009, p. 155.
[131] See for example, Garnham, 2011; Eyck, 2009; Seller, 2001; Taylor, 2005, p. 139–152; Igersheimer and Darragh, 2014).
[132] Eyck, 2009, p. 155.
[133] Lytton, 1999, p. 24.
[134] Lytton, 1999, p. 25.

Onward Migration to Canada and Later Years as a Psychology Professor at the New University of Calgary

While some refugees were interned at Isle of Man, thousands were soon shipped from the Port of Liverpool to the British dominions of Canada or Australia.[135] These groups were primarily made up of young and unmarried men, who were seen as a "threat" to Britain. As Maxine S. Seller points out, "the deportees included a disproportionate number of the very young. About one third of those sent to Canada were under the age of twenty-one and over forty percent in one of the camps in Australia were under twenty-five."[136] This journey was particularly dangerous because of a risk of an attack by German submarines on the respective transports. In the summer of 1940, Lytton was one of the young men destined to leave for Canada. However, the sinking of the *SS Arandora Star*, which carried refugees from Britain to Canada, caused Lytton's ship to remain in port. Lytton captured this experience in a piece of satire written during his time at the Isle of Man:

> Did you ever go half way to Canada and back for a pleasure trip? I thought not!—But you would like to know how to do it, wouldn't you? Well I'll tell you ... . Firstly, you must be in the right camp—somewhere on the Isle of Man—and in the proper age group, unmarried, and strong in body and nerves. If that is the case everything will be arranged for you. You will be subjected to a 7 hour roll call with bodily examinations. Tired from waiting you will be put to sleep on the bare floor of a huge dancing-hall … . But since the pleasure of sleeping is nothing compared with the pleasure of queuing up for one of the two washing basins, you will get up very early indeed the next morning to do that. After a short … breakfast you trundle off to a small Manx steamer where other pleasure seekers are waiting for you. If you enjoy a crowd, then you will enjoy yourself on the boat, for you can seldom see a throng as dense as that one—in your joy you will even forget your hunger … .[137]

This piece of writing captures the conditions in the internment camps, on the steam boat to Canada, as well as Lytton's disappointment in and frustration with the British, who allowed victims of Nazi oppression to be interned. It also points to loss of freedom as every aspect of life in internment seems to be strictly managed by the British authorities. There is also a feeling of rejection here, yet again it seemed that there was no life for young German Jews in the host country either. Just like they were pushed out of Germany, now they were being pushed out of Great Britain.

While there was some opposition to internment within government circles and the general public, it increased following the release of reports documenting inadequate living conditions at the camps. In addition, many became aware that a significant number of the

[135] See for example, London, 2000, p. 170; Igersheimer and Darragh, 2014, p. 13; 92; Brunnhuber, 2005, p. 165–178.
[136] Seller, 2001, p. 81.
[137] Hugh Lytton's private papers, "Mystery Trip," 1940.

internees fled Nazi persecution.[138] Further, the sinking of the SS Arandora Star, served as a catalyst for opening up a continued dialogue about the British "enemy aliens" policy. Even the Home Secretary, Sir John Anderson (1882–1958) – also known as the "Home Front Prime Minister" –, eventually admitted that this policy reflected unfavourably on Britain. The criticism led to a number of parliamentary debates on the issue but change to the policy was not immediate.[139] At the end of July 1940, the Home Office published a White Paper on the internment policy titled: *Categories of Persons Eligible for Release from Internment and Procedure to be followed in Applying for Release*. Some of the categories included "persons under 16 and over 70 years of age," "special cases of extreme hardship," "the invalid or infirm," among others. By August some internees were released from the camps, but able-bodied young men, who were still under suspicion, remained.[140]

Lytton was one of these young men, and he did not obtain his release from the Isle of Man until late 1940. Nevertheless, he was still under suspicion from the British government as an "enemy alien" and was required to report to the Nottingham police once a week. Lytton returned to the University of Hull, however, to finish his first degree and once he graduated in 1941, he decided to do his bit for the British war effort by working at a munitions factory in Nottingham.[141] At this point, "enemy aliens" were exempt from conscription but could volunteer in the Pioneer Corps of the British Army. While a non-combat role was not very appealing, many joined to show their loyalty to Britain and to contribute in the fight against Nazi Germany.[142] Lytton did not join the Pioneer Corps, instead he worked at the munitions factory until the British Army lifted its exclusion of German nationals in the year 1944.[143]

In March of that year, Lytton joined the British army and was assigned to a documents team where he and a group of German nationals were involved in translating German documents for British Intelligence. This position eventually sent him back to occupied Germany, as a British soldier during March of 1945. He was part of a "Specialist" unit,[144] whose goal was to search for documents from industry and other institutions that could be useful to the Allies, particularly as evidence of war crimes.[145] Seeing Germany again, was an eerie experience for Lytton. He was back home in a country "that maltreated and expelled us, and

[138] London, 2000, p. 170–171.
[139] Garnham, 2011, p. 77.
[140] Ibid., p. 78.
[141] Lytton, 1999, p. 26.
[142] Eyck, 2009, p. 161.
[143] Lytton, 1999, p. 26.
[144] See also in: Goudsmith, 1947, p. 5–35.
[145] Lytton, 1999, p. 29–30.

killed many of our families."[146] His resentment is further evidenced by an incident in Bremen where his patience was tested by the Germans. He noted in his diary:

> One came up to me and complained that some Russians [slave labourers] had done something or other and had to be watched. I snapped back that these people hadn't come there of their free will. If I think of the concentration camp Bergen-Belsen where thousands died in unspeakable conditions, their [German] arrogance, makes even my, so gentle, blood boil.[147]

The feeling of rejection and perhaps even political resentment of his home country is captured in the above passages. In her work on German scientists, historian Ute Deichmann points out that "many Jewish émigrés had deep emotional bonds to Germany; even nationalistic feelings were not rare. Expulsion therefore represented a great humiliation."[148] Similar to many German Jews growing up in Germany, Lytton had seen himself as purely German, whose family had served Germany in previous wars, and who did not see himself as any different. To be expelled from one's home must have been a devastating blow.

While the above passages suggest feelings of rejection and resentment, Lytton's memoir also contains passages taken from his wartime diary that show a clear personal disconnect from Germany. He stated:

> Spring was coming into a shattered and ruined land. The splendor of blossoms and flowers stood in un-romantic contrast with the misery of humanity, the rubble and the ruins almost everywhere. It was not just a case of national unhappiness and humiliation, but a case of very personal misfortune for every German which brought home to him or her his country's doom. It is difficult for us to repress pity, because we see their suffering with our own eyes, whist we only heard of the suffering of Poland, France and the rest … . We have to keep reminding ourselves of their fate and of Germany's rejoicing at that time."[149]

It must be noted, however, that when Lytton wrote the passage he was himself unaware of the full extent of the atrocities committed by Nazi Germany against the Jewish population of Europe.[150] What makes this passage interesting is that he was describing the situation of the Germans as an outsider, not as someone who was also German. It also shows that the impact of expulsion and Nazi aggression led Lytton to no longer view Germany in the same way—it was no longer the home that he left behind but had become a very foreign country.[151]

---

[146] Ibid., p. 30.
[147] Ibid., p. 35.
[148] Deichmann, 1996, p. 21.
[149] Lytton, 1999, p. 31.
[150] Friedlander, 2009.
[151] See for example, Fleck, 2011, p. 205.

His army service ended in 1947, and he returned to the University of Hull shortly thereafter to complete his teaching degree. Yet, even then, he thought about a career in psychology. His explanation for his interest in psychology was twofold:

> I wanted to go into psychology to explain myself, as so many people do, to find something out about my own insecurities. Also, I was, at that time, particularly interested in language problems, having access to fluent vocabulary. I was interested in the kind of psychological processes that went into language production.[152]

This interest put Lytton on a path toward graduate school where he earned a Master's degree in psychology in 1953 from the University of Liverpool. His M.A. work linked his interest and background in languages with psychology, in this way it introduced him to psycholinguistic research. In this endeavour, he joined his classical humanities education back home from Germany to that of the more scientific one received in Great Britain. Lytton was particularly interested in how one learns a foreign language and how that differs from one's mother tongue. Conducting this research proved difficult as he soon realized that "neurological knowledge and the actual neurologic and brain connections for language production that I was looking for were not known in those days."[153] He then turned towards educational psychology and in 1955 obtained a one year fellowship at the Tavistock Clinic in London.[154] At this time, the Tavistock Clinic was known for its psychoanalytic approaches, something that did not appeal to Lytton who favoured more scientific approaches. Nevertheless, while at the Tavistock Clinic, Lytton was highly influenced by the ideas of British psychologist John Bowlby (1907–1990) as well as American psychologist Mary Ainsworth (1913–1999). In his interview with the Society for Research in Child Development, Lytton stated, "Bowlby … was important to the formation of my views and I was very attracted to his attachment theory even though this theory far outran

[152] Society for Research in Child Development. 1994, p. 1–2.
[153] Ibid., 2.
[154] The Tavistock Clinic in London was founded in 1920 by a group of psychiatrists, neurologists, and general practitioners all of whom were interested in neurotic disabilities during the First World War and after. This meant that a variety of different perspectives were present: "On the one hand were the adherents of [the psychoanalysts Sigmund] Freud [1856–1939, from Austria], Carl Jung [1875–1961, from Switzerland] [and Alfred] Adler [1870–1937, from Austria] … . On the other were a neurologically-oriented general psychiatry, somatically-oriented general medicine and a surrounding society puzzled, bewildered, intrigued and frightened by the new knowledge of the unconscious and its implications of important areas of life." (Trist and Murray, 1990), p. 2. Following the Second World War, the clinic split into two, the Tavistock Clinic and the Tavistock Institute of Human Relations. During the period that Lytton was at Tavistock, the British Psycho-Analytical Society was split between the adherents of Anna Freud (1895–1982) and Melanie Klein (1882–1960). There was also an independent group that was not committed to either perspective, Lytton's mentor John Bowlby (1907–1990) belonged to this group. Bowlby was more focused on the influence of the external environment and real-life experiences in causing neurosis rather than fantasy and emotions which was emphasized by other psychoanalysts. For more information on the debates see King and Steiner, 1992, p. 2–3; For further reading on Bowlby see for example, van der Horst, 2011, p. 1932.

his data. I also appreciated Mary Ainsworth's work on maternal deprivation."[155] The training experience and scholarly influences at Tavistock would contribute to Lytton's future research interests in relationships between children and parents, and the impacts that one has on the other and vice versa. He explained

> I was drawn into the study of child development by my experience with psychoanalytic methodology at the Tavistock Clinic. Although I rebelled against it … I did appreciate the importance they attached to direct observation of children and parents … . We were in fact required as a part of the course to observe one mother and very young infant pair and … to observe mother nursing her child as this was considered a specially [sic] significant experience.[156]

At the end of his fellowship at the Tavistock Clinic in London, Lytton moved and worked as a school and clinical child psychologist in Edinburgh, Scotland, while at the same time pursuing a PhD in psychology at the University of London, under the supervision of British psychologist, Philip E. Vernon (1905–1987). Lytton's PhD thesis titled *A Study of Certain Factors Relevant to the Effectiveness of Remedial Education* contributed to a debate, at the time, regarding questions around which children could best benefit from remedial education and what was the most appropriate method of selection. The traditional view of remedial education was that special attention should be given to children who were falling behind their age group, and through proper attention, these children would eventually catch up. This differed from those children who were labelled as "dull" where the goal was to make the most of their ability rather than help them progress with their cohort. The purpose of the thesis research was to determine whether or not the discrepancy between mental age and reading age was a better predictor for success than a method that was based on a teacher's judgement regarding the child's intelligence.[157] The result of this was that teacher selection was as effective as the test selection at least regarding reading difficulty, but not as effective regarding arithmetic.[158]

The focus on intelligence tests in his research shows a direct connection to the work of his supervisor, Vernon, whose research was rooted in numerical psychometrics.[159] Lytton was further influenced by scholars such as statistical psychologist, Derrick Lawley (1915–2012) and

---

[155] Society for Research in Child Development. 1994, p. 3. Attachment Theory deals with the bond and interaction between mother and child. Bowlby suggested that "developmental processes are the product of the interaction of a unique genetic endowment with a particular environment, and that an infant's emerging social, psychological, and biological capacities cannot be understood apart from its relationship with the mother." Bowlby, 1982, p. xii; Bowlby viewed attachment "in its evolutionary context, and [saw] it as a biological function that confers survival advantage in an 'environment of evolutionary adapted-ness.'" Lytton, 1980, p. 99. Aside from Ainsworth's work on maternal deprivation, Lytton also found her styles of attachment useful for his work on attachment behaviour and socialization, see Lytton, ibid., p. 99–105.

[156] Society for Research in Child Development. 1994, p. 3.

[157] For more information on the history of intelligence see Richardson, 2002.

[158] See Lytton, 1965.

[159] For more information on the history of psychology see Benjafield, 2015.

psychologist Albert Pilliner (1909–2003), who worked on the development and standardization of Moray House Tests in children and adolescent populations.[160] By the time Lytton had completed his PhD, he started to view himself as a British scholar. In some ways, this also speaks to that detachment from Germany. His research was very much rooted in the British and American psychological traditions, and even at the Tavistock Clinic, Lytton was more influenced by British and American psychologists who worked there than their German colleagues in psychology and academic pedagogy.

In tracing the national research styles in psychology, scholars have suggested that there were important institutional and professional differences in the field of psychology between the United States and Germany.[161] The field in German-speaking Europe was much narrower and influenced by philosophy, whereas in the United States there was an increasing stronger emphasis on turning psychology into a "science-based professions," also as a consequence of many émigré psychologists and cognitive scientists fleeing to the United States and continuing their research and teaching work overseas.[162] As historian Mitchell G. Ash suggests, "in the United States … a growing university network and the rise of private research foundations offered greater opportunities for institutional independence in psychology." American institutions placed a greater emphasis on academic psychologists to "present their work as both a quantitative and a socially relevant science."[163] Scholars have identified three key characteristics of this development that impacted German speaking émigré academics after 1933: a growing preference for "group data" in the United States, that is, studies that dealt with variation among individuals rather than behaviour of individuals (the German approach), the former was often associated with intelligence tests. Second, change in the relation of experimenter and subject from one of equal status (German approach) to one where the experimenter was in control. Third, "a technocratic orientation," serving as the basis for the above characteristics that was much less widespread in Germany than in the United States.[164] As someone who was trained in Great Britain, Lytton's work was less characteristic of the German approach, even though it is likely that he was quite aware of it.

Following the completion of his PhD, Lytton obtained a position as a lecturer at the University of Exeter in Southern England. Meanwhile, Vernon had accepted a position at the

[160] Named after the institution Moray House School of Education (Edinburgh, Scotland) the tests measured general intelligence, reading ability, and arithmetic. See Deary *et al.* 2000, p. 51.
[161] Ash, 1992, p. 198–207; esp. 197.
[162] Compare also the article by Vincent von Hoeckendorf in this Special Issue of *History of Intellectual Culture*, entitled, "On the Influence of German-Speaking Émigrés on the Emergence of Cognitive Science as a New Interdisciplinary Field," p. 115–154.
[163] Ash, 1992, p. 197.
[164] Ash, 1996, p. 119–120.

University of Calgary in the Department of Educational Psychology. Eventually, in 1969, Vernon recruited Lytton to the University of Calgary, because they were colleagues and worked on similar psychological problems with related methodologies, but more importantly because of the need to grow the department. According to Lytton, accepting the position in Calgary, Alberta, allowed him to "pursue research consistency and on a fairly modest but at least consistent scale … this research … centered on parent-child relations."[165] His research benefited from his experiences at Tavistock where, while he tried to distance himself from the psychoanalytic tradition, he nevertheless appreciated its emphasis on direct observation of children and parents. This is something this is evident in his internationally renowned work, *Parent-Child Interaction: The Socialization Process Observed in Twin and Singleton Families* (1980). The University of Calgary provided Lytton with a stable research environment where he went on to make significant contributions to the field of developmental psychology and psychologic testing.[166]

Conclusion

If we compare Lytton's experiences to that of other German speaking émigré academics, such as his colleague and friend, German historian Ulrich Franz Joseph (Frank) Eyck, we tend to see significant differences in that experience. Eyck was born in Berlin in 1921 to a secular Jewish middle class family. He arrived in Great Britain as a refugee in 1935 and eventually went on to study modern history at Worcester College at Oxford University. During the late 1950s, he served as a Research Fellow at St. Anthony's College at Oxford University. And in 1968, he obtained a position as a Professor of History at the University of Calgary.[167] Both Lytton and Eyck left Germany in the mid-1930s, both ended up in Britain, both were interned at the Isle of Man, both served in the British army during the war, and both eventually ended up with faculty positions at the University of Calgary. The effect of that experience varied significantly, however, because Eyck, despite everything else, still saw himself as "German" – and particularly as a professional political historian of modern Germany – while Lytton over time became less attached to Germany himself.[168] While Lytton disconnected himself from

[165] Society for Research in Child Development, 1994, p. 4.
[166] Romney and Pryrt, 2003, p. 813.
[167] McInnis and Holloway. 2005. Obituary: Ulrich Eyck. *The National Post*, January 3. http://www.legacy.com/obituaries/nationalpost/obituary.aspx? n=ulrich-eyck&pid=2993721. Accessed 6 July 2018.
[168] See for example, Eyck, 2009.

Germany, his Jewish identity was increasingly strengthened,[169] and he and Eyck often had disagreements over this, especially because Eyck had converted to Catholicism, while Lytton viewed this as an abandonment of his Jewish background.[170]

If we look at their life stories, one can see possible explanations for these differences. As mentioned earlier, Lytton grew up in a lower-middle class religious family, in conservative Nuernberg, where anti-Semitism was pronounced. In contrast, Eyck grew up in cosmopolitan, liberal Berlin in a wealthy secular German Jewish family. In his own memoirs, Eyck wrote only about anti-Semitism experienced by others,[171] whereas Lytton referenced directly to his own experiences with abuse either directed at him or at his classmates. This is further evidence of the fact how socio-economic class and place helped determine an individual's experience of anti-Semitism. These diverse émigré experiences are important to study from a historical vantage point, as they often reflect to the long-term effects of forced migration. It also suggests that the émigré experience was shaped as much by the individual's background as the impact of forced migration. Dr. Hugh Lytton's story shows the complexities of the émigré experience, sometimes that experience led to lack of professional contact with the home country.[172] While there was a transfer of knowledge and ideas from the home country to the host country with many German speaking émigrés, this does not seem to be the case for Lytton, as his experiences in Germany left him indifferent to engaging with the work of scholars in that country.

As a result of Nazi aggression, thousands of German-Jewish academics, scientists, and physicians sought refuge in any country that would accept them, but many came through or settled in Great Britain. Dr. Hugh Lytton was one of the lucky ones. The impact of the émigré experience on Lytton was twofold: first, leaving Germany for the safety of Britain placed him in an environment where he was free to explore educational opportunities that might not have been offered to him in Germany, since he was already on the path to become a rabbi. Although he was not an academic when he arrived in Hull, the cultural influences in Britain together with many of his experiences over the next few years placed him on a road toward academia. His exposure to British society and the British school system opened his mind to new career possibilities, and turned him toward a secular Jewish identity. He was further put in contact with German émigré scholars who undoubtedly had an influence on him. Even the discriminatory British internment policy, as unjust as it was, provided Lytton with additional

[169] On a similar topic, please see also the article by Daniel Burston in this Special Issue of *History of Intellectual Culture*, entitled, "Dust and Fog, Fire and Salt: German-Canadian Psychiatrist Karl Stern's (1906–1975) Émigré Experience," p. 61–84.
[170] Author's interview with the Lytton family, March 2016, in the city of Calgary.
[171] Eyck, 2009, p. 47–96. In this chapter Eyck reflects on his life in Berlin.
[172] See for example, Deichmann, 1996.

mentorship from academics, and it was here that he first learned of social psychology and sought to pursue a further study of it once he was released. Second, the expulsion from Germany led to feelings of rejection, resentment, and bitterness, and overtime Lytton became largely detached from his home country. Visiting Germany as a British soldier brought back the feeling of rejection once again. He no longer recognized Germany as his home and spoke of it as an outsider. One can imagine that the revelations of the full extent of the Nazi atrocities made his lack of attachment even stronger. In his academic career, Lytton viewed himself as a British scholar, who was influenced by the psychological traditions of Britain and the United States, and there was very little German influence. This was partly because of the pre-emigration contexts and experiences that likely created a pattern of negativity surrounding his birth country. As historians Frank W. Stahnisch and Guel Russell have recently shown, studying émigré experiences in the sciences and humanities fields also allows for an emergence of a global perspective on the history of forced migration during the Nazi period, since many émigrés established research networks all over the world.[173] Lytton's case study shows the value of documenting the émigré experiences in the realm of the cultural, social, economic, and political influences that shaped their academic careers moving forward.

References

Abella, Irving and Harold Troper. 2000. *None is Too Many: Canada and the Jews of Europe*. Toronto, ON: Key Porter Books Limited.

Ash, Mitchell G. 1992. Cultural Contexts and Scientific Change in Psychology. *American Psychologist* 47: 198–207.

Ash, Mitchell G. 1996. Émigré Psychologists after 1933: The Cultural Coding of Scientific and Professional Practices. In *Forced Migration and Scientific Change: Émigré German Speaking Scientists and Scholars after 1933,* eds., Mitchell G. Ash and Alfons Soellner, 119–120. Cambridge, Eng.: Cambridge University Press.

Ash, Mitchell G., and Alfons Sollner (eds.). 1996. *Forced Migration and Scientific Change: Émigré German Speaking Scientists and Scholars after 1933*. Cambridge, UK: Cambridge University Press.

Benjafield, John G. 2015. *A History of Psychology*. Oxford, Eng.: Oxford University Press.

Bowlby, John. 1982. *Attachment*. New York City: Basic Books.

Breitman, Richard and Alan M. Kraut. 1987. *American Refugee Policy and European Jewry, 1933–1945*. Indianapolis, IN: Indiana University Press.

Brunnhuber, Nicole M. T. 2005. After the Prison Ships: Internment Narratives in Canada. In *"Totally Un-English"? Britain's Internment of "Enemy Aliens" in Two World Wars*, ed., Richard Dove, 165–178. Amsterdam, The Netherlands: Rodopi.

[173] Stahnisch and Russell, 2016, esp. p. 219.

Brustein, William I. 2003. *Roots of Hate: Anti-Semitism in Europe before the Holocaust*. Cambridge, UK: Cambridge University Press.

Burston, Daniel. 2016. *The Forgotten Freudian: The Passion of Karl Stern*. London, Eng.: Karnac Books.

Daniels, Roger. 2005. *Guarding the Golden Door: American Immigration Policy and Immigrants since 1882*. New York City: Hill and Wang.

Deary *et al.,* Ian J. 2000. The Stability of Individual Differences in Mental Ability from Childhood to Old Age: Follow-up of the 1932 Scottish Mental Survey. *Intelligence* 28: 51.

Deichmann, Ute. 1996. *Biologists under Hitler*. Cambridge, UK: Harvard University Press.

Evans, Richard J. 2005. *The Third Reich in Power*. New York City: Penguin Books.

Ferry, Georgina. 2011. Max Perutz and the SPSL. In *In Defence of Learning: The Plight, Persecution, and Placement of Academic Refugees, 1933–1980,* eds., Shula Marks, Paul Weindling, and Laura Wintour, 87–97. Oxford, Eng.: Oxford University Press.

Fleck, Christian. 2011. Austrian Refugee Social Scientists. In *In Defence of Learning: The Plight, Persecution, and Placement of Academic Refugees, 1933–1980,* eds., Shula Marks, Paul Weindling, and Laura Wintour, 193–210. Oxford, Eng.: Oxford University Press.

Friedlander, Saul. 2009. *Nazi Germany and the Jews*, 1933–1945. New York City: Harper Collins Publishers, 2009.

Garnham, Alison M. 2011. *Hans Keller and Internment: The Development of an Émigré Musician, 1938–48*. London, Eng.: Plumbago Books.

Goldschmidt, Emil. Unpublished. Autobiography (unpublished memoir in Lytton family's possession). Calgary, AB: Manuscript.

Goudsmith, Samuel Abraham. 1947. *Alsos. The Failure in German Science*. London, Eng.: Sigma Books, p. 5–35.

Igersheimer, Walter and Ian Darragh. 2014. *Blatant Injustice: The Story of a Jewish Refugee from Nazi Germany Imprisoned in Britain and Canada during World War II*. Montréal, PQ: McGill-Queen's University Press.

King, Pearl and Riccardo Steiner (eds.). 1992. *The Freud-Klein Controversies 1941–45*. London, Eng.: Routledge.

Laqueur, Walter. 2001. *Generation Exodus: The Fate of Young Jewish Refugees from Nazi Germany*. Lebanon, New Hampshire: University Press of New England.

Loewenau, Aleksandra. 2016. Between Resentment and Aid: German and Austrian Psychiatrist and Neurologist Refugees in Great Britain since 1933. *Journal of the History of Neurosciences: Basic and Clinical Perspectives* 25: 348–362.

London, Louise. 2000. *Whitehall and the Jews, 1933–1948: British Immigration Policy and the Holocaust*. Cambridge, Eng.: Cambridge University Press.

Lytton, Hugh. *A Study of Certain Factors Relevant to the Effectiveness of Remedial Education*. PhD Dissertation: University of London, Eng., 1965.

Lytton, Hugh. 1980. *Parent-Child Interaction: The Socialization Process Observed in Twin and Singleton Families*. New York City: Plenum Press.

Lytton, Hugh. 1999. *From German Child to British Soldier: Youth in Two Countries*. Calgary: Unpublished Memoir.

Marks, Shula, Weindling, Paul, and Laura Wintour (eds.). 2011. *In Defence of Learning – The Plight, Persecution, and Placement of Academic Refugees, 1933–1980s*. Oxford, UK: Oxford University Press, 2011.

McInnis and Holloway 2005. Obituary: Ulrich Eyck. *The National Post*, January 3. http://www.legacy.com/obituaries/nationalpost/obituary.aspx? n=ulrich-eyck&pid=2993721. Accessed 6 July 2018.

Richardson, Ken. 2002. *The Making of Intelligence*. New York City: Columbia University Press.

Romney, David, and Michael Pryrt. 2003. Hugh Lytton (1921–2002). *American Psychologist* 58: 813.

Seller, Maxine Shwartz. 2001. *We Built Up Our Lives: Education and Community among Jewish Refugees Interned by Britain in World War II*. London, Eng.: Greenwood Press.

Society for Research in Child Development (SRCD). 1994. Oral History Project: *Dr. Hugh Lytton-Self Interview*. June, 1994. http://srcd.org/sites/default/files/documents/ lytton_hugh_interview.pdf, 1–2. Accessed 25 July 2016.

Stahnisch, Frank W. 2010. *German-Speaking Émigré Neuroscientists in North America after 1933: Critical Reflections on Emigration-Induced Scientific Change*. Berlin, Germany: Max Planck Institute for the History of Science.

Stahnisch, Frank W. 2016. Hartwig Kuhlenbeck (1897–1984) – Pioneer in Neurology. *Journal of Neurology* 263: 2567–2570.

Stahnisch, Frank W. and Guel A. Russell (ed.). 2016. New Perspectives on Forced Migration in the History of Twentieth-Century Neuroscience. *Journal of the History of the Neurosciences: Basic and Clinical Perspectives* 25.

Stortz, Paul. 2003. 'Rescue Our Family From a Living Death:' Refugee Professors and the Canadian Society for the Protection of Science and Learning at the University of Toronto, 1935–1946. *Journal of the Canadian Historical Association* 14: 231–261.

Taylor, Jennifer. 2005. 'Something to make people laugh'? Political Content in Isle of Man Internment Camp Journals July-October 1940. In *"Totally Un-English"? Britain's Internment of "Enemy Aliens" in Two World Wars*, ed., Richard Dove, 139–152. Amsterdam, The Netherlands: Rodopi.

Taylor, John Russell. 1983. *Strangers in Paradise: The Hollywood Émigrés, 1933–1950*. London, Eng.: Faber & Faber.

Trist, Eric and Hugh Murray (eds.). 1990. *The Social Engagement of Social Science Volume 1: The Socio-Psychological Perspective*. London, Eng.: Free Association Books.

Van der Horst, Frank C. P. 2011. *John Bowlby: From Psychoanalysis to Ethology*. Weinheim: Wiley-Blackwell.

Volkov, Sulamit. 2001. Jewish Scientists in Imperial Germany (Parts I and II). *Aleph. Historical Studies in Science and Judaism* 1: 1–36.

Weindling, Paul. 1989. *Health, Race and German Politics between National Unification and Nazism, 1870–1945*. Cambridge, Eng.: Cambridge University Press.

Weindling, Paul. 2010. German Eugenics and the Wider World: Beyond the Racial State. In *The Oxford Handbook of the History of Eugenics*, eds., Alison Bashford, and Philippa Levine, 315–331. Oxford, Eng.: Oxford University Press.

Wyman, David. 1984. *The Abandonment of the Jews: America and the Holocaust, 1941–1945*. New York: The New Press.

Zeidman, Lawrence A., and Daniel Kondziella. 2012. Neuroscience in Nazi Europe: Victims of the Third Reich. *Canadian Journal of Neurological Sciences* 39: 729–746.

Zimmerman, David. 2007. 'Narrow-Minded People': Canadian Universities and the Academic Refugee Crises, 1933–1941. *The Canadian Historical Review* 88: 291–315.

DUST AND FOG, FIRE AND SALT: GERMAN-CANADIAN PSYCHIATRIST KARL STERN'S (1906–1975) ÉMIGRÉ EXPERIENCE

Daniel Burston

Duquesne University

Abstract:

Karl Stern (1906–1975) was a German-Jewish psychiatrist, who studied and worked along-side the neuropathologists Kurt Goldstein (1878–1965), Walther Spielmeyer (1879–1935), and Wilder Penfield (1891–1976). After fleeing Nazi Germany for London in 1935, he married and moved to Montréal in Canada in 1939, where he converted to Roman Catholicism in 1943. This article offers a close reading of pertinent passages and explores his memoir, *The Pillar of Fire* (1951), his novel, *Through Dooms of Love* (1960), as well as *In and Out* (1989), a "confessional poem" by the late Canadian classicist Daryl Hine, to demonstrate the feelings of powerlessness, isolation, and anonymity which Stern experienced after leaving Germany. These feelings had been complicated (on arrival in Canada) by ethnic antagonisms between Jews and Catholics at that time. It also explores and addresses Hine's disparaging attitude towards Stern's identification with his European heritage and his Catholic faith, offering an alternative interpretation of their sense of presence.

Keywords:

Adaptation experience, Canada, émigré psychiatrist, Germany, political and racial refugees, religious conversion, United Kingdom

Introduction

Though largely forgotten nowadays, Karl Stern (1906–1975) was a well-known German-Canadian, a psychiatrist and public intellectual, whose memoir, *The Pillar of Fire* (1951), chronicled his conversion to Catholicism, and became an international bestseller, winning praise from known authors C. S. Lewis (1898–1963), Graham Greene (1904–1991), and Thomas Merton (1915–1968) (among others).[174] My previous publications on Stern's life and

[174] I would like to extend my warm thanks to both blind reviewers for their careful, discerning, and supportive appraisals of this paper.

career focused primarily on his family history, his conversion to Roman Catholicism, his conflicted relationships with psychiatry and psychoanalysis, Judaism and Christianity, as well as his friendships with other Catholic luminaries of that era.[175] In this article, it is my intent to mine three pieces of literature produced by Karl Stern, to demonstrate the feelings of powerlessness, isolation and anonymity he experienced after leaving Germany. I will focus specifically on Stern's experience as a refugee and émigré, arguing that his flight from Nazi Germany to London in 1935 provoked strong feelings of powerlessness, isolation, and anonymity, and that his subsequent emigration to Montréal in Canada, where anti-Semitism was also prevalent and intense, altered the quality and intensity of these feelings somewhat, but without eliminating them entirely. Finally, I will argue that Stern's gradual adaptation to life in Canada after the Second World War was marked by (1) serious misgivings about North American culture, and a lingering identification with his European heritage. It further saw (2) a dual ambivalence towards his country of origin, on the one hand, and his adoptive home, on the other.

Background, Training, and Emigration to Canada (1906–1950)

Karl Stern was born in the small town of Cham, Bavaria in 1906, the eldest son of assimilated Jewish shopkeepers, whose forbears had lived in the region for centuries. Most Bavarian Jews had left the countryside for urban centers in the late nineteenth century, and as a result, Stern grew up in a predominantly Catholic atmosphere, attending a Catholic kindergarten, celebrating Christmas with his neighbors and classmates, etc. He also showed great promise as a musician, mastering the piano at an early age, though he eventually opted for medicine as a career.[176]

Stern trained in medicine, neurology, and psychiatry in Munich, Frankfurt am Main, Berlin, and London from 1927 to 1937. Between 1930 and 1931, Stern worked alongside the holistic neurologist Kurt Goldstein (1878–1965) as a resident in neuropsychiatry at the Frankfurt Neurological Institute. Goldstein was a typical "*Nervenarzt*," who trained in both neurology and psychiatry – even with a stronger patient group of neurological patients at the Frankfurt Institute. In 1932, Stern followed Goldstein to the department of neurology of the *Moabiter Krankenhaus* (Moabit Hospital) in Berlin, performing brain autopsies on deceased mental patients. In the summer of 1932, he went to Munich for postdoctoral work at the Kaiser Wilhelm Society's German Research Institute for Psychiatry, where the chief of the department of neuropathology, professor Walther Spielmeyer (1879–1935), who trained directly under

[175] Burston, 2015, p. 351–365; Burston, 2016.
[176] Stern, 1951, chapter one.

clinical psychiatrist Emil Kraepelin (1856–1926), took him on as his assistant for several years.[177]

Though his career was unfolding splendidly, the 1930's were a turbulent period for Stern. On the one hand, Stern was alarmed at the galloping Nazification of Germany, and the increasingly repressive and violent policies the Nazis directed toward Jews and conscientious Roman Catholics. On the other hand, he was plagued by increasing doubts and misgivings about the psychiatric profession, especially the practice of forced sterilization for mental patients. Stern was also profoundly dismayed by his superiors' anti-religious bias, and their blunt dismissal of many patients beliefs pertaining to the Messiah as mere "delusions."[178] Taken together, then, these concurrent developments in the real "external" world and his troubled "inner" world provoked a deep spiritual crisis that prompted him to enter a two and half year long analysis with the Alsbach psychiatrist and neurologist Dr. Rudolph Laudenheimer (1869–1947), which he credited with transforming him completely. During this time, he also sought spiritual solace in the company of both Jewish and Christian believers, eventually favouring the latter.

After Spielmeyer's death in 1935, Stern booked passage to London in England. Thanks to a grant from the American Rockefeller Foundation,[179] he found a position at the neurological institute in Queen's Square. Between 1933 and 1945, the Rockefeller Foundation had undertaken to relocate some 295 European émigré scholars and scientists in the English-speaking world, most of whom were Jewish or openly anti-fascist, and therefore in danger of extermination.[180] The vast majority of these fortunate souls ended up in American or British universities, but a few – like Stern – ended up in Canada, eventually.

Though plagued with worry for friends and family he left behind, Stern flourished professionally in London, and several months after his arrival, married Liselotte von Baeyer (1907–1971), a Protestant beauty from Tuebingen, who had settled in London two years previously, and made her living as a model. Thanks to a recommendation from Canadian neurologist Herbert Hyland (1900–1977), who was also employed at Queen's Square, when his Rockefeller fellowship in London ended, Stern applied for a job working alongside the famous

[177] Stahnisch, 2010, p. 36–68.
[178] Birmingham, 1995, p. 151–155; esp. p. 155.
[179] Compare also the article by Aleksandra Loewenau in this Special Issue of *History of Intellectual Culture*, entitled, "Reason for Dismissal? – Jewish Faith: Analysis of Narratives in the SPSL Immigration Applications by German-Speaking Neurologists," p. 155–176.
[180] Frank, 2011, chapter 9.

Canadian neurosurgeon Wilder Penfield (1891–1976), who had first heard of Stern's skills as a researcher from Spielmeyer some years previously.[181]

Stern, Liselotte, and their young son, Antony (b. 1937), arrived in Montréal on June 24th – Saint-Jean-Baptiste Day – 1939, with Jean Baptiste Day being the National Holiday in the province of Québec. During the Quiet Revolution of the 1960s and 70s, Québécois sovereigntists transformed it from a religious celebration into an explicitly nationalist *Fête Nationale* that would not have been particularly welcoming to an "outsider" like Stern. It was an interesting coincidence that he arrived on this day in light of the premise that Stern in some respects lived apart from the general population in their new home. Initially, Stern worked at the *Hôpital de Notre Dame,* and somewhat later, at the Protestant Insane Asylum, Douglas Hospital, Verdun in Québec. Soon after his arrival, he befriended another émigré neurologist and histologist, Miguel Prados (1899–1970), from Malaga, by way of Madrid. Prados had already achieved a measure of fame, having collaborated with Santiago Ramón y Cajal (1852–1934) on a famous study of the corpus callosum, published in 1922.[182] He was also an ardent Republican who shared Stern's anti-fascist sensibility, and like Stern, was deeply interested in psychoanalysis. As a result, the two became close friends, and co-authored numerous papers on neurology and gerontology over the years.[183]

Another émigré neurologist and chemist, whom Stern befriended at around this time, was Heinz Lehmann (1911–1999), who later became the chief of the department of psychiatry at the Douglas Hospital. Lehmann had arrived in Montréal in 1937, two years before Stern, but like him, had converted from Judaism to Christianity. Lehmann is chiefly remembered for introducing the use of chlorpromazine for the treatment of schizophrenia, and for advocating the decriminalization of marijuana and homosexuality in the 1960s.[184]

Meanwhile, after dithering for a decade or more on the doorstep of the Church, Stern finally converted to Roman Catholicism in 1943 – a decision which satisfied a deep inner longing, but provoked intense condemnation from Montréal's Jewish community.[185] Mercifully, 1943 was also the year that Wilder Penfield recommended Stern to the British-trained biological psychiatrist Donald Ewen Cameron (1901–1967), the new Chief of Psychiatry at McGill University, who placed Stern in charge of the Gerontologic Unit of the Allan Memorial Institute of Psychiatry. As described by Stern the Unit "was established as one

[181] See Stahnisch, 2010, p. 6–13.
[182] Cf. Río-Hortega, 2013, p. 176–190; esp. 187.
[183] Burston, 2016, chapter 3.
[184] Shorter, 2005, p. 160–161.
[185] Burston, 2016, chapter 4 and chapter 6.

of the research groups" of the Department of Psychiatry at McGill University rather than a clinical service; it was the first geriatric psychiatry unit in Canada, as has been emphasized in the history of medicine literature.[186] And there again, Stern flourished professionally until 1952, by which time he had authored at least fifty-two articles on neuroanatomy, neuropathology, and several psychiatric disorders in prestigious medical journals.[187] Unfortunately, his growing fame and increasingly outspoken religiosity also came at a cost, as it caused a breach between him and Cameron. Cameron was an anti-psychoanalytical psychiatrist, interested in electroshock therapy and psychopharmacology – and responsible for psychoactive drug testing with coercive experiments on human patients in Montréal.[188] This context meant for Stern's situation that he felt personally prompted to leave the Allan, moving to the newly founded Catholic University of Ottawa that same year.[189]

Sources of Evidence: A Memoir, a Novel, and a Poem

Stern's journal articles were extremely well regarded within the medical professional, but his growing fame outside of psychiatric circles stemmed from the sales of a memoir entitled *The Pillar of Fire,* published in 1951. *The Pillar of Fire* became an international bestseller, and was greeted by many Catholics as a worthy successor to other twentieth-century conversion narratives, like Dorothy Day's (1897–1980) book *From Union Square to Rome* (1937), and Thomas Merton's *The Seven Storey Mountain* (1948). Stern's admirers also included author and philosopher C.S. Lewis as well as theologian and ethicist Reinhold Niebuhr (1892–1971), who wrote to Stern in praise of his book, which they regarded as a literary masterpiece. Indeed, *The Pillar of Fire,* was eventually translated into German, French, Spanish, Dutch and Italian, and as a result, by the mid-1960s, Stern was a well-known figure, a public intellectual, in Canada and the United States. He was a member of Poets, Essayists, and Novelists (P.E.N. International), and the Canadian representative to the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) Institute for Education. In 1965, he testified as an expert on racism and prejudice in the Canadian House of Commons, appearing frequently on the Canadian Broadcasting Corporation (CBC) radio and television during the 1960s.[190]

Quite apart from its appeal to Catholics, *The Pillar of Fire* gives us some vivid descriptions of Stern's experience as a forced-migrant in his exile in London and Montréal, to

[186] Hogan, 2007, p. 131–150.
[187] Shaw, 1951, p. 424–430.
[188] Cf. Tone, 2009, p. 257.
[189] Stahnisch, 2015, p. 245–247.
[190] Burston, 2016, chapters 4 and 6.

which we will get to presently in this article. Another potential source of information about his émigré experience is Stern's novel, *Through Dooms of Love* (1960), which he wrote with some assistance from his admirer and frequent house guest, the novelist Graham Greene.[191] Greene had stumbled across *The Pillar of Fire* shortly after it was published, and admired it exceedingly. He also offered glowing endorsements for three subsequent non-fiction books written by Stern, namely *The Third Revolution* (1954), *The Flight From Woman* (1967), and *Love and Success* (1975).[192]

Stern's (much neglected) novel was set in Chicago in the United States in 1949, and it tracked the fortunes and vicissitudes of a formerly wealthy Czech artist-industrialist who fled the Nazis with his daughter, but whose estranged wife and son had settled in London, England. While the are no exact parallels between the lives of the characters in the novel and Karl Stern's own family circle, there are certainly some strong thematic convergences between "art" and "life" here that are not coincidental, and several characters whose experiences and attitudes are strikingly reminiscent of Stern's own, as we see in more detail, below.[193]

A third source of information about the challenges that Stern and his family experienced adapting to their new cultural surroundings in Canada is a book-length poem by the late classicist and poet Daryl Hine (1936–2012), author of *In and Out: A Confessional Poem*. As a Canadian-born friend of Stern's eldest son, Antony, and his classmate at McGill University, Hine spent considerable time in the Stern family home in the Outremont neighbourhood between 1955 and 1956. Unlike Stern's novel, in Hine's fictionalized memoir the Stern family was intended to closely mirror the actions and utterances of Karl, Liselotte, and Antony, who were all given pseudonyms.

Up until recently, I was under the mistaken impression that Hine's book contributed appreciably to Stern's posthumous neglect,[194] and I am grateful to Canadian author, editor, and poet John Robert Colombo (b. 1936) for disabusing me of this idea. As it turns out, despite ringing endorsements from fellow poets Louis Dudek (1918–2001) and James Merrill (1926–1995), and Canada's preeminent literary critic, Northrop Frye (1912–1991), Hine's readership in Canada was actually quite small. And on balance, that is probably a good thing, because no member of the Stern family escapes Hine's rapier wit. According to Hine's description, Liselotte was a submissive, stay at home housewife, while Stern was a dour domestic tyrant who pontificated about religion around the dinner table, who browbeat his wife and children,

[191] Stern, 1960.
[192] Stern, 1954; Stern, 1965; Stern, 1975.
[193] Stern, 1960, p. 34 and p. 223.
[194] Burston, 2016, chapter 6.

and was largely responsible for all the domestic tragedies that befell the family in later years. Hine's depictions of events – including his brief affair with Antony Stern, which is the pivotal point of the book – should be taken with a proverbial grain of salt; indeed, perhaps a spoonful. Why? Because even before he met Karl Stern, Hine admits, he disliked *The Pillar of Fire*, a book which Hugh MacLennan (1907–1990) and C.S. Lewis had greeted as a literary masterpiece. Despite the accolades Stern received from some of the most celebrated authors and theologians of his time, in Hine's opinion, *The Pillar of Fire* was not a moving testament of faith. It was merely trite and confused. He described Stern's work dismissively as a "dubious doctrine, a mixture of [theologian Martin] Buber [1878–1965] and [Catholic philosopher Jacques] Maritain [1882–1973] topped with a dollop of [psychoanalyst Sigmund] Freud [1856–1939]", implying that Stern was a dilettante who was trying to reconcile Judaism and Christianity, and both of these with psychoanalysis, yet in an implausible or injudicious manner.[195] Hine obviously overlooked the fact that Stern's second book, *The Third Revolution* (1954), which was published a year before Hine met the Sterns, does not merely add a "dollop of Freud" on top of Stern's religious ideas. On the contrary, it was a thoughtful and eloquent effort to persuade Catholic readers that Freud's deepest insights into human nature, which Stern described with competence and lucidity, can (and should) be integrated into the body of Catholic teaching.

Significantly, Hine also neglected to mention Stern's friendship and admiration for Dorothy Day, whose activism and advocacy on behalf of workers, immigrants, racial minorities, and the poorest, most destitute segments of society Stern supported through regular donations and frequent scholarly and journalistic contributions to *The Catholic Worker*, the newspaper she edited. Indeed, in her one cameo appearance, toward the end of the book, Day is depicted as a dour and dispirited old crone, not the vital and dedicated woman she was.[196]

So, what was the source of Hine's derisive and dismissive attitude toward Stern, his family and friends? In all likelihood, the main source of Hine's antagonism was the fact that when his clandestine affair with Antony Stern came to light, Karl Stern put an abrupt halt to it, and urged his son to go into analysis. It is important to remember, that these occurrences happened in Canada during the mid-1950s, when the stigma associated with homosexuality was prevalent and intense, both in the Catholic Church and in psychoanalytic circles.[197] And a year or so later, Antony pronounced himself "cured", and soon after, married, leaving his erstwhile lover fuming with jealousy.

---

[195] Hine, 1989, p. 260.
[196] Cf. Webb, 2003, p. 71–88.
[197] McLeod, 1996, p. 185–190.

That said, this was not the only source of Hine's hostility, nor the most important one, from our point of view. In addition, it is worth noting that while Stern was a devout Roman Catholic throughout his adult life, Hine was barely twenty when he met Stern, and was thinking about leaving the Church merely one year after his initial conversion.[198] In short, when Hine met Antony and Karl Stern, he was already becoming disenchanted with Catholicism, which he had embraced in a sudden (but relatively brief) fit of piety, only to reject it with equal vehemence a short time later. His time with Antony's family marked the period in between his conversion and subsequent departure from the Church. So even if Antony Stern had not been the love of his life, as Hine frequently claimed, he would probably have ended up disliking Karl and Liselotte.

Forwards and Backwards: Fire and Salt

That said, it is also important to note that Hine's abandonment of Roman Catholicism, and his often-repeated preference for pagan metaphors, imagery, and style, did not prevent him from trading in Biblical allusions many years after the fact. Indeed, Hine's opinion of Stern is summed up well in the satirical title he gave to the book that made Stern famous – *The Pillar of Salt.* This title alteration was probably prompted by a passage from the book itself, which alludes to the story of Lot's wife (Genesis 19:26), where Stern wrote:

> Christianity never demands of you that you deny anything positive that you ever loved. You can find it all again in Christ, but you find more. He does not want you to be nostalgic for the past, because the past is in Him. He asks you not to look back at the burning city, lest you will turn into a pillar of salt.[199]

Stern was saying, in effect, that converts to Christianity need not look backwards, and cling to their old identities; that everything positive that they ever loved is still present in (and consistent with) their new-found love of Christ. But according to Hine, that is precisely what Karl and Liselotte Stern were doing – looking backwards. In describing the furniture in Stern's personal home in Montréal, for example, he claimed that: "everything bore . . . an invisible label, like in those museums, proclaiming its age, in reaction perhaps to the modern world that they found themselves in but not of."[200] Hine was referring to the magnificent old furniture that Liselotte von Baeyer, later Liselotte Stern, managed – against considerable odds – to save and transport from Nazi Germany to London, and then from England to Montréal, in defiance of the predatory policies of the Nazi regime, which confiscated anything of value when they

[198] Kaufman, 2012, p. B8.
[199] Hine, 1989, p. 231.
[200] Daryl Hine qtd. after Saywell, 1961, p. 316.

could get away with it. These handcrafted items from the eighteenth and nineteenth century exhibited a level of craftsmanship that stands in stark contrast to the more modern and mass manufactured items that filled the homes of most Montréal residents. And here let us note that despite Hine's disparaging portrait of her, Liselotte (von Baeyer) Stern was not simply a snob, an antiquarian or a submissive "stay at home Mom."[201] She was an accomplished craftswoman – a book binder and book restoration expert who trained in Germany and England, and whose work was in great demand. Indeed, at the request of Canadian novelist Robertson Davies (1913–1995), she salvaged and restored many ancient tomes that now reside in collections in Massey College, University of Toronto, and McGill University's Osler Library in Montréal, Québec.[202]

That being so, it seems reasonable to suppose that Liselotte's attachment to her furniture was not merely symptomatic of nostalgia. It was gesture of defiance against the Nazis, and against prevailing tastes and cultural conventions in North America, which she and Karl found foreign and dispiriting.[203] Evidence for this can be found in a striking passage from *The Pillar of Fire*, where Stern recalled that their first Montréal residence, in an unnamed suburb of Montréal, was quite demoralizing because of the

> . . . monotonous infinity of houses . . . . The houses were jerry-built, rows after rows, creeping along like fungi mass cultured by wealthy people who lived in cool stone buildings, far away from us. The houses were filled with settees; moonlit lake scenes with moose; mahogany radios; Jesus the Good Shepherd . . . and so on. With insignificant variations, the same uniformity prevailed on all sides. Thoughts were channeled into all this by radio and newspapers, as if an ocean were artificially aerated. It was as though the mystery of human existence itself were replaced by a Prefabricated Life.[204]

Clearly, Stern and his wife found both the exterior and interior portions of the suburban community they lived in aesthetically rather ugly, and the omnipresent chatter of the radio and newspapers an affront to their critical faculties. As if in response to this disparaging appraisal, Hine found the Sterns' attachment to European craftsmanship and music to be pathetic, if not hypocritical altogether. After all, the real title of Stern's memoir, *The Pillar of Fire,* is intended to convey the author's willingness to venture into an unknown wilderness, to risk uncertainty and possible hardship for the sake of his faith. But Hine's allusion to Lot's wife, who is fixated on the past, and actually disobeys God's command, becoming immobilized and inert as a result, suggests that the book's title is somewhat fraudulent. It may also be seen as a cover for the

[201] Burston, 2016, p. 117.
[202] Ibid., chapter 5.
[203] Taylor, 1983, p. 9.
[204] Stern, 1951, p. 217–218.

Stern family's cultural stagnation – their apparent inability to let go of their European heritage and acclimate to their new, North American surroundings and living context.[205]

"No Sense of Belonging:" Stern in Montréal, 1939

While there is some evidence to support Hine's caustic appraisal, as we shall see later, a more charitable and realistic assessment of the Sterns' attitude might be that they were always conscious and proud of their European heritage – at least when it came to culture, art, music, and design. Yet when it came to politics, language, ethnicity and faith, Karl Stern could also be quite critical of Europe. This is reflected, among other things, in his probing reflections on the galloping Nazification of Germany from 1928 to 1938, and indirectly, in his reflections on the civic temper of Montréal. Why the latter? Because far from being the cosmopolitan city it is today, when Stern and his family arrived in 1939 – the year of the outbreak of the Second World War –, Montréal had been a social patchwork of ethnic enclaves that treated one another warily, at best. The Francophone population, said Stern, possessed a rural village mentality not unlike that of early eighteenth-century France. They were unusually pious, traditional, and therefore wary (if not actually contemptuous) of finance and industrialization – and by implication, of the English, the Scots and, of course, the Jews.[206] Montréal's Anglophones, by contrast, were more modern and economically successful, but often smug, complacent, and disdainful of their French neighbours – and toward the Irish, who also settled in Montréal in large numbers before. So, far from being a melting pot, Montréal – as Stern experienced it, anyway –merely reproduced and perpetuated all the old rivalries and antagonisms of Europe on a miniature scale "in the form of preciously preserved resentments of bygone times."[207]

Oddly enough, though Stern never mentions this specifically, historians have also noted that developments in Europe were exacerbating the tension across Montréal's ethnic divides at the time of Stern's arrival in Canada. Professor Robert Schwartzwald points out that the latent antipathies between the French speaking Catholics and the mostly Yiddish speaking Jewish community were intensified by the Spanish Civil War, and played out rather nastily in the popular press in the months immediately preceding the Stern family's arrival.[208] These worrisome exchanges also foreshadowed future trends, as many Québécois would soon greet the Vichy regime in France, which was fiercely anti-Semitic, with noticeable enthusiasm too.[209]

[205] Hine, 1989, p. 6.
[206] Baillargeon, 1999, p. 108, 136–38, and 159.
[207] Stern, 1951, p. 218.
[208] Schwartzwald, 2009, p. 89–104.
[209] See Marrus and Paxton, 1991; and Delisle, 1993.

Meanwhile, the Stern family was quite taken aback by the frank and frequent expressions of anti-Semitism among the city's residents. As Karl Stern himself put it:

> Some Catholic people let us feel anti-Semitism for the first time since leaving Germany. In Germany we had been subject to the cruel precision of a huge, anonymous machine; here for the first time, we experienced anti-Semitism from person to person . . . the spirit of Catholicity we knew in Europe seemed lost . . . .[210]

So consider Stern's predicament. On arrival in Montréal, on the eve of the Second World War, he was still nominally Jewish, but married to a German-speaking Protestant, rendering integration into either the Jewish community or Anglo-Scottish Protestant communities of Montréal already quite difficult. He and his wife were also immanently moving slowly but steadily toward conversion to Roman Catholicism, but unlike many Catholics in Québec, were deeply opposed to the Spanish general and dictator Francisco "Franco" Bahamonde (1892–1975) and the German Nazi *Fuehrer* Adolf Hitler (1889–1945), and appalled by the visceral anti-Semitism of many Catholics in *La Belle Province*. Considering the mood of the city, it is no surprise then that: "We had no feeling of 'belonging.' We felt like rabbits who turn up accidentally in the middle of a fox hunt."[211]

Stern in London, 1935: Dust and Fog

By contrast with his experience in Montréal in 1939, Stern's experience of settling in London four years previously was not as complicated or as colored by ethnic and racial prejudices. Yet neither was it easy. On arrival from Germany, Stern found England to be a fairly homogenous nut nonetheless tolerant society. Despite these initial observations, he suffered from acute feelings of isolation, anonymity, and powerlessness; feelings he believed gripped *all* the German-Jewish refugees who were forced to uproot themselves from their ancestral homes. For example, he wrote:

> . . . we settled imperceptibly, like dust, in the huge cities of the Western world. Then there were corners where the dust tended to collect, and in which it was easily seen. There were streets full of us: Greencroft Gardens, London N.W.; Washington Heights, New York City. Many, however, settled like dispersed particles in Paddington, Ealing or Hendon. Each of us carried an invisible wall of strangeness around him because those summer evenings of our childhood in Koenigstein or in Starnberg were incommunicable.[212]

[210] Stern, 1951, p. 219.
[211] Ibid.
[212] Ibid., p. 190–191.

If Jewish refugees felt like dust particles, blown willy-nilly by the prevailing winds, their neighbors experienced them, not as individuals, yet rather as ". . . part of that penetrating anonymity of the city, like the fog." Dust and fog – these are Karl Stern's apt metaphors for émigré populations. After all, dust and fog both consist of tiny, insubstantial particles, have no permanent residence, and do not travel of their own volition, at the time or to a destination of their own choosing. They are also experienced as nuisances, even potential hazards – not the sort of thing one welcomes into one's personal home or on the neighborhood streets.[213]

Moreover, regardless of what levels of prosperity they had enjoyed formerly, Stern and his contemporaries now found themselves entirely dependent on the beneficence of a new host country, and in circumstances like these, said Stern " … Generosity was no mother. It was a nurse with the odor of antisepsis."[214] In such circumstances, the joy of freedom, such as it was, was often blighted by the émigrés frequent inability to help friends and loved ones to safety, because of bureaucratic indifference or the greedy machinations of the Nazis.

In an effort to overcome their alienation from their surroundings, Stern recalls, many German-Jewish émigrés tried to master the English language as quickly as possible, and to "fit in" by dressing like Englishmen, and adopting their accents and mannerisms. As Stern further observed, this effort to culturally assimilate also engendered a new form of self-estrangement, a kind of blanket repudiation of an émigré's past.[215] After all, for better and for worse, Jewish enlightenment philosopher Moses Mendelssohn (1729–1786) had persuaded several generations of Jews living in Germany and Austria that German had been the language of Jewish emancipation, urging them to embrace the language of theologian and anthropologist Johann Gottfried Herder (1744–1803), writer and dramatist Gotthold Ephraim Lessing (1729–1781), linguist and philosopher Wilhelm von Humboldt (1767–1835), novelist and poet Johann Wolfgang von Goethe (1749–1832), and above all the leading enlightenment philosopher Immanuel Kant (1724–1804). They did so with considerable enthusiasm, contributing mightily to German thought and letters until they were purged from German universities in the 1930s.[216] But now their native language, once a source of considerable pride, became the "language of the Enemy" which was associated – even in their own minds, as often as not – with "that thing behind us, that monstrous Anti-Mother, that dark and demoniac crater from which we had come."[217]

[213] See also in: Brook, 2009, p. 18.
[214] Stern, 1951, p. 191.
[215] See also in: Kurzweil, 1996, p. 139–155.
[216] Elon, 2003.
[217] Stern, 1951, p. 193.

A long, lonely journey from the arms of a monstrous anti-Mother to those of an anti-septic nurse (whose sympathies and resources only extend so far) does not sound terribly appealing. Yet on balance, it was not all bad, either. Though plagued by worry about the friends and family he left behind, Stern still admired that mixture "of sobriety and pragmatism, dryness and brilliant lucidity . . . so characteristic of Anglo-Saxon science." He delighted in the English fondness for eccentricity, for unusual and self-taught men. While acknowledging that "invisible walls" surrounded members of different social classes, he was also deeply impressed by the sense of solidarity among them, especially in the face of adversity.[218] Even in the absence of a common faith or political ideology, Stern recalled, communal rituals like tea and choral singing pervaded his work place, imparting a sense of civility and belonging quite unlike the rigid hierarchies he had frequently experienced earlier in the Kaiser Wilhelm Society at the German Research Institute for Psychiatry in Munich, and at the universities of Frankfurt am Main and Berlin in Germany before.

Similarly, in Montréal, Stern had splendid opportunities for career advancement, and found many new friends and colleagues, both French- and English-speaking, who offered him their friendship and personal support. Having already learned and then perfected his English in London, Stern became soon fluent in French as well, and gradually learned to negotiate the city's ethnic divides. Meanwhile, his wealthy uncle Felix Stern (1877–1949), who lived and worked as an engineer in Chicago, helped Stern to bring his father and stepmother – penniless, but alive – to Montréal, were they became doting grandparents to his growing brood of children; a stroke of good fortune that few of his fellow émigrés could hope to match. Only his exclusion from Montréal's Jewish community, on account of his conversion to Catholicism, seemed permanent and quite irrevocable.

A Double Ambivalence: The Making of an Outsider

So, from several vantage points, Stern was exceedingly lucky. And he knew it, too. However, his sense of good fortune – which he attributed to Divine Providence – never erased the lingering sense of alienation that he experienced as a result of his forced emigration process. Stern's experience, at least as it has been rendered in *The Pillar of Fire*, suggests that he acquired a trait common among immigrants and refugees. It was a kind of double ambivalence – one that extends inwards and backwards, so to speak, to their country of origin, and another that extends forwards and outwards, to their adoptive home, where their present and future

[218] Cf. Burston, 2015, p. 351–365.

reside.[219] So, on the one hand, said Stern, "those summer evenings of our childhood in Koenigstein or in Starnberg were incommunicable." On the other hand, the beloved Koenigstein and Starnberg of their childhood had vanished forever in the maw of the monstrous "anti-Mother," never to return. Similarly, the new world offered immigrants like Karl Stern the chance to escape religious and racial persecution, to grow and to prosper socially and economically. At the same time, it also required an enormous effort and ingenuity to succeed, posed many new problems and prejudices, and had willfully abandoned many of the artistic, aesthetic, and spiritual riches of the European heritage that once made them so proud.

So for Stern, and many other refugee scientists and scholars like him, both his country of origin and his adoptive homeland were regarded ambivalently. Why was this so? Because the new home did not provide or replicate the distinctively good cultural features of their old country, and *vice versa*. As a result, *both* countries evoked feelings of love, longing, and likewise a sense of loss. They *both* disappointed, in ways that refugees were powerless to cultural and political change or to address it successfully. And on reflection, this imminently puts Hine's satirical title, *The Pillar of Salt*, in a slightly different light. Stern called his memoir *The Pillar of Fire,* suggesting that he was moving forward, into the as yet unknown future. Yet adult émigré physicians and scientists like Stern, whose childhood memories and cultural roots run deep, inevitably look backwards as well, as they negotiate the challenges of living in a new and initially foreign environment.

Another source of insight into Stern's émigré experience may be his novel, *Through Dooms of Love,* which was published ten years after *The Pillar of Fire*.[220] Among other things, of course, the novel dramatizes the ultimately unsuccessful efforts of two displaced Europeans, Leonard Radbert and Joseph Birnstamm, to adapt and thrive in the new world, and another, younger émigré, Marianne Radbert who does adapt eventually, but only after overcoming some serious obstacles. Set in Chicago in 1949, the novel initially pivots around the relationship between the elderly émigré Leonard Radbert and his daughter Marianne, who emigrated to the United States from Czechoslovakia (via London) a decade previously. Like Liselotte von Baeyer's father, the novel's eldest character, Leonard Radbert sprang from the lesser nobility, but opposed the Nazis, and was stripped of his fortune before he and his family fled to safety. As the plot unfolds, it transpires that Leonard only survives in Chicago thanks to Marianne, who works as a well-paid fashion model. Thanks to Marianne's modeling salary, Leonard, a former millionaire who is now down on his luck, is never destitute. Yet all practical intents and

[219] Gemignani, 2011, p. 132–156.
[220] Stern, 1960.

purposes, he is a perpetual outsider. And so when he was hospitalized after a stroke, he was much more isolated and disoriented than the average stroke patient.

At the occupational level, at least, Marianne had made a much better adaptation to her new, North American surroundings. However, her inner world has still been European to the core. The day her father was admitted to the Holy Jordan, a local psychiatric hospital, she strolled the hospital grounds, and saw:

> A few people . . . sitting on . . . ornamental cast iron benches; men and women of all ages, some hunched, others leaning back and baring their faces to the invisible sun. On the lawn . . . stood a man with a long grey beard, a wide-brimmed soft hat, a shirt-blouse with a piece of string for a belt. He could have been a nineteenth century leader, [like the Italian revolutionary Giuseppe] Garibaldi [1807–1882] or [the writer and politician] Count Lev Nikolayevich] Tolstoy [1828–1910], mysteriously arrested in the motion of pronouncing his message . . . . From the galleries . . . one could hear human voices, wailing, shouting and chatter, but (it struck her when she later thought about it) no conversation. Some of the old men and women . . . looked as if their faces had been arrested in a grimace. Others had noble and rare features, the kind of faces one rarely saw in town, free of the accidental. She saw a [n Italian Renaissance artist and scientist] Michelangelo [di Lodovico Buonarroti Simoni, 1475–1564], a [Spanish romantic painter] Goya [1746–1828] and a [Dutch painter Hieronymus] Bosch [1450–1516], and they all looked strangely polite and genteel. They wore hand-me-down old clothes, strange combinations of business suits, overalls and street clothes.[221]

Garibaldi, Tolstoy, Michelangelo, Goya, Bosch – seeing so many vivid characters like these walking about in broad daylight on American soil in the space of a few minutes is extraordinary, even on the grounds of a mental hospital. Moreover, and more to the point, their names evoke images, ideas, and associations that hearken all the way back from the nineteenth century to the late Middle Ages, referencing Marianne's European heritage. This passage further conveys the distinct impression that Marianne was outwardly adapted to her surroundings, while her heart and soul were still planted on the other side of the Atlantic. Like her father, then, she could not help but see her world and the people in it through European lenses. No wonder then, that as the novel unfolds, Leonard Radbert's slow but inexorable decline prompts Marianne to seek psychotherapy from Doctor Joseph Birnstamm, a Holocaust survivor with deep interests in philosophy and literature – like Stern himself – who was able to speak to Leonard in his own tongue, and inspire some hope and to comfort him in the midst of his personal challenges and final decline.

[221] Stern, 1960, p. 101.

Strategies of Adaptation to the New World

But despite the sensitive care he gave to Marianne's father, and later, to Marianne, Doctor Birnstamm was a tragic, vulnerable figure who, at the end of day, is hardly any better suited to his American surroundings than Marianne's father was. Among other things, it transpires that Doctor Birnstamm is locked in a bitter struggle with another, much more powerful émigré, Doctor Wayne, who is the closest thing to a villain in *Through Dooms of Love*. Birnstamm and Wayne hate each other, and about two thirds of the way into the novel, Wayne succeeds in having Birnstamm dismissed from his job at Holy Jordan. Shortly after he has lost his hospital job, Birnstamm learns that his days as Marianne's therapist are numbered in any case; he has terminal cancer, and only a few months to live.

That being so, it is important to note that unlike Birnstamm, Wayne arrived in the United States before the war, Americanized his name, married a wealthy American wife, and after rising rapidly through the ranks, controlled the hospital's spanking new clinical research wing. And again, unlike Birnstamm, who is unmistakably Viennese, Wayne's accent is barely discernable, and he remains unusually tight lipped about his place of birth. Far from being proud of his European origins, he has done his utmost to conceal them, and has reaped substantial benefits as a result. So Doctors Birnstamm and Wayne, both émigrés, represent diametrically opposed attitudes, strategies and outcomes; the low status psychiatric "loser" who is unable to conceal, much less negate his European roots, and the high status "winner" who is reluctant or unwilling to acknowledge them.

Arguably, Stern could be reproached for drawing too stark a contrast between these different modes of adaptation to the new world. And yet, one would dearly like to know – was this state of affairs an accident, just an idea that occurred to Stern, or was it a plot device that Stern deliberately wove into the plot, perhaps with Graham Greene's approval? And if so, did Stern create Birnstamm consciously to register his distaste for émigrés who adapt too easily, for opportunistic reasons? Sadly, we will never know for sure. But there is no doubt that this is a scenario where "the bad guys" win, and that even readers who were unfamiliar with *The Pillar of Fire* would have no difficulty in discerning where Stern's own sympathies have lain.

Finally, it should be noted that Doctor Birnstamm's defeat at Holy Jordan echoes some of Stern's fears about his own professional standing. In his correspondence with Dorothy Day and American writer and conservative politician Clare Boothe Luce (1903–1987), he joked more than once that the publication of his novel might elicit widespread condemnation, and prompt him to lose his medical license; that psychiatrists would excommunicate him for his candid albeit fictionalized critique of the psychiatric profession. He need not have worried.

His novel – though competent on the whole, and quite fascinating in places – was largely ignored by the psychiatric establishment. That being so, his fears on this score were probably grounded in his growing misgivings about the blinkered materialism and militant atheism of the overwhelming majority of his psychiatric colleagues; misgivings that first nagged at his conscience in Munich, but intensified in Montréal during the forties, and no doubt contributed to his rift with Dr. D. Ewen Cameron and biological psychiatry associates at McGill University in September of 1952.[222] So even in his chosen profession, psychiatry, Stern felt like an outsider, and identified strongly with those who dwell precariously on the border of respectability – religious patients, geriatric cases, and patients asking for psychoanalytical therapy in Montréal at the time.[223]

So, given the novel's plot, and the temper of its main protagonists, there was a grain of truth to Hine's description of Karl and Liselotte Stern as backward looking – though likening their exquisite furniture to museum pieces, and altering the title of Stern's first book to *The Pillar of Salt* was undeniably mean spirited. And then again, one wonders – was Hine perhaps trying to conjure some oblique parallel between Stern's first book and Albert Memmi's autobiographical novel, *The Pillar of Salt*, which was published in 1953,[224] two years after *The Pillar of Fire*? Again, we will never know for certain. But it is interesting to note that the hero of Memmi's book, Alexandre Mordekhai Bennilouche, is an Algerian Jew who, like Stern, came from humble beginnings, endured anti-Semitic taunts and discrimination (from Christians *and* Muslims), who struggled (as did Stern) with his Jewish identity, and was ultimately forced to flee his native land.[225]

Despite this odd coincidence, however, one suspects that no such parallels were intended here. Hine would have found Memmi's quasi-fictional character much more sympathetic that the flesh and blood Karl Stern. After all, despite his own and brief conversion to Roman Catholicism, Hine took an exceedingly dim view of Stern's conversion, regarding it as a base betrayal of Stern's own people, rather than a deep or authentic spiritual commitment. And unlike Stern, Memmi's hero did not abandon his ancestral faith, despite the harsh mistreatment his Jewish identity elicited, and the internal struggles that beset him at various points in the book.

[222] Burston, 2016, chapters 5 and 6.
[223] Stern, 1948, p. 48–60.
[224] Memmi, 1953.
[225] Ibid., p. 257–267.

Fighting Anti-Semitism?

Stern approached things differently, however. Having converted to Catholicism, he resolved to fight anti-Semitism in the Church – a task for which he was now extremely well equipped, or so he evidently hoped. For roughly two decades, on the Catholic lecture circuit, he gave literally hundreds of talks, mostly in the province of Québec, on the evils of racial and religious prejudice, and of anti-Semitism in particular.[226] No doubt, they did some good. The tone of his talks to Quebeckers can be partially inferred from a passage toward the end of *The Pillar of Fire*, where he recalled a conversation

> . . . with a very learned, profoundly religious French-Canadian priest. This man shared the nationalist fervor which one finds among so many groups of racial minority anywhere in the world. In spite of his spirituality he was not free from that resentment which always seems to diminish the stature of a man. In the course of our conversation I pointed out to him how deep the traces of persecution and of anti-Semitism are in every one of us, and that I could not believe that Christ would demand of me to join the ranks of those who, on the material plane, are our persecutors. Everything in me, I said, revolted against the idea. He looked long and pensively at me, and finally he said: "Yes, if following God would require me to become British, I must say this would a terrible demand." . . . He continued to be silent for a while and this remark, and I knew that he understood.[227]

Nevertheless, in a manner of speaking, Stern *did* join the ranks of his persecutors, although he rationalized his decision to convert by claiming that the racist and fascist elements that were present in the Church only represented the "visible Church", which is mired in worldliness, contradiction and sin. Fortunately, he claimed, there is also an "invisible Church" that is pure and free of such disfiguring influences. That may be, but as I pointed out in my previous book *A Forgotten Freudian: The Passion of Karl Stern* (2016), Stern's fervent praise for the "invisible Church" sometimes led him to idealize some of its more visible members. For example, consider his enthusiastic response to Cardinal Michael von Faulhaber's (1869–1952) advent sermon of December 17th, 1933 in the central *Frauenkirche* Cathedral in Munich. Faulhaber had resolved to repudiate the Nazis' repeated assertions that the New Testament had nothing to do with the Old Testament; that Jesus was Aryan, not Jewish. Of course, this made total nonsense of traditional and received Catholic and Protestant theology, so Faulhaber vigorously re-asserted the continuity between the two faiths. At the same time, says Church historian Gunther Loewy,

> . . . Faulhaber went out of his way to make clear that he was not concerned with defending his Jewish contemporaries. "We must distinguish," he told the faithful, "between the people of Israel before the death of Christ, who were vehicles of divine revelation, and the

[226] Duffin, 2010, p. 152.
[227] Stern, 1951, p. 259–260.

> Jews after the death of Christ, who have become restless wanderers over the earth. But even the Jewish people of ancient times could not justly claim credit for the wisdom of the Old Testament. So unique were these laws that one was bound to say: "People of Israel, this did not grow in your own garden of your own planting. This condemnation of usurious land-grabbing, this war against the oppression of the farmer by debt, this prohibition of usury, is not the product of your spirit."[228]

So, on reflection, Karl Stern greeted Faulhaber's sermon with enthusiasm, while the vast majority of the members in the Jewish community experienced it as a vehement rejection, a body blow. In fairness to Faulhaber, the highbrow-low intensity of the anti-Semitism that he expressed was simply an outgrowth of old-fashioned Catholic supersessions, which was finally repudiated at the second Vatican Council from 1962 to 1965. Unlike Adolf Hitler – a high intensity-low-brow anti-Semite – Faulhaber never incited Catholics to commit violence against Jews. The problem was that his sermon provided Catholics with the perfect justification for passivity and indifference to the fate of the Jews in the years leading up to the Holocaust, thereby helping to seal their fate at the hands of Hitler's minions. The fact that Stern was "tone deaf" to Faulhaber's thinly veiled hostility towards the Jewish community may help explain the Jewish community of Montréal's lingering mistrust of Stern. And yet, despite his apparent obliviousness to the latent implications of Faulhaber's sermon – which declared that the wisdom of the Old Testament and the Prophets was somehow foreign to "the Jewish spirit" – Stern frequently extended "olive branches" to Montréal's Jews, and many Catholic visitors to his home remarked that the atmosphere in the Stern household was decidedly "Jewish,"[229] somehow– further evidence of the complexities and unfinished business he brought with him from Europe.

So, to summarize, we have three published sources of information about Karl Stern's experience as an émigré. The first is his memoir *The Pillar of Fire*, which is undoubtedly the richest and most reliable one. However, much can also be inferred from a careful reading of Stern's novel, *Through Dooms of Love*, which was published ten years later. Daryl Hine's "confessional poem" *In and Out* also furnishes us with an interesting perspective on the Stern family's *modus vivendi* in Montréal, though he was clearly biased against Stern, and evidently preferred the pagan sensibilities of the Roman poets to Stern's pious Christian world view. Reading these sources together, so to speak, yields the following conclusions.

[228] Guenther Loewy, cit. after Vogelin, 1999, p. 190.
[229] Psychiatrist Dr. Noel Walsh (d. 2015), who was Stern's right-hand man at St. Mary's Hospital in Montréal, Québec in a *Personal Communication* (on May, 2012).

Conclusion

Karl Stern's departure from Germany in 1935 was a flight from almost certain death. Upon arrival in London, England, he experienced acute feelings of isolation, anonymity and powerlessness ("dust" and "fog"). His sense of powerlessness was intensified by the extreme difficulties he experienced in trying to extricate beloved friends and relatives from his country of origin; efforts that sometimes ended in abject failure. His feelings of alienation from his current surroundings were exacerbated by the necessity of learning of foreign language, and more importantly, by the ambivalence he and his fellow émigrés now experienced toward their native tongue, which England, his first host nation, and later Canada, his adoptive home, plainly regarded as the "language of the Enemy."

While still living in London, Stern observed that some emigres sought to "blend in" completely, to be or to seem as English as possible, whether in the hopes of gaining positions and status, or mitigating possible suspicion and hostility towards themselves –whether as Germans, as Jews, or both. Though there were many features of British culture that Stern admired, he rejected that approach to adaptation, remaining quite conscious – and indeed, quite proud – of his European heritage for the remainder of his life. Even so, he could not avoid feeling ambivalent toward his country of origin – ("a monstrous anti-Mother") – and his English refuge – ("a nurse with the odor of antisepsis"); feelings that persisted (or were transferred), in due course, to Montréal, his adoptive home. Though we have no direct proof, in the form of documents or straightforward declarations, there is plenty of circumstantial and anecdotal evidence to suggest that Stern's feelings about emigration fit a pattern of *double ambivalence* found frequently in refugees, who experience feelings of love, longing and loss with respect to their country of origin *and* their adoptive homes. Indeed, on reflection, he probably felt a very similar ambivalence toward his ancestral faith, which he abandoned, and his adopted faith, which he only embraced after years of internal struggle after his arrival in the New World. Both the ancestral faith and the new one was beloved, and yet both were also disappointing, in their ways. Both laid claim to his loyalty and affection, somehow. And so one is left wondering how much and how often his double ambivalence toward his country of origin and his adoptive home in North America were complicated by his spiritual migration from Judaism to Roman Catholicism, and by perhaps even by his ambivalence toward his profession, psychiatry, which he seldom addressed publicly, and only confided to his closest confidantes.

One thing is certain. Upon his arrival in Montréal, Stern was daunted by the ethnic, religious, and linguistic antagonisms that divided the city. And because of his lingering loyalty to Judaism, his hatred of fascism, and his deep but as yet unconsummated yearning to embrace

the Catholic faith, Stern was doubly, perhaps trebly dismayed by the frequent and frank expressions of anti-Semitic sentiments he encountered among Catholics in the province of Québec. And though his career in Canada flourished, he obviously felt great sympathy and a sense of solidarity with those émigré academics and scholars who, for one reason or another, remained rooted psychologically in European soil, and did not manage as successfully as he did to thrive in the New World. Fortunately for Stern, in the aftermath of the Second World War, the Catholic Church welcomed converts – especially Jewish converts – enthusiastically. So despite his lingering inner conflicts, which estranged him from Montréal's urban Jewish community, the city's Francophone community embraced him with open arms. This fact is evidenced, among other things, in the honorary doctorate bestowed upon him in 1968 by the Université de Laval in Québec City.[230]

References

Baillargeon, Denyse. 1999. *Making Do: Women, Family and Home in Montreal during the Great Depression*. Waterloo, ON: Wilfrid Laurier University Press.

Birmingham, Mary K. 1995. Some Thoughts on the Fiftieth Anniversary. In *Building on a Proud Past. 50 Years of Psychiatry at McGill*, ed., Theodore L. Sourkes and Gilbert Pinard, 151–155. Montreal, PQ: McGill University.

Brook, Vincent. 2009. *Driven to Darkness: Jewish Émigré Directors and the Rise of Film Noir*. New Brunswick, New Jersey, New York: Rutgers University Press.

Burston, Daniel. 2015. The Politics of Psychiatry and the Vicissitudes of Faith Circa 1950: Karl Stern's Psychiatric Novel. *Journal of the History of the Behavioral Sciences* 51: 351–365.

Burston, Daniel. 2016. *The Forgotten Freudian: The Passion of Karl Stern*. London, Eng.: Karnac Books.

Delisle, Esther. 1993. *The Traitor and the Jew. Anti-Semitism and Extremist Right-Wing Nationalism in Quebec from 1929–1939*. Montréal, PQ: Robert Davies Books.

Duffin, Jacqueline. 2010. *History of Medicine: A Scandalously Short Introduction*. Toronto, ON: University of Toronto Press.

Elon, Amos. *The Pity of It All.* New York City: Henry Holt, 2003.

Frank, Tibor. 2011. Organized Operations in Europe and the USA 1933–1945. In *Defense of Learning: The Plight, Persecution and Placement of Academic Refugees 1933–1980s*, eds., Shula Marxs, Paul Weindling, and Laura Wintour, chpt. 9. New York City: Oxford University Press.

Gemignani, Marco. 2011. 'The Past if Past:' The Use of Memories and Self-Healing Narratives in Refugees from the Former Yugoslavia. *Journal of Refugee Studies* 24: 132–156.

Hine, Daryl. 1989. *In and Out: A Confessional Poem*. New York City: Alfred Knopf.

[230] Cf. Roberts, 1976, p. 172.

Hogan, David. 2007. History of Geriatrics in Canada. *Canadian Bulletin of Medical History* 24: 131–150.

Kaufman, Margaret. Daryl Hine, 76, Poet, Editor and Translator. *New York Times* (August 25, 2012): B8.

Kurzweil, Edith. 1996. Psychoanalytic Science: From Oedipus to Culture. In *Forced Migration and Scientific Change. Émigré German–Speaking Scientists and Scholars after 1933*, ed., Mitchell Ash, and Alfons Soellner, 139–155. Cambridge, UK: Cambridge University Press.

Marrus, Michael and Robert Paxton. 1991. *Vichy France and the Jews*. New York City: Schocken Books.

McLeod, Donald W. 1996. *Lesbian and Gay Liberation in Canada. A Selected Annotated Chronology*. Pittsburgh, PA: Homewood Books.

Memmi, Albert. 1953. *The Pillar of Salt*. Chicago, IL: Criterion Books.

Río-Hortega. Javier. 2013. The Discoveries of Microglia and Oligodendroglia: Pío del Río-Hortega and his Relationships with Achúcarro and Cajal (1914–1934). *Neurosciences and History* 1: 176–190.

Roberts, James L. 1976. Le Docteur Karl Stern. La mort du docteur Karl Stern entraîne dans le domaine psychiatrique la disparition … *L'Unión médicale du Canada* 105: 172.

Saywell, John T. 1961. *Canadian Annual Review 3*. Toronto, ON: University of Toronto Press.

Schwartzwald, Robert. 2009. Les relations interculturelles en 1937 à travers la presse Juife montréalaise d'expression anglaise In *Un Tournant Culturel*, ed., Yvan Lamond, and Denise Stainte-Jacques, 89–104. Québec City, QP: Les Presses de l'Université Laval.

Shaw, James. 1951. Meet the Karl Sterns. *The Catholic World* 174: 424–430.

Shorter, Edward. 2005. *A Historical Dictionary of Psychiatry*. Oxford, UK: Oxford University Press.

Stahnisch, Frank W. 2010. German-Speaking Émigré-Neuroscientists in North America after 1933: Critical Reflections on Emigration-Induced Scientific Change. *Oesterreichische Zeitschrift fuer Geschichtswissenschaften* 21: 36–68.

Stahnisch, Frank W. 2015. Karl Stern (1906–1975) – Pioneer in Neurology. *Journal of Neurology* 262: 245–247.

Stern, Karl. 1948. Observations in an Old Age Counselling Center – Preliminary Report on The First 100 Clients. *Journal of Gerontololology* 3: 48–60.

Stern, Karl. 1951. *The Pillar of Fire*. New York: Harcourt, Brace and Co.

Stern, Karl. 1960. *Through Dooms of Love*. New York City: Farrar, Straus & Cudahy.

Stern, Karl. 1954. *The Third Revolution: A Study of Psychiatry and Religion*. New York City: Harcourt Brace and Company.

Stern, Karl. 1965. *The Flight from Woman*. New York City: Farrar, Straus & Giroux.

Stern, Karl. 1975. *Love and Success*. New York City: Farrar Straus & Giroux.

Taylor, John Russell. 1983. *Strangers in Paradise. The Hollywood Émigrés 1933–1950*. New York City: Holt Rinehart and Winston.

Tone, Andrea. 2009. *The Age of Anxiety – A History of America's Turbulent Affair with Tranquillizers*. New York City: Basic Books.

Vogelin, Eric. 1999. *Hitler and the Germans*. Columbia, MO: University of Missouri Press.

INTER-NATIONAL SUFFERING AND LOCAL MEDICAL COUNSELLING: DR. WILLIAM G. NIEDERLAND (1904–1993) AND THE PSYCHIATRIC CONTOURS OF 'EMPATHY'

Frank W. Stahnisch & Christopher G. Kemp

University of Calgary / Washington University, Seattle, WA

Abstract:

While working as a *psychiatric* expert in the indemnification trials for Holocaust survivors for the American and West German authorities from the 1950s to the 1980s, German-born physician William G. *Niederland* not only became an advocate for survivors' claims for compensation, but worked out the psychiatric contours of '*empathy*' in modern psycho-traumatology. It is often assumed that he developed his notion of empathy strictly from clinical diagnostic reports and personal experiences, yet Niederland's encounters with psychiatric and psychological communities remain scantily understood. However, these encounters formed his interests to a great extent and served in his continuing diagnostic endeavours. Niederland reshaped empathy into a methodological tool and elaborated the definition of the '*survivors' syndrome*' — for which he became world-renowned. His own work as a physician in the British Marine Corps inevitably left its traces in continuing occupations in psychiatric practice. At the centre of our article lies the development of Niederland's personal and professional career, with a focus on international forms of suffering. Beyond such subjective experiences, Niederland can also be seen as one of many émigrés who brought Central European concepts to North America and adapted them to their new medical and psychological *milieu*. This process remains tangible in Niederland's views of Karl Jasper's (1883–1969) and Eugen Bleuler's (1857–1939) works in general psychopathology. Our article traces the occurring knowledge transfer in the historical development of 'empathy.' Niederland's call for modifying the physician-survivor relationship is thereby presented in relation to his scientific and popular writings, when drawing attention to his court testimonies in the context reparation and restitution claims of previous Nazi atrocities.*

* Research for this article in the archives of the Holocaust Center of Northern California in San Francisco and the Leo Baeck Institute in New York City was supported through a Canadian Social Sciences and Humanities Research Council enhancement grant (~ "The Forced Migration of German-speaking Neuroscientists and Biomedical Researchers") by the University Research Grant Committee of the University of Calgary, AB (# 10005402), as well as through a research grant from the Nova Scotia Health Research Foundation (~ "From Brains on the Bench to Images of Mind? – A Critical Appraisal") by Associated Medical Services in Toronto, ON (# 1034600). Frank W. Stahnisch is grateful to a recent invitation from Professor Matthias Lutz-Bachmann, to

Keywords:

Compensation claims, empathy, émigré psychiatrists and neurologists, Germany, Holocaust survivors, New York, William G. Niederland, United States

Introduction

This article ponders the question of altered inter-national living and working milieus in the context of forced migration of German-speaking émigré psychiatrists and neuroscientists during Nazism and Fascism in Europe.[231] We concentrate on refugee psychiatrist and neurologist William G. Niederland (1904–1993); in the first part of this manuscript we describe his working biography; in the second part we reflect on the notion of empathy in Niederland's patient work; and in the third part we analyze some of the inter-national implications of his work. For the purpose of the publication of our article in *History of Intellectual Culture*, we emphasize that the English-speaking readership of the journal is a very different one from historians familiar with the German-language historiography, especially the earlier biography written by Wenda Focke.[232] We further concentrate here analytically on the psychiatric contours of empathy in Niederland's therapeutic practice and international contributions.

Niederland was born in East Prussia and emigrated to North America in 1940 on a remarkable route, one that brought him all across the globe — from Europe to China, and from there to the United States via the Pacific isles.[233] Looking at Dr. Niederland's remarkable biography presents his distinct interests in inter-national forms of suffering. His interpretation of the psychiatric contours of 'empathy' were related to a rapidly globalizing world while, conversely, the answers to the psychiatric conditions he described, scrutinized, and treated emerged from entrenched practice in medical counselling settings.[234]

Our hyphen between the terms 'inter-' and '-national' in the title emphasizes the clinical symptoms and the very living conditions of the European refugees and Holocaust survivors Niederland worked with.[235] This population was Dr. Niederland's primary *clientele* and therapeutic concern. In Niederland's counselling practice, their process of expulsion,

become a research fellow at the Institute for Advanced Studies ("*Forschungskolleg Humanwissenschaften*"), Goethe University in Frankfurt, Germany. Most of this article was written in Bad Homburg during the summer period of 2016; and both authors thank Keith Hann (Calgary) for his editorial assistance as well as two external reviewers for their constructive criticisms provided on earlier manuscript versions.

[231] Cf. Ash and Soellner, 1996; Weindling, Marks, and Wintour, 2011.

[232] Focke, 1992.

[233] For example, see Focke, ibid., p. 259–307.

[234] Niederland, 1980, p. 13–20.

[235] Krystal and Niederland, 1971, p. 11–28.

experiences of terror and violence, as well as the psychic presence of the past in their lives in exile played major roles for the psychiatric specialist. Likewise, when we look at Niederland's emigration story, and then connect that to his later career as a "psychiatrist of the persecuted,"[236] we find a similar reflection of worldwide social change in his own personal life and working biography since the 1920s.[237]

While Niederland acted as a psychiatric expert in the indemnification trials (*Wiedergutmachung* in German; *shilumim* in Hebrew) for Holocaust survivors and Nazi refugees in the *Bundesrepublik Deutschland* (the Federal Republic of Germany) before 1989,[238] this German-trained physician not only became an advocate for survivors' compensation claims, but noticeably worked out the contours of '*empathy*' in psycho-traumatology. It is exactly via this route "back" to Germany that Niederland transformed inter-national kinds of suffering across diverse national levels. He productively used the pre-existing axes between Washington in the United States and Bonn in West Germany and between the metropolises of New York and Berlin to widen discursive terrains. These relationships served him in determining the psychiatric contours of '*empathy*' lying at the bottom of "the survivor syndrome,"[239] which he philosophically identified and introduced as a new psychiatric condition and popularized.[240]

The focus on the psychiatric uses of the "the survivor syndrome" serves as a helpful cynosure for this article, and we shall proceed accordingly: first, we give a more detailed personal background to Niederland's biography, since it influenced his very career decision and moulded his psychiatric practices. This was well represented in his 1967 article on the manifestations of conscious life and psychiatric empathy, in which he reviewed his experience with concentration camp victims and described the psychiatric state in which he discovered them.[241] In the second part, we reflect on Niederland's interaction with his patients, especially since the notion of empathy was so informative for his clinical work. In the third and last part, we analyze some of the important inter-national implications of his work impinging on refugees' mental and physical health, as well as their public perceptions.[242]

---

[236] Focke, 1992, p. 1.
[237] Hobsbawm, 1994, p. 187–195.
[238] Sharet, 2011, p. 67–70.
[239] In this sense, our analysis departs from the foregoing one by Wenda Focke, in that we found that the notion of 'empathy' played a much larger role in Niederland's psychiatric conceptualizations, diagnostic work, and therapeutic conceptions, rather than being "incomplete" or an "Achilles tendon" of his therapeutic practice. Cf. Focke, 1992, p. 271.
[240] Cf. Zimmer, 2010, p. 629–663.
[241] Niederland, 1966, p. 458–473.
[242] Some might even have influenced the "collective memory" of most Germans in the *Bundesrepublik*, along with the social and medical consequences of Germany's recent Nazi past. Jaspers, 2000, p. 55–75.

William G. Niederland's Life and Work — Paths of Emigration and Adaptation

William Guglielmo (*né* Wilhelm) Niederland was born as the son of an Orthodox rabbi in 1904 in the small village of Schippenbeil, East Prussia (now in Poland). With his family, he later moved to Franconia, where he received his high school degree from the *Realgymnasium* in Wuerzburg and earned his *Dr. med.* degree at the University of Wurzburg. He then went for postdoctoral training to Genoa, Italy, primarily with an interest in dermatological pathologies and the intention to become an internist. When he returned to Germany in the 1930s, nothing at the time predicted that Niederland would emerge as a world-renowned psychiatrist after the Second World War. Instead, he was inclined to settle in a small family practice in the Wuerzburg area.[243] Opportunities to take over a practice from a retiring physician were however scarce, when mass unemployment among doctors was the rule throughout Germany.[244] Because of this challenging situation, Niederland decided to fill in the time by working as a public health officer in Wuerzburg and becoming director of the state-run sanatorium at Beelitz in Thuringia. When January, 1933 arrived and the Nazis seized power in Germany — followed by the enactment of the "Law for the re-establishment of a professional civil service" (*Gesetz zur Wiederherstellung des Deutschen Berufsbeamtentums*)—Niederland lost his state-supported position at the Beelitz sanatorium. He decided to leave his home country, first for the Netherlands and then for Italy, where he practiced as a neurologist until 1938.[245]

He still had close ties with his former colleagues at Genoa, and it seemed obvious to him that the political Fascism of Benito Mussolini (1883–1945) would never take the same anti-Semitic stance that had arisen in Germany. Yet the situation in Italy became increasingly bad and the work of Jewish physicians was constrained by anti-Semitic state laws on a day-to-day basis.[246] In assuming that Italy would be a good country to live in until the political tide in Germany had turned, Niederland shared the views of many Jewish Germans who simply could not anticipate what was to happen when the paths of history went beyond human imagination.[247] Accordingly, Niederland settled in Milan, realizing that the only niche in medicine left available to him was the field of psychiatry. He took postgraduate training in neurology and psychiatry, in order to become relicensed as a consultant physician, and eventually opened his own private practice in the northern Italian city. The way in which Niederland interacted with his patients

[243] Focke, 1999, p. 223–224.
[244] Longerich, 2010, p. 38–40.
[245] Saxon, 1993, p. D22.
[246] Zimmerman, 2005, p. 28–30.
[247] Niederland, 1978 (New York City: Leo Baeck Institute, 1978), Leo Baeck Institute, New York City: William G. Niederland collection, AR 7165, box 1, folder 6, n. pag.

— while investing much time in personal interactions, taking histories, and following up on treatments — soon won him huge recognition. The number of patients grew steadily, until he could barely handle the caseload.[248] For Niederland, these five years in Italy proved to be a happy time — even if this was to be only a transitional period, as he realized later on. As an expression of his gratitude for this happy sojourn, Niederland even changed his second name from 'Wilhelm' to 'Guglielmo,' thinking that he was to stay in Italy forever.

In 1938, with the *Anschluss* of Austria, not only did the borders of the Third Reich begin to stretch further south, but rumours emerged that Nazi officials were pressuring Italy to extradite Jewish refugees. Accordingly, Niederland decided to emigrate to England, in May 1938, with the help of a Jewish refugee aid group.[249] He was however interned there in 1939 as an "enemy alien" along with other German Jewish refugees when the Second World War broke out, serving as camp doctor for four months. Upon his release, Niederland tried to migrate onwards to the United States, which proved to be a traumatic event: the refugee ship on which he sailed for Miami, Florida, did not receive approval from American immigration authorities to dock. While refugees could literally see their safe haven in front of them, the ocean liner *St. Louis* returned to Europe — of course with uncertain prospects.

[248] William G. Niederland, *A Refugee's Life —— The First Year. San Francisco: Typescript with Annotations in Handwriting* (San Francisco, CA: Holocaust Center of Northern California, ca. 1968), manuscript box (William G. Niederland), 88 1111. 3000. H10, 5.
[249] Ibidem, 7f.

Fig. 1: The captain and staff on deck of the freight vessel *Dardanus* (ca. 1939). Courtesy of the Holocaust Center of Northern California (HCNC), San Francisco, CA, United States.[250]

On his return to the eastern coast of the Atlantic, Niederland arrived in British Malta, where he signed up as ship doctor on the British freight vessel *Dardanus* for a voyage to the Philippines. Here the course of world history once again crossed the path of his personal life. He was again regarded as an "enemy alien," this time by the foreign legation operating according to the mandate of the Japanese control agencies, and became stuck in Shanghai for one year, before he was able to prove his refugee background and allowed to travel onward to San Francisco during the summer of 1940.[251]

For a long while Niederland did not deem his complex emigration story of interest, as he noted into his personal memoir. He only became motivated to write down his experiences after witnessing new waves of political refugees arriving in the United States during the Cold War:

> This is a true story, funny in some ways and not so funny in others. I have never written it down. Now that thousands of refugees from so many countries, Vietnam and others, have come to our shores and are struggling to find a new home for themselves in this country, I

[250] Fig. 1, *Photograph of the leadership personnel of the freight vessel* Dardanous*, ca. 1939,* from: HCNC, https://web.archive.org/web/ 20090411212908/http://hcnc.org/. Accessed 15 June 2007.
[251] Pross, 1998, p. 76.

> am now writing it down, so that some of them and, perhaps, my sons too — all of them at college — will be able to read it.[252]

In 1940, more than two years after his unsuccessful attempt to reach the United States, Niederland landed in California and soon continued on to New York City, where he also married his wife Jacqueline Niederland (*née* Rosenberg, 1918–1992), with who he had three sons, Alan, Daniel, and James born in the United States.[253] Yet sharing the fate of many émigré physicians, at first he was not allowed to work as a doctor in a city hospital, so he opened a private practice in New York the following year.[254]

Fig. 2: William G. Niederland (ca. 1965). Courtesy of the Englewood Historical Society (EHS), Englewood, NJ, United States.[255]

After the war, he assumed a research position at the University of Tampa, Florida, where he founded an experimental unit on social psychology and from where he combatted racial hate

[252] Niederland, ca. 1968, p. 1 (Niederland's strikethrough).
[253] Focke, 1992, p. 218f.
[254] Cf. Zeidman, von Villiez, Stellmann, and van den Bussche, 2016, p. 275–298.
[255] Fig. 2, *Photograph of William G. Niederland, ca. 1984, from: EHS, http://wikienglewood.net/images/c/cf/Niederland_William_pic.jpg/. Accessed 9 August 2018.*

groups like the Ku Klux Klan.[256] In 1952, Niederland returned to New York City and continued to work in private practice as a psychoanalyst for more than two decades, before moving to Englewood, NJ in 1974. Although he had been actively treating some Holocaust survivors and Nazi refugees since the late 1940s,[257] Dr. Niederland's involvement with this specific group only began in the late 1950s, reaching its peak after the Frankfurt Auschwitz Trial of 1963–1965.[258] The psychological constitution of the individuals he examined during the Auschwitz Trial had been vividly shattered, and their general symptoms were similar to those of survivors of natural disasters. Yet Niederland also understood that despite unimaginable amounts of atrocities and crimes conducted during the Nazi period, the only option for surviving victims was to live on and get by with their experiences of the Holocaust. The memories of the survivors, according to Niederland's observations, represented the whole mental and physical atmosphere of the concentration camps and suffering they had endured.[259]

With his second New York period, Niederland assumed psychiatric teaching affiliations at the Mount Sinai Medical Center in Manhattan for three years, before accepting a professorship at the New York Downstate Medical Center in Brooklyn in 1953. During the same year, Niederland began to work as an examining psychiatrist for the West German Consulate in New York City. In this capacity, while evaluating indemnification claims from the large group of Holocaust survivors in the United States, he became central to the political debate over the compensability of post-traumatic sequels.[260] According to the postwar West German Federal Restitution Law (*Bundesentschaedigungsgesetz*), Niederland reported on the extent to which claimants were thwarted in their capacity to work. He was thereby in a unique position: as a German-trained Jewish émigré with personal experience in a refugee camp, Niederland was familiar with the German reparations evaluation system, but had not inherited the psychiatric culture of many of his gentile medical peers of the time.[261] As a fellow Jew, his patients did not have the same reservations approaching him as they might have had with a gentile physician from the German war generation.[262] Clinging to the close relationship of body and soul in the face of popular biological reductionism at the time, Niederland became an important advocate for traumatized Holocaust survivors.[263] Over the course of his career, he

[256] For example, see Niederland, 1988, p. 163–164.
[257] Focke, 1992, p. 53–56.
[258] Pendas, 2006, p. 288–306.
[259] Niederland, 1981, p. 413–425; esp. p. 416.
[260] For the impact of the Auschwitz Trial and Niederland's knowledge about the Shoah and its bearing on the social context of Central European refugees in their exiles, see also Moisel, 2016, p. 103–119.
[261] Doerner, 1989, p. 15–20.
[262] Weindling, 2009, p. 451–459.
[263] Also, see Frankl, 2015, p. 14–20.

used his experience with hundreds of trauma patients to develop a unique category: '*the survivor syndrome*.' While working as a clinical instructor and training psychoanalyst at the New York Institute of Psychoanalysis, he also served as an adjunct professor of psychiatry at the State University of New York's Health Science Center in Brooklyn until he reached emeritus status in 1974.[264]

Although Dr. Niederland still continued to practice medicine privately in his new hometown in Englewood, NJ, the last twenty years of his life were mostly filled with psychoanalytic publications and frequent lecture tours to Germany and Austria. An ever-larger part of his life was filled with report writing activity as an expert reviewer for compensation claims from the German courts, consultant for health insurance companies, as well as an advisor to numerous commissions of psychiatric, psychoanalytic, and neurological societies on both sides of the Atlantic.[265] Dr. Niederland died at the age of 88 due to sudden heart failure.

The Notion of 'Empathy' as Working Concept and Conditio Sine Qua Non for Psychiatric Care in Holocaust Survivors

It is helpful now to situate the focus on Dr. Niederland's views about his patients and their physical and mental health conditions. In his interaction with them, the notion of 'empathy'[266] had assumed such a central place. We will argue here that his own refugee status crucially played into his practical work and that his experiences of being ousted from his German homeland were omnipresent in Niederland's theoretical reflections.[267] This was largely independent of whether his psychoanalytic culture theory, his patient case reports, or psychiatric methodologies are examined.[268] The underlying influences from his own refugee background may only be rendered visible when the focus is more closely laid on his autographical writings, published speeches, and review reports. In the psychiatric-historical literature and in Holocaust research William G. Niederland has not been an unknown figure. However, until recently, with the appearance of Wenda Focke's extensive biography, his own experiences and varying encounters with medical communities had been scantly understood. Yet even Focke's dedicated account falls rather short of relating Niederland's autographical narrative to his patient work as a psychoanalyst.[269] These occurrences, as we contend, strongly shaped Niederland's psychosomatic research interests on empathy and eliciting the survivor syndrome,

[264] Saxon, 1993, p. D22.
[265] Niederland, 1968, p. 313–315.
[266] Frisch, 2014, p. 1–13.
[267] For example, see Niederland, 1988, p. 163–164.
[268] Stahnisch, 2009, p. 29–60; esp. p. 48–52.
[269] Focke, 1992, p. 259–307.

serving him quite productively in his diagnostic endeavours when reshaping this clinical concept into a methodological tool.[270]

Niederland first described the semantic scope of the 'survivor syndrome' in 1961. His conclusions were distilled in about two hundred articles and books based on the observations of two thousand former death camp inmates. He returned to the concept in numerous papers, lectures, and interviews during the 1950s and 1960s. The concept itself — as a *proto-idea* to the Post-Traumatic Stress Disorder (PTSD) —[271] was mainly derived from his contact with Holocaust survivors, yet it included Nazi refugees, victims of natural disasters, and those of automobile accidents as well. For Niederland these groups of victims suffered in similar ways from survivor syndrome as did the Holocaust survivors. As a frequent psychiatric indemnity counsellor to health insurance and accident insurance, these additional patient groups played a significant role in Niederland's research and practice as well, revealing phenomena such as the intrusion of trauma, general physiological irritability, numbing, and psychological survivor guilt among the clinical signs and symptoms.[272]

The cardinal symptoms in all these patient groups seemed alike and included insomnia, nightmares, personality changes, depressive states, disorientation as to personal identity, disturbances of memory, anxiety, and psychosomatic ailments: "The very fact of survival always causes severe guilt," Niederland said about this self-reproach, "always." And indeed, he not only wrote in his autobiographical memoir about the guilt that he personally experienced since his Italian exile, having escaped Germany in time, but also his self-doubts on whether he should beg for food or not and his unease with being referred to as a refugee — having been a respected physician before. He frequently found himself in the dire situation in exile "with low spirits."[273] In the first draft of his autobiography, he quite scolded himself — although encountering terrible difficulties in fleeing from Europe and living through the painful rejection through the Florida Immigration Office — that he had successfully escaped from Nazi-occupied Europe:

> I had come to Milan from Genoa, the port city, where I had tried to get on board one of those fast steamships that made the transatlantic run from Europe to the United States in ten days or so. But I had remained stranded in Genoa, since I had no entry visa to the United States, nor any affidavit from an American citizen who would have attested to my

[270] William G. Niederland, *Die Psychologie des 20. Jahrhunderts. Sonderdruck aus dem fuenfzehnbaendigen Informationswerk: Die Psychologie des 20. Jahrhunderts. Zurich: Typescript, 1988* (San Francisco, CA: Holocaust Center of Northern California, 1988), manuscript box (William G. Niederland), 88 1111. 3000. H10, 1055–1067.
[271] For the notion of the "proto-idea," see Stahnisch, 2007, p. 111–132.
[272] Niederland, 1968, p. 313.
[273] Niederland, ca. 1968, p. 7–11 (the autobiography is held at the Holocaust Center of Northern California in San Francisco).

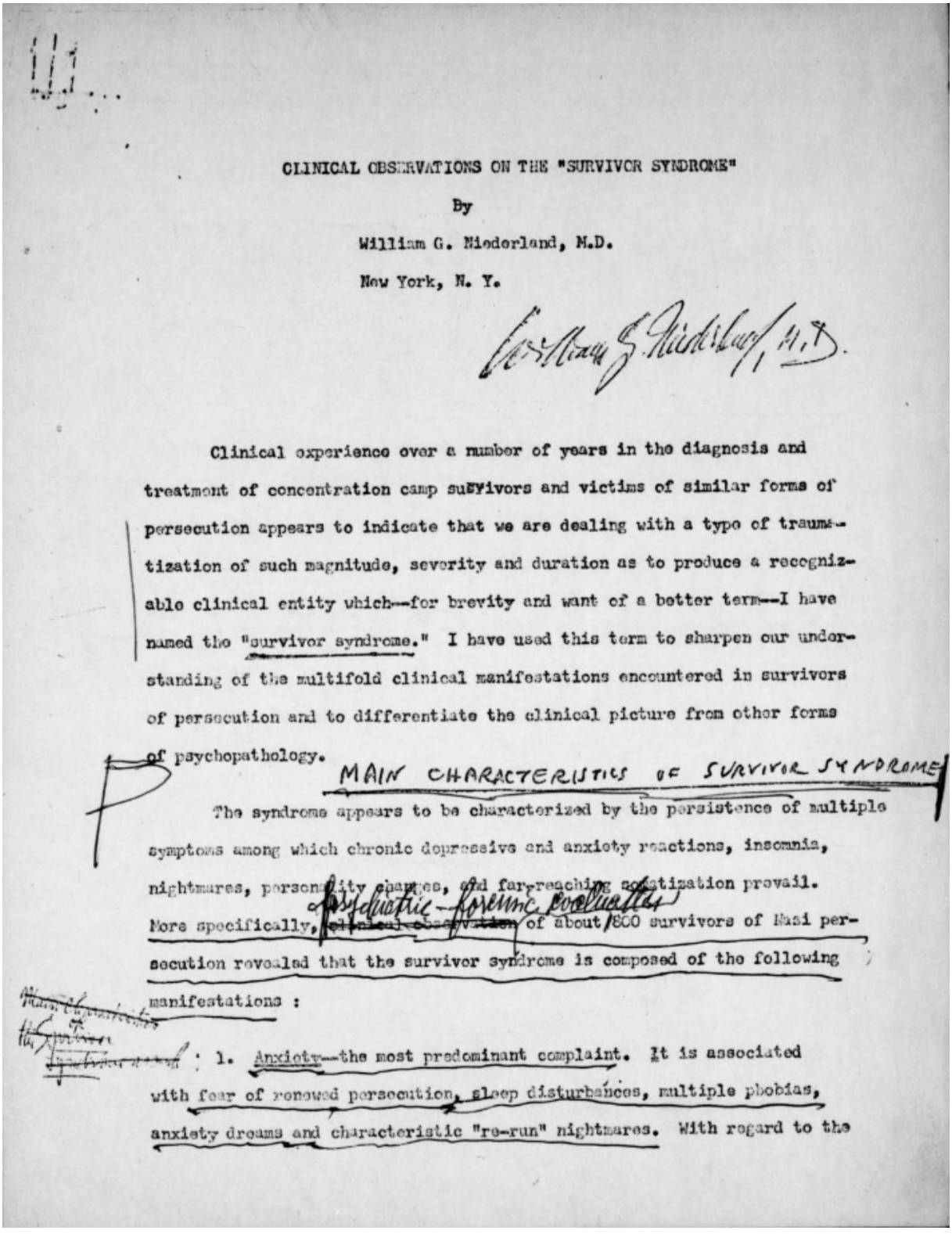
> not becoming a "public burden" after arriving in the Promised Land. In fact, I did not know anyone in either Italy or America.[274]

It was of course well known to Central European refugees that physicians had generally had easier access to the United States, not only due to the existing quotas, but also the work of aid foundations such as the Emergency Committee for Displaced Physicians or the Psychoanalyst's Emergency Committee giving affidavits and facilitating refugees' emigration and new beginnings in North America.[275] As a learned and well-reflected psychiatrist, this was self-evident to Niederland, who — in a way — had become the subject of his own psychiatric research study.

And here the concept of 'empathy' (or *Sich-Einfuehlen*) — the core concept dominating German *Lebensphilosophie*, psychiatry, and phenomenology since the nineteenth century — was not alien to most émigrés, who experienced the far-reaching consequences of persecution and survival themselves.[276] In his German book, entitled *Folgen der Verfolgung: Das Ueberlebenden-Syndrom — Seelenmord* (Effects of Persecution: The Survivor Syndrome — Murder of the Soul), he prefers to use the notion of the survivor syndrome, while it is interesting to note that no major English translation of Niederland's work referred to the more dramatic term "murder of the soul:"

> [A psychic trauma is a] flooding of the mental frame of the 'I' through a continuous onslaught of public and personal insults, suspicions, defamations, and accusations — all of these without any possibility to seek refuge in police and justice.[277]

[274] Ibidem., p. 1.
[275] Pearle, 1984, p. 112–137.
[276] Many American psychologists, philosophers, and physiologists, who trained in Germany during the nineteenth century, were very well acquainted with the contemporary concept of *Einfuehlung*, see for example in Lanzoni, 2016, p. 447–464.
[277] Niederland, 1980, transl. F.W.S., p. 10.



CLINICAL OBSERVATIONS ON THE "SURVIVOR SYNDROME"

By

William G. Niederland, M.D.

New York, N. Y.

Clinical experience over a number of years in the diagnosis and treatment of concentration camp survivors and victims of similar forms of persecution appears to indicate that we are dealing with a type of traumatization of such magnitude, severity and duration as to produce a recognizable clinical entity which--for brevity and want of a better term--I have named the "survivor syndrome." I have used this term to sharpen our understanding of the multifold clinical manifestations encountered in survivors of persecution and to differentiate the clinical picture from other forms of psychopathology.

MAIN CHARACTERISTICS OF SURVIVOR SYNDROME

The syndrome appears to be characterized by the persistence of multiple symptoms among which chronic depressive and anxiety reactions, insomnia, nightmares, personality changes, and far-reaching somatization prevail. More specifically, psychiatric-forensic evaluation of about 800 survivors of Nazi persecution revealed that the survivor syndrome is composed of the following manifestations :

1. Anxiety--the most predominant complaint. It is associated with fear of renewed persecution, sleep disturbances, multiple phobias, anxiety dreams and characteristic "re-run" nightmares. With regard to the

Fig. 3: First Page of William G. Niederland's manuscript with handwritten marginalia, *Clinical Observations on the Survivor Syndrome*, 1.[278]

[278] Fig. 3, Niederland, 1968, 1 (the full manuscript is made digitally available through the William G. Niederland Collection, 1903–1989, of the Leo Baeck Institute in New York City, United States. It is part of the Public Domain, from: http://www.archive.org/stream/williamniederland01reel01#page/n147/mode/1up/. Accessed 9. August, 2018.

In *Folgen der Verfolgung*, Niederland also described the stories of twelve Jewish survivors. The consequences of the persecution of these highly traumatized individuals were veiled, before Niederland's breakthroughs made survivor syndrome public and give it scientific credibility. For example, he described a concentration camp inmate toward the end of the Second World War who was diagnosed as being "depressed" and "elderly," while the patient's medical record mentioned "involutional depression" without any more detailed diagnosis of the traumatic experiences and possible traumatic reactions. As Niederland pointed out, all too often the survivors' justified claims for indemnification were rejected through the courts based on inadequate diagnostic formulations and lack of psychiatric expertise in the consulting physicians.[279] In fact, in Niederland's own unpublished memoires, written forty years after his arrival in the United States, he still referred to himself as a refugee physician, when writing under the heading of *A Refugee's Life — The First Year*:

> Obviously, as far as the aftermath of the holocaust [!] is concerned, the impact on the offspring is of great importance. The survivors unconsciously view their children, born after liberation and in areas far removed from the places of their ordeals, as resurrected members of their lost families, in particular as the living replacement […] of the younger siblings who perished during the Nazi persecution. In this sense, the holocaust-family [!] children are replacement children and often are treated as such. In view of the persecution history of the parents and the offspring's replacement position in the parents' inner world, it becomes clear that the after-effects of the holocaust [!], in one way or another, are bound to affect the children.[280]

Niederland had already pursued some research into the conditions of emigration, new beginnings, and the separation from family and friends during the first steps of his own exile.[281] Yet in his later publications, he introduced experiences from his long flight from Italy to the Philippines, to Shanghai, and eventual arrival in San Francisco as an illustration of the difficulties and suffering of his *practical other*: the psychiatric patients. He described the survivor syndrome from a psychiatric perspective as a traumatic experience, representing a "chronic engram that is associated with death" and resulting in a whole array of symptoms through war and trauma neuroses, characterized by anxiety and agitation, mistrust, and tensions in the social intercourse. It seemed him to be a chronic condition, integrating conflicting interests in a process of "de-humanization" (*Entmenschlichung*):[282]

> Who, as a researcher, clinician or psychologically interested observer, enters the terrain of psychiatric illnesses, which often ensue after massive racist and political persecution, will unprovidedly [!] enter a dark region entailing many tragic occurrences. This is a region, in

[279] Ibidem, p. 21–25.
[280] Niederland, 1988, transl. F.W.S., p. 423.
[281] Cf. Niederland, 1941/42.
[282] Niederland, ca. 1968, p. 313.

> which the psychological effects of the lived-through experiences and the interlinking with terror, hatred, guilt, horror and dehumanization are surfacing in such a crass way, that it is even hard for the medical researcher — accustomed to strict discipline and bound to objectivity —, to keep an unprejudiced analytical habitus, which needs to be presupposed given the strong intertwinement of the psycho-historical events and deep psychological reactions. As a clinician, who works in the area of psychiatry and psychoanalysis, in the following, I [Niederland] will characterize clinical research results on persecution psychiatry and persecution pathology. However, some remarks on the problem of dehumanization shall first be made. How do we understand this term?
>
> I define dehumanization and the behavior leading to it, as the systematical [!] attempt to strip a human being of all his psychophysical functions and abilities so that – as a final result from this process, if it can be survived at all — "something remains" that still lives in a human form, way or Gestalt, or — probably more adequately put — it vegetates, because all of man's psychological properties have changed to a great degree, if not in toto.[283]

Many of Niederland's primary arguments thus emphasized diagnostically necessary empathy in the psychiatrist, in order to understand the traumatic psychopathology of refugee patients and Holocaust victims from Nazi death camps. Death camps were seen by Niederland as "massive destruction machine[s]," systematically breaking down the integrity and functioning of their victims.[284] At a lecture to the Regional Council of Psychoanalysis in New York in 1969, he outlined the main characteristics of the traumatic experience in an appendix, reproduced below:

1. Protracted life-endangering situation in a state of total helplessness
2. Chronic starvation (1200–1400 calories; later 600 calories)
3. Physical maltreatment
4. Total degradation to the point of dehumanization
5. Recurrent terror episodes (Selections)
6. Total or almost total family loss
7. Abrogation of causality
8. Impairment of identity with changes of self-image; self-estrangement
9. Prolonged "living-dead" existence with no way out

"Muselmann" Stage (Stupor, Marasmus) → Death[285]

These experiences formed the background for Niederland's medical and legal arguments. Weaving together the physical and emotional damages inflicted by the camps, he reminded his audience that refugee experiences and Holocaust traumata were both somatogenic and psychogenic: one could not consider the role of constant starvation without considering the role of horrific and persistent terror. Describing the systematic obstruction of the individual self via the commodization and objectification of the persecution process, he argued that survivors had

[283] Niederland, 1988, transl. F.W.S., p. 1055.
[284] Niederland, 1963, p. 10.
[285] William G. Niederland: "Clinical, Social, and Rehabilitation Programs in Concentration Camp Survivors." In *Symposium on the Holocaust; New York: Regional Council of Psychoanalysis, 1969* (New York City: Leo Baeck Institute, 1969), William G. Niederland collection, AR 7165, box 1, folder 6, n. pag.

to become 'automatons' in their daily functions, living only for survival so as to avoid the deadly, apathetic *Muselmann* stage.[286] Frequent exposure to the selections process, which put inmates' lives at the mercy of an SS Security Service officer's random split-second judgement of their health, left survivors immensely concerned with their body image. Inevitably, some made it through the selections while their loved ones did not, creating an "insoluble intrapsychic conflict […] observable as survivor guilt."[287]

By referencing the structure of the death camp experience, when outlining the aftereffects of Holocaust trauma, Niederland ensured that it would be impossible to separate survivors' post-traumatic syndromes from their experiences of persecution.[288] Thus he aimed at strengthening indemnification claims by erasing the role played by individual predispositions.[289] Indeed, he often made reference to the fact that pre-persecution depression or inclination to endogenous depression was rarely observed among Nazi refugees and Holocaust survivors.[290] Arguing against the prevalent notion that "all psychic traumata, of whatever degree or duration, lose their effects when the psychologically traumatizing event could re-traumatize the victim,"[291] he later called this phenomenon *Seelenmord*, murder of the soul.[292]

On Some Implications of Inter-Nationality in William G. Niederland's Work

In 1969, Dr. Niederland inaugurated the Wayne State University workshop in Detroit, Michigan, on massive psychological and mental health trauma, by narrating a patient story from his own clinical experience: Patient B., as Niederland referred to him, had seen a friend hanged in a Nazi concentration camp the day before Yom Kippur. After he had moved to New York City at the end of the war, this tailor who worked at a local Holocaust survivors' rehabilitation centre came to see his physician about a strange phenomenon: Niederland described the patient as infirm but calm, save for one week each year. Come Yom Kippur, B. experienced the *déjà vu* of "being back" in the concentration camp, re-experiencing his friend's execution as if it was happening physically again.[293] Over the course of his career, Niederland used many such

[286] Niederland, 1963, p. 11.
[287] Ibidem, p. 12.
[288] William G. Niederland, *Psychiatric Disorders of Persecution Victims, with Special Reference to Concentration Camp Services, ca. 1964* (New York City: Leo Baeck Institute, 1969), William G. Niederland collection, AR 7165, box 1, folder 5.
[289] Von Zerssen, 2007, p. 174–189.
[290] Niederland, 1963, p. 14.
[291] Niederland, 1966.
[292] Niederland, ca. 1968, p. 12–15.
[293] William G. Niederland, *The Problem of the Survivor, Part II: Concentration Camp Pathology and its Psychiatric After-Effects* (New York City: Leo Baeck Institute, 1970), William G. Niederland Collection, 25 pp.

narrative stories to promote the cause of the Holocaust survivors on both sides of the Atlantic. Moreover, he introduced such stories in his psychiatric writings, and used them to convince court lawyers that they accept and acknowledge the psychological "afterlife" of the experiences and burden of concentration camp inmates, harms that could no longer be seen physically, but that had imprinted various psychological realities — even forty years after the event.[294] Niederland played an important role in a movement towards the use of 'empathy,' mediated through patient stories and cultural acceptance of traumatic experiences, as a permanent psychosomatic phenomenon. In particular, he argued for the existence of a traumatic genesis of mental illness, while advocating for the reparation of instances of violent persecution.[295]

The framework of the complex West German Federal Restitution Law had been developed in a context fraught with conflicting interests between socialist and Nazi political groups and the restoration of the German functionaries and elites around the rebuilding of German postwar society,[296] forming the framework under which psychiatric examiners like Dr. Niederland would be operating.[297] The American Military Government had first adopted a reparations law (*The Allied Restitution Law*) in 1947. However, it did not mention somatic albeit psychological forms of loss as potentially more damaging effects of war and instances of persecution. Most of these property claims were resolved within a decade.[298] Soon after, the Council of States in the American Occupied Zone drafted the first state restitution law, which defined concepts like persecution and was an open door for claims by displaced persons from Eastern Europe.[299] On March 21, 1952 representatives from West Germany, Israel, and the Conference on Jewish Material Claims Against Germany (also known as: Claims Conference) met in the Netherlands to negotiate Jewish claims for the damages of Nazi persecution.[300] This was an unprecedented occasion. West German Chancellor Konrad Adenauer (1876–1967) had spent six months since his Bundestag speech of September 1952, avoiding promises of reparation that Israel and the Claims Conference demanded. Adenauer's advisors were more concerned with Germany's debt to the previous enemy powers, and they refused separate payments to Israel and the Jewish Claims Conference.[301]

[294] Niederland, 1988, p. 1055.
[295] William G. Niederland, *Lecture in Washington, D.C. Washington D.C., 1966* (New York City: Leo Baeck Institute, 1969), William G. Niederland collection, AR 7165, box 1, folder 6,.
[296] Van Rahden, 2011, p. 485–504.
[297] Pross, 1998, p. 19.
[298] Fehling, 1954, p. 56–60.
[299] Ibidem, p. 20.
[300] Henry, 2007, p. 2–5.
[301] Pross, 1998, p. 23.

Finally, on September 10, 1952 the delegates met in Luxemburg and signed agreements for the payment of three billion *Deutsche Mark* to Israel and another five hundred million to the Claims Conference. First and foremost the resulting protocols required an enactment of federal legislation for the payment of individual restitution and indemnification claims.[302] The German *Bundestag* ratified the Luxemburg agreements on March 18, 1953 establishing the legal right of individual victims to reparations of Nazi persecution.[303] Yet it took another nine years and a number of different agreements, before a proper Federal Restitution Law was adopted.[304] Deadline requirements were extended to also include all forced migrants from Germany who had lived within the Reich's borders of 1937.[305] This new law presented for the first time eight kinds of harm that could be grounds for reparations claims: harm to life, harm to body and health, harm to freedom, harm to possessions, harm to property, harm through payment of special taxes, fines, and costs, harm to career advancement, and harm to economic advancement were now included among the material harms mentioned in this law. A quota was set to twenty-five per cent of damage that had to be reached before a compensation could be paid — a percentage, as strange as it may be, that was in line with earlier compensation laws established for war victims since the Weimar Republic.

Berlin neurologist Hermann Oppenheim (1858–1919) was perhaps one of the last German proponents of the somatic aetiology of 'traumatic neuroses.'[306] As a Jewish neurologist and psychiatrist before World War One, he treated waves of traumatized soldiers returning to Berlin. While first subscribing to the notion that war neurotics suffered some kind of male hysteria whose origins were purely psychological, he quickly changed his mind.[307] He began to advocate for traumatic neurosis, whose aetiology was partly somatic and thus inseparable form battlefield events. Traumatic neurosis was potentially compensable and considered largely incurable.[308] In 1926, the Reich Insurance Office ruled that traumatic neuroses would no longer be recognized as compensable illnesses. Lawyers and medical practitioners both had concluded that the healthy, constitutionally sound human psyche was resilient enough to recover from almost any form of trauma.[309] The devaluing of traumatic

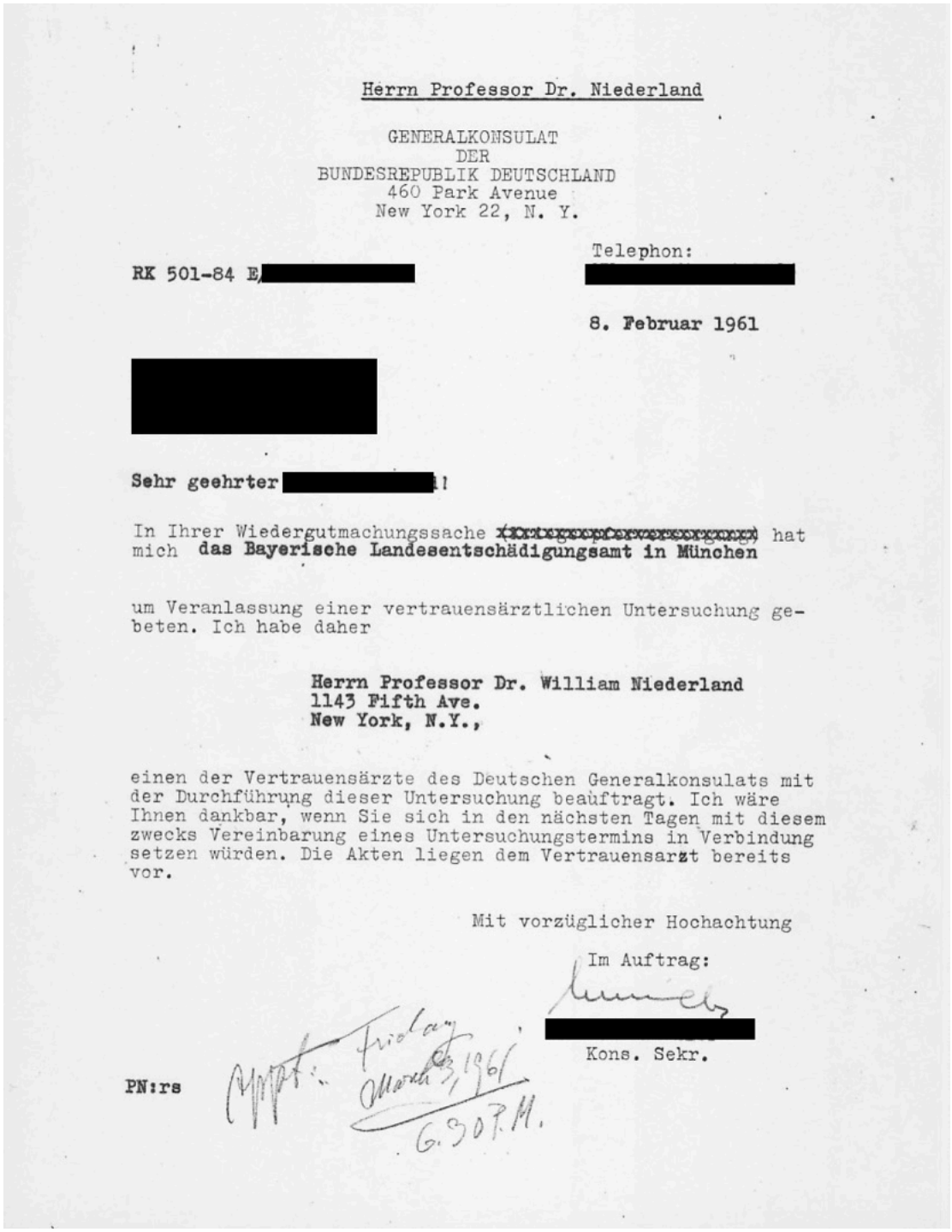
[302] Ibidem, p. 26–28.
[303] Féaux de la Croix, and Rumpf, 1985, p. 119–200.
[304] This timeframe was used in trying to convince the German psychiatric profession, which remained rather impervious to the reparation of mental trauma. Cf. Brady, 2010, p. 151–196; Adenauer, 1951, p. 6697–6698.
[305] *Bundesgesetzblatt* 31 (June 29, 1956): 559–560.
[306] Cf. Lerner, 2003, p. 223–248.
[307] Holdorff, 2011, p. 465–476.
[308] Lerner, 2003, p. 62–65.
[309] Crouthamel, 2001, p. 161–170.

neurosis was the product of years of intense debate, involving prominent military and academic psychiatrists, government officials, and administrators of social pensions.[310]

The *Bundesentschaedigungsgesetz* formed the astounding framework within which psychiatric and medical examiners had to operate in the postwar period while they debated the legitimacy of Holocaust survivor's claims with the West German government. Full of loopholes, the procedure for claiming harm to body and health was hard to complete, as American historian Jason Crouthamel has worked out for the German situation post-1918.[311] And now doctors and judges came into the odd situation for the evaluation of many cases, who lived through the Third Reich. Section 28.1 of the *Bundesentschaedigungsgesetz* stated that claims could be made by those persecuted who experienced "not insignificant harm to body and health" that could be connected to persecution and that the ensuing reduced earning capacity could be granted.[312]

Physicians and judges responsible for the evaluation of cases in West Germany, nevertheless, had mostly lived through the Third Reich themselves.[313] This situation was problematic, given relevant professionals' extensive membership in the Nazi Party (NDASP) and affiliate organizations.[314] However, most claimants lived abroad and were assigned official consultants by the local German consulates in their respective countries. Unfamiliar with the German insurance system, however, these doctor consultants often submitted reports that failed to meet the required standards. Their patients would then find that their personal claims were officially rejected.[315] On February 8, 1961, for example, Dr. Niederland was designated as the main consultant (*vertrauensaerztlicher Untersucher*) to the General Consul of the Federal Republic of Germany, Paul Neumueller (b. 1914?) at 460 Park Avenue in New York 22. Niederland was asked to diagnose claimants, such as Mr. Arthur Kronfeld, who were subsequently expected to get in contact with William G. Niederland, M.D. in his practice on Fifth Avenue in New York to initiate the examination process.

[310] Roelcke, 2005, p. 162–182.
[311] Crouthamel, 2002. p. 163–182.
[312] German Bundestag, *Bundesentschaedigungsgesetz* (zuletzt geaendert durch Art. 21 Abs. 2 G v. 29.6.2015 I 1042) (Berlin: Bundesministerium der Justiz, 1956) – http://www.gesetze-im-internet.de/beg/gesamt.pdf. Accessed 15 June 2016.
[313] Cf. Steinke, 2013, p. 170–175.
[314] Kater, 1989, p. 54–88.
[315] Pross, 1998, p. 72.



Herrn Professor Dr. Niederland

GENERALKONSULAT
DER
BUNDESREPUBLIK DEUTSCHLAND
460 Park Avenue
New York 22, N. Y.

Telephon: [redacted]

RK 501-84 E/[redacted]

8. Februar 1961

[redacted]

Sehr geehrter [redacted]!

In Ihrer Wiedergutmachungssache [redacted] hat mich **das Bayerische Landesentschädigungsamt in München**

um Veranlassung einer vertrauensärztlichen Untersuchung gebeten. Ich habe daher

Herrn Professor Dr. William Niederland
1143 Fifth Ave.
New York, N.Y.,

einen der Vertrauensärzte des Deutschen Generalkonsulats mit der Durchführung dieser Untersuchung beauftragt. Ich wäre Ihnen dankbar, wenn Sie sich in den nächsten Tagen mit diesem zwecks Vereinbarung eines Untersuchungstermins in Verbindung setzen würden. Die Akten liegen dem Vertrauensarzt bereits vor.

Mit vorzüglicher Hochachtung

Im Auftrag:

[redacted]

Kons. Sekr.

PN:rs

Fig. 4: The General Consul of the Federal Republic of Germany in New York City, *Letter* (February 8, 1961), announcing the need to schedule a medical examination with the main consultant of the German General Consulate. Courtesy of the Holocaust Center of Northern California (HCNC), San Francisco, CA, United States.[316]

Thus, while German indemnification legislation gave political refugees and Holocaust survivors the right to claim pensions and re-compensation payments, the process in which the

[316] Fig. 4, The General Consul of the Federal Republic of Germany in New York City, *Letter* (February 8, 1961) to Mr. Arthur Kronfeld in Brooklyn, New York (San Francisco, CA: Holocaust Center of Northern California, 1961), manuscript box (William G. Niederland), 88 1111. 3000. H10, 5.

system had been set up tended to maximize frustrations, hostilities, delay, and confusion. At the same time, it tended to minimize the funding payout.[317] The examination situations, for those claiming harm to body and health, were especially stern. For example, causality between persecution and permanent bodily harm was often next to impossible to prove. However, those whose earning capacities were reduced by obvious physical harm could at least make claims regarding the existence of their disability status. Those bearing the mental consequences of flight, incarceration, and the Holocaust, however, were to experience an irritating strain of new discrimination — partially politically motivated, yet also partially personal, racist, and anti-Semitic.[318] A medical profession, whose leaders had remained in Nazi Germany, inherited a longstanding distrust of the 'traumatic neuroses' when evaluating the claims.[319] At the same time, most of the representatives of the former holist school of neurology, psychoanalytical psychiatrists, and representatives of the German psychosomatics movement were driven out of Central Europe, finding refuge for example in Britain, North and South America, and Russia.[320]

Historians studying the implementation of post-Nazi reparations legislation have often noted the evaluators' reluctance to attribute disabling mental illness to previous persecution.[321] Postwar German psychiatrists, in particular, were quick to cite survivors' predispositions or weak constitutions as the causes of their psychological problems. In their case history of a German Holocaust survivor, who had to wait forty years for reparations approval, psychologists Werner E. Platz and Franklin A. Oberlander have noted that examiners explicitly stressed the importance of 'endogenous' mental factors, as opposed to 'exogenous' (here: Nazi-inflicted) traumas and wounds.[322] Analyzing the psychological state of these examiners, Platz and Oberlander argue that examiners' decisions were motivated by the rationale that acknowledging persecution-related forms of impairment would have been tantamount to "incriminating their own fathers and grandfathers."[323] Postwar German evaluators had numerous reasons to resist mental traumas as a compensable category. Informed by a psychiatric tradition that jettisoned the notion of the 'traumatic neuroses' as early as 1916,[324] they began to link traumatic sequels to predisposing weaknesses and refused the role played by persecution. These experts were quick to point to the extraordinary costs involved in the restitution of trauma, and would only have had to look as far as the failure of the Weimar National Pension Law, which despite best

[317] Weindling, 2014, p. 89–107.
[318] Steinke, 2013, p. 123–134.
[319] Klee, 2003, p. 5–7.
[320] Cf. Stahnisch, 2010, p. 36–68.
[321] Luedtke, 1993, p. 542–572; Assmann, 1999, p. 95–116.
[322] Platz and Oberlander, 1995, p. 309–319.
[323] Ibidem, p. 319.
[324] Holdorff, 2011, p. 465–476.

intentions did not account sufficiently for the enormous economic costs regarding war-related and veterans' indemnifications.[325] This then was the environment into which Niederland needed to step in — with West Germany just leaving the severe economic crisis, which had followed the country's collapse after the Second World War —, when he commenced working as a reparations evaluator for the West German Consulate in New York City in 1956.[326] Contrary to common practice, then, Niederland advocated for the existence of objective mental illnesses, arguing that the Holocaust trauma had a *longue durée* and deserved financial and social recompensation.[327]

Niederland took part in a broader movement towards the acceptance of psychological 'trauma' as a health-damaging phenomenon, while his involvement as an external expert in compensation claim law cases was a mere coincidence;[328] yet here again the relation between the two metropolises of Berlin in Germany and New York in the United States came into play. The West German Consulate in New York sought a physician for other medical cases it had to deal with, such as the medical experiments in the concentration camps during the war.[329] With the establishment of the 1956 Federal Restitution Law, he was asked whether as a German-speaking psychiatrist, he would not be able to report on the post-traumatic sequels in individual cases of the reparation claims.[330]

At a lecture in New York in 1969, Niederland outlined the characteristics of the traumatic experiences he had previously seen. Weaving together the physical as well as the emotional damages inflicted by the camps, along with flight and emigration, he reminded his audience that Holocaust traumata were both somatogenic and psychogenic. Physicians, while sympathetic to Dr. Niederland, could not consider the role of starvation for the keeping of individual health without also taking the persistent terror also into account:

> I therefore wish to state from the outset that the clinical experience over the past thirty years in the diagnosis, treatment, and forensic-psychiatric analytic evaluation of concentration camp victims has taught me that the psychological and physical traumas of persons brutally persecuted, incarcerated, and tortured rarely heal.[331]

The effect of the traumatic influences experienced in their inter-national dimension (*viz.* the actual events that had taken place in another country), still continued and individual suffering

[325] Perry, 2014, p. 4–5.
[326] Niederland, 1998, p. 317–335.
[327] Niederland, 1981, p. 413–426.
[328] Niederland, 1998, p. 317–320.
[329] For example, see Weindling, von Villiez, Loewenau, and Farron. 2016. The Victims of Unethical Human Experiments and Coerced Research under National Socialism. *Endeavour* 40: 1–6.
[330] Zweig, 2001, p. 188–190.
[331] Niederland, 1981, p. 413–25; esp. p. 414.

could be brought about in different contexts on the other side of the Atlantic. Describing the systematic obstruction of the "*Ego*" (Niederland had obviously become a psychoanalytical psychiatrist),[332] he argued that survivors had morphed into "auto-matons" in their daily functions ("*Maschinen im taeglichen Leben*").[333] Through his continuous travelling activity, while giving lectures to both lay and professional groups regarding the recognition of the survivor syndrome, Niederland prolifically bridged the gap between North America and Germany. This had been informed by the observation that the majority of the extended population of Holocaust survivors and Nazi refugees had not become psychiatric patients, yet became separated in non-clinical and clinical survivor groups, by offering valuable shielding, mediating, protective, and resilience forms of support in contexts of stress and suffering. Niederland thereby noticed the potential protective roles that social support networks could play in supporting good psychological, family, and social behaviours, while preventing or modulating the long-term results of psychic trauma in lay groups and in clinical populations with significant survivor syndrome following to concentration camp, persecution, or flight experiences.[334]

[332] Ffytche and Pick, 2016, p. 43–45.
[333] For the contemporary psychiatric context, see Kraepelin, 1992, p. 256–269.
[334] Niederland, 1961, p. 233–247; esp. p. 233.

THE SURVIVOR SYNDROME: FURTHER OBSERVATIONS AND DIMENSIONS

WILLIAM G. NIEDERLAND, M.D.

IN A NUMBER OF PREVIOUS PUBLICATIONS I have dealt with the after-effects of brutal persecution, methodical starvations and coercion, cruelty, torture, constant fear and helplessness, and other types of traumatization endured by surviving victims of the Nazi concentration camps. As early as 1961, and in a series of follow-up writings (1964, 1968, 1977), I described the multidimensional consequences of these shattering experiences and noted that the traumatization sustained by the victims appears to be of such magnitude, severity, and duration as to produce, in many cases, a recognizable clinical entity which—for the sake of brevity—I have called the "survivor syndrome."

It has become almost fashionable of late to call any frightful human tragedy a "holocaust." To use the term in this way only erodes its stark significance, but is also apt to reduce our understanding of the Nazi atrocities and the specific clinical sequelae in the surviving victims. Not infrequently, I have seen lengthy case histories, composed in good hospitals, which contain but one sentence or two with regard to the patient's traumatic persecution experiences: "X spent twenty months in the concen-

---

Presented at a meeting of the Swiss Psychoanalytic Society, Zurich, August 3, 1980.

Fig. 5: Front page of William G. Niederland: "The Survivor Syndrome: Further Observations and Dimensions," *Journal of the American Psychoanalytical Association* 29,2 (1981): 413–425; here p. 413 (Public Domain).

Niederland reconciled the psychiatric and psychoanalytic communities, and was able to reach out to lay audiences and emphasize the main challenge of his professional life that "no

one could survive Hitler's concentration camps and emerge unchanged."[335] As a result of his long professional career, since the mid-seventies, Niederland's diagnosis of the 'survivor syndrome' was tied up with a push in the field of mainstream psychiatry to recognize Post Traumatic Stress Disorder in the publication of the Diagnostic and Statistical Manual III (DSM III) in 1980.[336]

Crucial characteristics of the survivor syndrome, like the presence of a latency period that could ensue over long periods of time and displacement over wide distances, were also being recognized in the treatment of Vietnam War veterans.[337] And in 1975, Niederland joined the Canadian psychiatrist Chaim F. Shatan (1924–2001) in the Vietnam Veterans Working Group, which focused on "perceptual dissonance in Vietnam Combat Veterans." And here the history of Holocaust survival mingled with another traumatic history of the twentieth century, on the grounds of re-establishing psychological trauma as a viable aetiology along with empathy as the condition which lay at the roots of compassionate psychiatric practice and compensation legitimacy.[338]

Conclusion

Although it is often assumed that Niederland had developed his empathy model strictly from clinical work and detailed diagnostic reports, his own biographical experiences and varying encounters with medical communities have been scantily understood. These occurrences however shaped his research interests both in empathy and the definition of the 'survivor syndrome;' and they served him as crucial elements in his diagnostic endeavours regarding the long-term affections and illnesses of the mind. While appropriating the concept of 'empathy' as a methodological tool and carving out the contours of the survivor syndrome, Niederland emerged as an important inter-national advocate for the suffering and the rights of the persecuted.

With a career spanning over thirty years, Niederland had ample opportunity to spread his views among the psychiatric community. He wrote some two hundred articles and books largely relating to his observations of post-traumatic sequels.[339] He traveled extensively, giving lectures to both professional societies and lay groups on the importance of Holocaust trauma.[340] Thus, his work spread far beyond the reparations claims of his patients to the wider international

[335] Niederland, 1978, p. 3.
[336] Scott, 1990, p. 294–310.
[337] Roelcke, 2005, p. 162–182.
[338] Young, 1995, p. 15–20.
[339] Niederland, 1963, p. 1–25.
[340] Niederland, 1978, p. 3.

psychiatric community. Characteristics of Niederland's description of the survivor syndrome, like the presence of a latency period, were recognized in the treatment of Vietnam veterans.[341] These contributions and exchanges had been reflected in Niederland's continuing exchanges since the mid-1960s with other North American psychiatrists and scholars of the Holocaust, such as the German psychiatrist Ulrich Venzlaff (1921–2013) or the émigré psychiatrist Henry Krystal (1925–2015) at Michigan State University, who had himself been a slave labourer under the Nazis, along with the American psychiatrist and author Robert J. Lifton (b. 1926), who specifically compared Hiroshima survivors of the atomic bomb with survivors of Nazi extermination camps. These academics frequently met and discussed their related research interests as an intricate form of teamwork, leading to mutual statements on the psychological situation of the survivors, such as the Wayne State University workshops mentioned above.[342] Further, Niederland's own displacement and his experiences as a physician in the British Marine Corps left marked traces in a continuing personal interest with empathy and the manifestations of conscious life in psychiatric practice. Beyond such subjective experiences, Niederland could also be seen as one of many émigré psychiatrists and clinical neurologists who were obliged to change their professional careers — *viz.* he originally intended to work as an internist, but then developed into a psychiatrist as direct outcome of his own exile. Moreover, he brought Central-European concepts in medicine to his new host country,[343] while adapting them to the receiving *milieu*, as can be seen in the merger of his concept with Post Traumatic Stress in the Diagnostic Statistical Manual (DSM) III in 1980.[344]

Reparations officials inevitably argued that the costs were too great, even after West Germany proved to be economically viable again. By developing and promoting a class of posttraumatic syndromes that he inextricably linked to the Holocaust and refugee experiences, Niederland worked towards an acknowledgement of trauma as aetiology of mental illness.[345] By censoring himself and assigning his patients the near-minimum compensable earning disability, he quietly pushed his claimants through the system of the *Bundesentschaedigungsgesetz*, while years of intricate casework strengthened his resolve and made him an incredibly powerful psychiatric advocate for the rights of the persecuted.

[341] Shatan, 1974, p. 6–15.
[342] Since the focus of this article were however Niederland's own experiences as an émigré psychiatrist and neurologist, the concentration was laid on the period from the 1930s to the 1950s. For the continuing networking relationships among Holocaust scholars between the 1960s and the 1980s, interested readers may consult the intriguing autobiographical book by Lifton, 2011, esp. 240–265.
[343] Ackerknecht, 1982, p. 17–24.
[344] Scott, 1990, p. 294–310.
[345] Niederland, 1980, p. 13–20.

References

Ackerknecht, Erwin H. 1982. The History of Psychosomatic Medicine. *Psychological Medicine* 12: 17–24.

Adenauer, Konrad. 1951. *165th Session," in 2nd German Bundestag*, ed., German Bundestag, 6697–6698. Bonn, Germany: Federal Republic of Germany.

Ash, Mitchell, and Alfons Soellner (eds.). 1996. *Forced Migration and Scientific Change: Émigré German-speaking Scientists after 1933*. Cambridge, England: Cambridge University Press.

Assmann, Aleida. 1999. Trauma des Krieges und Literatur. In *Trauma zwischen Psychoanalyse und kulturellem Deutungsmuster*, eds., Bronfen, Elisabeth, Birgid R. Erdle, and Sigrid Weigel, 95–116. Cologne, Germany: Boehlau.

Brady, Steven J. 2010. *Eisenhower and Adenauer: Alliance Maintenance under Pressure, 1953–1960*. Lanham, MD: Lexington Books.

Crouthamel, Jason. 2001. *Invisible Traumas: Psychological Wounds, World War I and German Society, 1914–1945*. Bloomington, IN: PhD Diss., Indiana University.

Crouthamel, Jason. 2002. War Neurosis Versus Savings Psychosis: Working-class Politics and Psychological Trauma in Weimar Germany. *Journal of Contemporary History* 37: 163–182.

Doerner, Klaus. 1989. *Der Krieg gegen die psychisch Kranken. Nach 'Holocaust' – Erkennen, Trauern, Begegnen*. Frankfurt am Main: Mabuse Verlag.

Féaux de la Croix, Ernst, and Helmut Rumpf (eds.). 1985. *Der Werdegang des Entschaedigungsrechts unter national- und voelkerrechtlichem und politologischem Aspekt*. Munich, Germany: Bundesministerium der Finanzen.

Fehling, August W. 1954. *Die Forschungsfoerderung der amerikanischen Bundesregierung und ihre Rueckwirkungen auf die Hochschulforschung*. Kiel, Germany: F. Hirt.

Ffytche, Matt and Daniel Pick (eds.). 2016. *Psychoanalysis in the Age of Totalitarianism*. New York City: Routledge.

Focke, Wenda. 1992. *William G. Niederland. Psychiater der Verfolgten, seine Zeit, sein Leben, sein Werk, ein Portraet*. Wuerzburg, Germany: Koenigshausen & Neumann.

Focke, Wenda. 1999. Niederland, William G. *Neue Deutsche Biographie* 19: 223–224.

Frankl, Viktor E. 2015. *Was nicht in meinen Buechern steht. Lebenserinnerungen*, eds., Koch, Claus, and Sabrine Andresen, Weinheim, Germany: Beltz.

Frisch, Stefan. 2014. How Cognitive Neuroscience Could Become More Biological — And What It Might Learn From Clinical Neuropsychology. *Frontiers in Human Neuroscience* 8: 1–13.

Henry, Marilyn. 2007. *Confronting the Perpetrators: A History of the Claims Conference*. London, England: Valentine Mitchell.

Hobsbawm, Eric. 1994. *Age of Extremes. The Short Twentieth Century, 1914–1991*. London, England: Michel Joseph.

Holdorff, Bernd. 2011. The Fight for 'Traumatic Neurosis', 1889–1916: Hermann Oppenheim and his Opponents in Berlin. *History of Psychiatry* 88: 465–476.

Jaspers, Karl. 2000. *The Question of German Guilt* (1946), transl., Ellis B. Ashton. New York City: Fordham University Press.

Kater, Michael H. 1989. *Doctors under Hitler*. London, England: The University of North Carolina Press.

Klee, Ernst. 2003. *Das Personenlexikon zum Dritten Reich. Wer war was vor und nach 1945?* Frankfurt am Main: S. Fischer.

Kraepelin, Emil. 1992. Psychiatric Observations on Contemporary Issues (1919), transl. by Eric J. Engstrom. *History of Psychiatry* 3: 256–269.

Krystal, Henry and William G. Niederland. 1971. *Psychic Traumatization; Aftereffects in Individuals and Communities*. Boston, MA: Little, Brown.

Lanzoni, Susan. 2016. Imagining and Imaging the Social Brain: The Case of Mirror Neurons. *Canadian Bulletin of Medical History* 33: 447–464.

Lerner, Paul. 2003. *Hysterical Men: War, Psychiatry, and the Politics of Trauma in Germany, 1890–1930*. Ithaca, NY: Cornell University Press.

Lifton, Robert J. 2011. *Witness to an Extreme Century: A Memoir*. New York City: Free Press.

Longerich, Peter. 2010. *Holocaust: The Nazi Persecution and Murder of the Jews*. Oxford, England: Oxford University Press.

Luedtke, Alf. 1993. 'Coming to Terms with the Past' — Illusions of Remembering, Ways of Forgetting Nazism in West Germany. *The Journal of Modern History* 65: 542–572.

Moisel, Claudia. 2016. William G. Niederland (1904–1993) und die Urspruenge des "Ueberlebenden-Syndroms." *Jahrbuch Exilforschung* 34: 103–119.

Niederland, William G. 1941/42. *Studies on Incidence of Tuberculosis*. Manila, Philippines: Department of the Commonwealth of the Philippines.

Niederland, William G. 1961. The Problem of the Survivor. *Journal of the Hillside Hospital* 10: 233–247.

Niederland, William G. 1963. The Concentration Camp Psychopathology. In *The Late Sequalae of Massive Psychic Trauma: A Workshop*, ed., Henry Krystal, 1–25. Detroit, MI: Wayne State University.

Niederland, William G. 1966. Psychiatric Disorders among Persecution Victims. *Journal of Nervous and Mental Disease* 193: 458–473.

Niederland, William G. 1968. Clinical Observations on the Survivor Syndrome. *International Journal of Psychoanalysis* 49: 313–315.

Niederland, William G. 1970. *The Problem of the Survivor, Part II: Concentration Camp Pathology and its Psychiatric After-Effects*. New York City: Leo Baeck Institute.

Niederland, William G. 1978. Holocaust Survivors and their Children In *American Academy of Psychoanalysis Convention*, ed., American Academy of Psychoanalysis. Atlanta, GA: American Academy of Psychoanalysis.

Niederland, William G. 1980. *Folgen der Verfolgung. Das Ueberlebenden-Syndrom. Seelenmord*. Frankfurt am Main: Suhrkamp.

Niederland, William G. 1981. The Survivor Syndrome: Further Observations and Dimensions. *Journal of the American Psychoanalytical Association* 29: 413–425.

Niederland, William G. 1988. Denkerinnerungen *Monatsschrift Psychiatrie — Neurologie* 111: 163–164.

Niederland, William G. 1998. Caring for the Survivors. In *Hitler's Exiles: Personal Stories of the Flight from Nazi Germany to America*, ed., Mark M. Anderson, 317–335. New York City: The News Press.

Pearle, Kathleen M. 1984. Aerzteemigration nach 1933 in die USA: Der Fall New York. *Medizinhistorisches Journal* 19: 112–137.

Pendas, Devin O. 2006. *The Frankfurt Auschwitz Trial, 1963–1965: Genocide, History, and the Limits of the Law*. Cambridge, England: Cambridge University Press.

Perry, Heather R. 2014. *Recycling the Disabled: Army, Medicine, and Society in World War I Germany*. Manchester, England: Manchester University Press.

Platz, Werner E., and Franklin A. Oberlander. 1995. On the Problem of Expert Opinion on Holocaust Survivors Submitted to the Compensation Authorities in Germany. *International Journal of Law and Psychiatry* 19: 309–319.

Pross, Christian. 1998. *Paying for the Past: The Struggle over Reparations for Surviving Victims of the Nazi Terror*, transl. Belinda Cooper. Baltimore, MD: The Johns Hopkins University Press.

Roelcke, Volker. 2005. Continuities or Ruptures? Concepts, Institutions and Context of Twentieth-Century German Psychiatry and Mental Health Care. In *Psychiatric Cultures Compared. Psychiatry and Mental Health Care in the Twentieth Century*, eds., Marijke Gijswijt-Hofstra, Harry Oosterhuis, Joost Vijselaar, and Hugh Freeman, 162–182. Amsterdam, The Netherlands: Amsterdam University Press.

Saxon, Wolfgang. 1993. Dr. William G. Niederland, 88; Formulated 'Survivor Syndrome'. *The New York Times* (August 5, 1993): D22.

Scott, Wilbur. 1990. PTSD in DSM III: A Case in the Politics of Diagnosis and Disease. *Social Problems* 37: 294–310.

Sharet, Ya'akov. 2011. *The Reparations Controversy: The Jewish State and German Money in the Shadow of the Holocaust, 1951–1952*. Berlin, Germany: De Gruyter.

Shatan, Chaim. 1974. Through the Membrane of Reality: 'Impacted Grief' and Perceptual Dissonance in Vietnam Combat Veterans. *Psychiatric Opinion* 11: 6–15.

Stahnisch, Frank W. 2007. Disharmonien der Taeuschung: Warum blieb Ludwik Flecks dynamische Erkenntnistheorie selbst so lange statisch? In *Von der wissenschaftlichen Tatsache zur Wissensproduktion. Ludwik Fleck und seine Bedeutung fuer die Wissenschaft und Praxis*, eds., Chołuj, Bożena, and Jan C. Joerden, 111–132. Frankfurt am Main: Peter Lang.

Stahnisch, Frank W. 2009. 'Abwehr,' 'Widerstand' und 'kulturelle Neuorientierung' — Zu Re- Konfigurationen der Traumaforschung bei zwangsemigrierten deutschsprachigen Neurologen und Psychiatern. In *Trauma und Wissenschaft*, ed., Karger, André, 29–60. Goettingen: Vandenhoeck & Ruprecht.

Stahnisch, Frank W. 2010. German-Speaking Émigré-Neuroscientists in North America after 1933: Critical Reflections on Emigration- Induced Scientific Change. *Oesterreichische Zeitschrift fuer Geschichtswissenschaften (Vienna)* 21: 36–68.

Steinke, Ronen. 2013. *Fritz Bauer: Oder Auschwitz vor Gericht*. Munich, Germany: Piper.

Van Rahden, Till. 2011. Clumsy Democrats: Moral Passions in the Federal Republic. *German History* 29: 485–504.

Von Zerssen, Detlev. 2007. Ein halbes Jahrhundert erlebter Psychiatriegeschichte. *Sudhoffs Archiv* 91: 174–189.

Young, Allan. 1995. *The Harmony of Illusions: Inventing Posttraumatic Stress Disorder.* Princeton, NJ: Princeton University Press.

Weindling, Paul J. 2009. Medical Refugees in Britain and the Wider World, 1930–1960: Introduction. *Social History of Medicine* 22: 451–459.

Weindling, Paul J. 2014. *Victims and Survivors of Nazi Human Experiments. Science and Suffering in the Holocaust*. London, England: Bloomsbury.

Weindling, Paul J., Shula Marks, and Laura Wintour (eds.). 2011. *The Plight, Persecution, and Placement of Academic Refugees, 1933–1980s*. Oxford, England: Oxford University Press.

Weindling, Paul J., von Villiez, Anna, Loewenau, Aleksandra, and Farron, Nichola. 2016. The Victims of Unethical Human Experiments and Coerced Research under National Socialism. *Endeavour* 40: 1–6.

Zeidman, Lawrence A., Villiez, Anna von, Stellmann, Jan-Patrick, and van den Bussche, Hendrik. 2016. 'History had taken such a large piece out of my life' — Neuroscientist Refugees from Hamburg during National Socialism. *Journal of the History of the Neurosciences* 25: 275–298.

Zimmer, Richard B. 2010. Three Psychic Organizations and their Relation to Certain Aspects of the Creative Process. *The Psychoanalytic Quarterly* 79: 629–663.

Zimmerman, Joshua D. 2005. *Jews in Italy under Fascist and Nazi Rule, 1922–1945.* Cambridge, England: Cambridge University Press.

Zweig, Ronald W. 2001. *German Reparations and the Jewish World: A History of the Claims Conference*. 2nd ed. London, England: Frank Class.

ON THE INFLUENCE OF GERMAN-SPEAKING ÉMIGRÉS ON THE EMERGENCE OF COGNITIVE SCIENCE AS A NEW INTERDISCIPLINARY FIELD

Vincent von Hoeckendorf

University of Osnabrueck

Abstract:

During the 1950s, the scientific world experienced a shift in the study of the mind in what is nowadays called the cognitive revolution. While common conception claims a rise of novel approaches, this is only partially true. A number of notions which built the foundation for cognitive studies were already present in the prior century in German schools. Research of developments of these traditions and concepts leading up to the Cognitive Revolution also showed that certain key figures in Psychology and Mathematics were taught in Germany and by means of, often forced, emigration carried over the ideas that sparked in early German research centers. This article gives an overview of the development leading up to the cognitive revolution and the involved émigrés.

Keywords:

Austria, computer science, Émigré cognitive scientists, Germany, mathematics, neuroscience, psychology and psychiatry, United States

Introduction[346]

With the rise of National Socialism in Germany, and neighbouring countries, during the first half of the twentieth century, numerous academics and scientists were forced out of their positions, and had to flee their home country. Subsequently, a large number of trained scientists also migrated to North-America.[347] Some, of those who managed to integrate themselves in this new environment, have had a lasting influence on the natural sciences. Shortly after the

[346] I warmly thank Dr. Uwe Meyer at the University of Osnabrueck, Germany, as well as Dr. Frank W. Stahnisch at the University of Calgary, Canada, for their helpful comments on previous manuscript versions of this article. Furthermore, I like to extend my gratitude to the three external reviewers for *History of Intellectual Culture*, since their comments aided tremendously in improving the manuscript further.

[347] Ash and Soellner, 1996.

war, in the 1950s, North America became the scene for what we now refer to as the *cognitive revolution* and from which, among other things a new, interdisciplinary science arose—*cognitive science*.[348]

The following article will serve as an overview project of some of those individuals, their theories, and contributions to the field. First, I will give an explanation of the scope and provide a brief history of *cognitive science* as well as its course today. Second, I will continue with a brief historical account of contemporary psychology and a brief account of the development of the computer. Certainly, other disciplines also contributed a great deal to *cognitive science*, it just seems as if the merger of psychology with new advancements in computer science was the substantial development to the new science of mind.

Third, while going through landmarks of these histories, several individuals from these disciplines who shared the fate of emigrating to the United States from Central Europe will be identified.[349] I will examine at which schools they were taught in Europe and where they migrated to in North America. Finally, I shall look at their work and involvement in specific university hotspots of *cognitive science* in North America, while showing that certain ideas which were present during the creation of *cognitive science* are progressions of ideas that sparked in early German research centres of mathematics and psychology. Many of these ideas got partially or fully transferred by these emigrating scientists to universities in North America such as Cornell University in Ithaca, New York, Princeton University in New Jersey, and Cambridge, Massachusetts, as the home town for the Massachusetts Institute of Technology and of Harvard University.

What is 'Cognitive Science'?

When examining *cognitive science,* it is important to understand the history, the name, and scope of this research field. However, this already poses a controversial conundrum. For one, because the scope of the field has fluctuated since its early beginnings in the mid-twentieth century and because each scientist associated with *cognitive science* appears to have had a different opinion of what topics and methods seem appropriate for the agenda.[350] Also, because *cognitive science* only became an institutionalized discipline in the late twentieth century, it is likely still subject to constant changes. While nowadays the scope to my understanding encompasses all approaches to conceptualizing the brain and other, artificial, complex systems

[348] Gardner, 1985, p. 10–45.
[349] See Appendices 1 & 2 of this article for a table of contributing émigrés.
[350] See: Collins, 1977, p. 1–2; Norman and Rumelhart, 1975, p. 409.

by combining methods and insights from several disciplines, the agenda has changed over time. It is hence quite difficult to make out an exact starting point for the beginning of this endeavor and the beginning of the realizations, that the fusion of disciplines is more than helpful, and that we can learn a lot from comparisons with artificial machines and use them as a tool for our benefit.

The recent history of *cognitive science* however starts in the late 1940s, when a number of conferences known as the *Macy Conferences*, were held in New York to discuss and create a new science that at the time was called 'cybernetics.' The mathematician and co-founder Norbert Wiener (1894–1964) defined cybernetics as "the scientific study of control and communication in the animal and the machine".[351] Later, in 1948, the founders of cybernetics participated in the famous "Hixon Symposium on Cerebral Mechanisms in Behaviour" at the California Institute of Technology, to discuss parallels between the human mind and machines. In the literature, the founding year is however often given as 1956.[352] One could even go further, like the psychologist George A. Miller (1920–2012) has done, and refer to a specific day, namely September 11th 1956, where he and many other leading scientists from many disciplines, were gathered at the Symposium on Information Theory at the Massachusetts Institute of Technology to discuss research that would later mark milestones in the creation of this novel research field.[353]

While, the groundwork for the developments that led to these meetings which revived the study of cognitive phenomena, was laid out in the preceding nineteenth century, this is certainly the decade during which this interdisciplinary inquiry started coming together. In 1960 George A. Miller, together with the psychologist Jerome Bruner (1915–2016), founded the *Harvard Center for Cognitive Studies* – the first interdisciplinary research center concerned with problems that have come to form *cognitive science* today. At this time, the American school around behaviorist psychologist Burrhus Frederic Skinner (1904–1990) was still very popular and hardliners of this branch of psychology would clearly differentiate cognition from internal processes such as motivation and emotion, and bodily action.[354] When choosing the name *cognitive* for their research center Bruner and Miller wanted to clearly set themselves apart from this behaviourist movement, he did not mean to imply studying cognition exclusively, yet explicitly wanted to include motivation and emotion.[355] Thus, the name

[351] Wiener, 1961.
[352] Gardner, 1985.
[353] Miller, 1981; *Edward A. Feigenbaum Papers* (Stanford University Libraries Online Collection, 1981).
[354] Walter, 2013, p. 1–5.
[355] Miller, 1986, p. 200–223.

cognitive science, which in its literal translation would mean the study of knowledge and falling short of the motivational and emotional aspects of the mind, may seem misleading at first.

By the mid 1970s it was clear that the holistic approach *cognitive science* was forming to be its own academic discipline and the revival of the study of cognition and mental phenomena had immensely gained popularity over the preceding two decades in what became known as the *cognitive revolution*.[356] The term *cognitive science(s)* was coined by the chemist and cognitive scientist Hugh Christopher Longuet-Higgins (1932–2004) in 1973 and has since stuck with the discipline.[357] In 1977, the Alfred P. Sloan foundation embarked on a multi-year program, investing millions into the strengthening and creation of institutions of *cognitive science* all over the United States.[358] It was George A. Miller, this time in cooperation with the linguist Samuel J. Keyser, who in a Report of Cognitive Science to the advisers of the *Sloan Foundation* defined cognitive science as "study of the principles by which intelligent entities interact with their environments." They also identified Anthropology, Artificial Intelligence, Linguistics, Neuroscience, Philosophy, and Psychology as the main contributing sub-domains, whose "richly articulated pattern of interconnection" and "common research objective: to discover the representational and computational capacities of the mind and their structural and functional representation in the brain bring forth the novel discipline of cognitive science."[359]

The individual influence of these sub-disciplines, on which *cognitive science* has historically drawn on, have changed in prominence over the course of time and refinements of this scope of *cognitive science* as defined by Samuel Keyser and George Miller.[360] Most certainly, minor discrepancies depending on which historian or *cognitive scientist* is consulted will always occur. This breakdown into six disciplines, as well as the representational approach based on the *mind as a* machine analogy that relies on the implicit premise that cognitive processes are mere computations which can be implemented by the neurons of a brain as well as the hardware of a computer, are still relevant today.[361] Over the years, *cognitive science* has for one broadened its scope from original subjects of studies such as problem solving, language representation, deductive thinking and memory, to include motivation, emotion, volition, dreams, perception, human computer interaction, neuromodulation, machine-learning and more, as well as giving rise to further specified inquiries such as neuroinformatics,

[356] Sturm and Gundlach, 2013; Baars, 1986; Boden, 2006, or Gardner, 1985.
[357] Longuet-Higgins talked of the sub-domains as cognitive sciences, in their plural form, however proposed in the next sentence the singular form: "in view of the ultimate impossibility of viewing any of these subjects in isolation." (Longuet-Higgins, 1973, p. 37).
[358] Alfred P. Sloan Foundation, 2009, p. 25–28.
[359] Keyser and Miller, 1978, p. 3–6.
[360] Boden, 2006, p. 9–16; Gardner, 1985; Collins, 1977; Miller, 2003.
[361] Miller, ibid.

psycholinguistics, computational linguistics, cognitive neuroscience, or neurophilosophy in more recent years. The foundation for this approach to the study of the mind, however, is in no sense a novel one, but has been around since the end of the nineteenth century, when the basis was laid for "one of the most exciting and fruitful areas of interdisciplinary research in the history of science,"[362] with the founding of psychology in Germany, as an institutionalized discipline.[363]

Overview of the Contemporary History of Psychology Context

This article does not serve the purpose to give an extensive account of the history of psychology or the founding of this discipline.[364] Nevertheless, I will need to give a brief overview of the time leading up to experimental psychology by addressing points relevant for the proceeding and merge up to cognitive science. While the origin of *cognitive science* has a very long history, with theoretical approaches to explaining phenomena of the mind, dating back to Ancient Greece and Rome, empirical examinations did not come into existence until the mid-nineteenth century, in the laboratories of philosophy and physiology. Before, matters of the mind were mainly approached by philosophers. A group of German scholars, namely Jakob Friedrich Fries (1773–1843), Johann Friedrich Herbart (1776–1841), and Friedrich Eduard Beneke (1798–1854), however, tried to merge philosophy and physiology in order to conceptualize a scientific psychology.[365] The work of the physicist and physiologist Hermann von Helmholtz (1821–1894) built on these attempts. Helmholtz for example, conducted experiments on severed frog legs, where he measured the precise time that it took for a nerve impulse to travel along the nerves in the lower extremities. He further conducted research on cognition, which showed that visual perception adjusted to distortions via prisms. Despite popular beliefs, based on the preceding works of Koenigsberg philosopher Immanuel Kant (1724–1804), it was now indicated that it was possible to empirically examine certain aspects of human mental functioning such as sensory perception. Helmholtz's own work set the stage for further inquiries and the merger of psychophysiology.[366] Also in Germany, the experimental physiologist Gustav Theodor Fechner (1801–1887) laid the groundwork for a mathematically based experimental psychology by studying how differences in stimulation intensities are

[362] Frankish and Ramsey, 2012, p. 1; Sturm and Gundlach, 2013.
[363] Boden, 2006. Cf. Gardner, 1985; Baars, 1986.
[364] For extensive histories of the development of psychology see: Boring, 1950; Fancher, 1979; Leahey, 1994.
[365] Leary, 1973, p. 113–121; Abrahamson and Bechtel, 2012, p. 9–28.
[366] Fancher, 1979.

perceived psychologically in human test persons. With his research proposal, he initiated the new research field of psychophysics.[367]

The Dutch ophthalmologist Franciscus Cornelis Donders (1808–1889) recorded in experimental studies that subjects could react more quickly to simple-reaction tasks and took longer to react to choice-reaction tasks. This led to his proposal in the 1860s, that one could even measure the time of complex mental activities. These early, bottom-up approaches set the stage for a mechanistic view of the mind driven by a measuring ideology and only becoming visibly challenged by the hermeneutic philosopher Franz Clemens Brentano (1838–1917) in the late-nineteenth century. Brentano criticized the emerging mechanistic interpretation of the mind and completely rejected the idea that activities of the mind could be broken down into reducing knowledge sets. While psychology as a subject had then existed for almost five decades, a colleague of von Helmholtz and Fechner in Leipzig, Wilhelm Wundt (1832–1920), in 1879 was the first to create an institution solely dedicated to experimental psychology.[368] It became quickly followed by Georg Elias Mueller's (1850–1934) laboratories in Goettingen in 1881, and several institutions in Boston and Baltimore in the United States during the 1880s.[369] In 1873 Wundt also published the first textbook on experimental psychology, *Principles of Physiological Psychology,* which laid out the teaching canon for the new discipline.[370] His impact on popularizing psychology was tremendous and in part due to the success of his many students. While Wundt, despite holding some reservations, used an introspective, and partly subjective method in his experiments, his student Edward B. Titchener (1867–1927) rejected these reservations and relied solely on introspection.[371] For the majority of his productive life Titchener taught at Cornell University in New York, where he continued Wundt's work in form of his school of psychology called *structuralism*, which aimed to explain conscious experience by breaking it down into smaller, basic elements of consciousness. Although gaining some publicity, the approach to study the qualitative aspects in psychology did not seem to catch on as well in the United States as it did in Europe. [372]

Other national and international students of Wilhelm Wundt criticized the experimental approach practiced by Wundt and Titchener, as well as their theoretical foundation in the earlier philosophical school of *associationism*.[373] They also opened up to examining higher mental

[367] Greenwood, 2009; Gardner, 1969; Pickren and Rutherford, 2010; Valsiner, 2012; Mandler and Mandler, 1964.
[368] Ibid.
[369] McKeen Cattell, 1928, p. 543–548.
[370] Wundt, 1904.
[371] Fancher, 1979, p. 171.
[372] Hornstein, 1988, p. 1–25.
[373] Mandler and Mandler, 1964.

processes that were deemed impossible to achieve by experimental research means in many of their scientific predecessors. This movement, mainly based of the University of Wuerzburg, became known as the Wuerzburg school of psychophysiology. The resulting criticisms led to a rethinking of experimental methods used in these schools to create a less subjective way of conducting empirical research. Just after the turn of the century in Berlin a distinctly new approach to explaining perceptual phenomena became formulated. Known as the Gestalt movement around Max Wertheimer (1880–1943) and Wolfgang Koehler (1887–1967), it was a more holistic approach that saw perception as defined by the configuration of the whole psychological and mental processes rather than their parts. Their line of studies evolved to incorporate problems of other mental processes than perception. Particularly the Gestalt school's approaches to problem solving became highly influential in the twentieth century.

Around the same time, Frederic Bartlett of Cambridge (1886–1969) conducted many experiments concerned with memory, from which he developed a theory that incorporated many social aspects, concluding in a hierarchically ordered model of memory involving abstract patterns created by prior encounters of the subject with the environment. Another famous psychologist, whose research continuously embraced cognitive processes was the French Swiss Jean Piaget (1896–1980), who studied the development of thinking in children starting in the 1920s.[374]

In America, the new discipline of psychology took a different turn. William James (1842–1910), a psychologist and philosopher established a pragmatic approach to psychology in the late-nineteenth century, as a counter-movement to Wundt's and Titchener's schools. He was more concerned with the functions of mental life rather than its structure or content. Subsequently his school became known as *functionalism*. Although only a few decades later his functionalist school was taken over by one of the major psychological movements of the twentieth century. This came in the form of John B. Watson's (1878–1958) behaviourism in 1913 and his subsequent trainees and followers. They proposed that psychology should be less concerned with the mind, but rather with reactions posed to stimuli, redefining psychology to accommodate their dissociation from the study of consciousness to the study of behaviour.[375] Among this movement which became known as *behaviourism* and defined most of the psychological research in America up until the rise of *cognitive psychology*, were Karl Lashley (1890–1958) who would hold a professorship at the Universities of Minnesota, Chicago, and Harvard, and Edward Tolman (1886–1959) who spent some time studying in Germany, and for

[374] Gardner, 1985, p. 109–127.
[375] Watson, 1913, p. 158–177.

most of his career taught at the University of California at Berkeley. Prominence of the behaviourist approach, and later radicalization in related ideas by psychologists such as B. F. Skinner's work in the United States, could lead to the assumption that the existence of cognitive states and cognitive processes became completely denied during this period of psychological research. However, especially in Europe the influence of behaviourism was not as complete as in North America, and the schools of Wundt, Wuerzburg, and the Gestalt psychologists still enjoyed considerable influence in the West.[376] While this did not lead to a direct return to these ideas, progressions of those theories were partially reintegrated in the development of psychology in post-war America.

Cognitive psychology became essentially conceived during the 1950s and with the emergence of *cognitive science* a new interest in the study of cognition emerged, which re-embraced the study of mental processes. Especially important were two works. For one, George A. Miller's paper on memory which he published in 1956, entitled *The Magical Number Seven, Plus or Minus Two*[377] explored human working memory capability and showed that it is restricted to holding 7 items +/-2. Another ground-working research work was by Jerome Bruner who had been strongly influenced by Bartlett and Piaget. His *Study of Thinking*, also published during the same year in 1956, treated perception as a cognitive process. It set a clear break from stimulus-response patterns of behaviourists. Cognitive Psychology was eventually defined in Ulric Neisser's (1928–2012) work under the same name.[378] From then on Cognitive Psychology and *Cognitive science* became progressively institutionalized and by 1970 cognitive psychology acquired its first journal. The émigré forerunners of this development from the foundational German schools will be discussed in the next section.

The Progression of Experimental Psychology from Leipzig to Wuerzburg in Germany

As mentioned previously, the first institute for experimental psychology emerged in Leipzig. Thus, it seemed natural, that a majority of psychologists could somehow be traced back to have trained with Hermann von Helmholtz in Heidelberg and Berlin, Theodor Fechner and especially Wilhelm Wundt in Leipzig. Wilhelm Wundt above all educated a high number of scholars who continued work all around the world including the United States, Canada, Brazil, Russia, and Japan. Lists of his Leipzig graduate students suggest more than 110 doctoral theses being

[376] Sturm and Gundlach, 2013.
[377] Miller, 1956, p. 81–97.
[378] Neisser, 1967.

accepted under his supervision in psychology between 1875 and 1919.[379] The most notable probably being Edward Bradford Titchener (1892), James McKeen Cattell (1886; 1860–1944), Hugo Muensterberg (1885; 1863–1910), who all later worked in the United States as well as Oswald Kuelpe (1887, 1862–1915) who helped to develop the Wuerzburg school in psychology further. Overall, he advised the enormous amount of at least 136 German-speaking graduate students, and 14 American and 10 English graduate students and trainees.

Oswald Kuelpe's dissertation was accepted in Leipzig in 1887, under the title of *Zur Theorie der sinnlichen Gefuehle* (On the Theory of Sensory Feelings).[380] He had apparently received the topic, when studying under Georg Elias Mueller[381]—by this time the head of the recently established institute for experimental psychology in Goettingen—between 1883–1885.[382] Kuelpe was a very dedicated experimental psychologist and became a leading figure in the founding of the very influential school of psychology in Wuerzburg in 1896.

While Fechner concentrated on the combination of mathematics with psychology in trying to establish an experimental psychological research program and helped to fund psychophysics, Helmholtz was not mainly concerned with psychological work. His studies on perception of space and his theory of unconscious inference cleared the room for a molecular approach, which made use of elemental units for the examination of psychological processes. The theory of unconscious inference claimed that we do not just read our environment, but out that our perception is also affected by past, "interior" knowledge. Both brought certain psychological phenomena into lawful relationships with physical data and research approaches, and they studied the relationship of the physical reality and human conscious experiences of this reality. Their younger colleague, Wilhelm Wundt, held experiments to test for simple processes by means of systematic self-observation. Together, their research programs began to steadily question the validity of theoretical mind-body dualism. As mentioned, his American student Bradford Titchener became a radical introspectionist, while Wundt retained reservations on the validity of this method throughout his academic career.[383]

Wundt, however, was certain that higher mental processes were too complex to be merely studied in an experimental way. Kuelpe disagreed with this approach. Together with his former student Karl Marbe (1869–1953), who had also studied under Hugo Muensterberg at Harvard, Hermann Ebbinghaus (1850–1909) in Hamburg, and Wundt in Leipzig, consequently established his own school of psychology in Wuerzburg in 1896. Although the setup of the

[379] Tinker, 1980.
[380] Kuelpe, 1887.
[381] Ogden, 1951, p. 4–19.
[382] Boring, 1945, p. 344–348.
[383] Fancher, 1979; Baars, 1986.

institute resembled Wundt's laboratory in many ways, and the first experiments did use a comparable method of introspection,[384] they quickly set themselves apart from the Leipzig school; and Karl Marbe formed their own method of *trained* introspection which was a combination of Franz Brentano's and Wundt's approaches.[385] Their findings showed that thinking was possible without an associated image, or a conscious process—so called *imageless thought*.[386] They however remained subject to Wundt's critique as he was not in a position to recognize their empirical methods. For example, the Wuerzburg psychologists asked subjects to describe their thought process while solving complex philosophical or mathematical tasks. Wundt criticized that the methods used in Wuerzburg were only concerned with qualitative aspects and that their data was not scientifically quantifiable.

Kuelpe's and Marbe's work and research attracted many renowned psychologists such as Otto Selz (1881–1943), Karl Buehler (1879–1963), and Narziss Kaspar Ach (1871–1946). Ach received his PhD under Kuelpe in 1901, continued studies with Georg Elias Mueller in Goettingen and after some 18 years as a lecturer and professor in Marburg, Berlin, and Koenigsberg succeeded him as head of the psychology department in Goettingen in 1922.[387] The work of these psychologists associated with the Wuerzburg school was very important for development of the study of perception, thinking, memory language, the relationship between knowledge and learning and other mental processes, especially since they assumed that these phenomena were results of cognitive processes while not radically disapproving behaviouristic methods in their research approaches.[388]

Their work was also important in the sense that it carved out a place in psychology for the Gestaltist critics of behaviourism. This theoretical endeavour later facilitated the migration process of their ideas across the Atlantic, where their work started to attract attention in increasing amounts during the 1950s.

The reason for the lack of international attention towards their ideas at the time however, can be seen in the rise of behaviourism at the beginning of the twentieth century. Furthermore, it can be attributed to the sudden brain drain from psychologists and neuroscientists from Germany after the rise of Nazism, as well as the lack of translated works in America which could in part also be attributed to the enforced publishing prohibition in Nazi Germany.[389] Still

[384] Gardner, 1985.
[385] Boring, 1961.
[386] Baars, 1986; Gardner, 1985; Mandler and Mandler, 1964.
[387] Cevonis, 2012, p. 1–2.
[388] King and Wertheimer, 2005; Sturm and Gundlach, 2013.
[389] See, for example the related case of émigré psychologist Hugh Lytton in Erna Kurbegović's article in this Special Issue of *History of Intellectual Culture*, entitled, "From German Youth to British Soldier to Canadian Psychologist: The Journey of German Émigré Dr. Hugh Lytton (1921–2002)," p. 39–60.

Titchener's popularization of Wundt's program in experimental psychology continued in North America, while Titchener even translated excerpts of Wundt's and Kuelpe's work. He further attracted graduate students, such as E. G. Boring (1886–1968) to Cornell University, New York, to continue with the psychophysiological tradition. His research school however remained in many ways subdued to the new behaviourism, which John B. Watson had developed since the early 1910s.

Especially Otto Selz's work on problem solving[390] proved to be relevant to later logic theory, and bears similarities to a theory of human thought processing later published by Kurt Koffka (1886–1941), yet was barely present to Americans prior to the 1950s. Solely the work of a few of his students, such as Adrian de Groot (1914–2016), *Het Denken van den Schaker*[391] (1946; *Thought and Choice in Chess*, 1965), which the psychologist and computer scientist Herbert Simon (1926–2001) encountered and partially translated in the early 1950s, as well as of Gestalt psychologist Karl Duncker (1903–1940), *On Problem Solving* (1945) crossed the Atlantic.[392] Otto Selz himself became eventually dismissed from his occupation under the Nazi administration in 1933, and tragically killed in 1943 after he had been deported to Auschwitz. Kuelpe left Wuerzburg for Bonn (1909–1913) and later Munich (1913–1915) and was succeeded as the institute's head in Wuerzburg by Karl Marbe who died in 1953.

Karl Buehler probably did most to popularize and pass on Wuerzburgian ideas of experimental psychology, although he was always open to other academic approaches, and the Wuerzburg period only reflected the early phase of his career. He followed Kuelpe to Bonn and Munich, and became a psychology professor in Vienna in 1922. Scholars have interpreted his work to not only have had a great influence on psychologists but also on the Vienna Circle of philosophers and the Prague Linguistic Circle around the Russian linguist Roman Jakobsen (1896–1982) and Czech literary critic René Wellek (1903–1995). Buehler integrated a form of linguistic structuralism in his school of *Denkpsychologie*, which offered several directions towards a more interdisciplinary approach in psychology.[393]

Buehler's heated disagreement with Wundt on whether the introspective methods used to study complex thought processes in Wuerzburg were brought strong scholarly attention to the work being done in Wuerzburg.[394] Furthermore, he was in no way intolerant of behaviourist

[390] Cf. Selz, 1913.
[391] Dingeman de Groot, 1946. [Engl. translation: 1965. *Thought and Choice in Chess*. The Hague, The Netherlands: Mouton].
[392] Duncker, 1935 [English translation: Karl Duncker. 1945. On Problem-Solving. *Psychological Monographs* 58: 1–113].
[393] Brock, 1994, p. 319–329.
[394] Massen and Bredenkamp, 2015, p. 109–114.

approaches. In fact, through his vivid encouragement of interdisciplinary psychological approaches, he proposed a connection of behaviouristics, as well as all introspective psychological methods in *Die Krise der Psychologie 1927* (*The Crisis in Psychology*),[395] and *Sprachtheorie* 1934.[396] However, when he had to flee Germany with his also renowned wife Charlotte Buehler (1893–1974) in 1938, and despite being one of the most eminent psychologists at the time in Europe, he was unable to obtain a meaningful position after he had rejected Edwin Garrigues Boring's invitation to come to Harvard in 1930. Moreover, ongoing disputes with the Berlin Gestalt psychology school led to continuous aversions, and he was not recommended for continuing positions in the United States by his former peers. His ideas were only in part and indirectly transferred across the Atlantic and it took almost two decades until some revival of Buehler's psychology occurred during the 1950s.[397]

While the relevance of their studies was not recognized until much later, the Wuerzburg professors did supervise many international and later acclaimed students. Among Kuelpe's students for example were the co-founders of Gestalt psychology, Max Wertheimer and Kurt Koffka—who were especially influenced by Buehler during their time at Wuerzburg.[398] Among Buehler's students was also Konrad Lorenz (1903–1989), Nobel prize winner in physiology or medicine in 1973 and a major contributor to the anthropology of *cognitive science*. Furthermore, Egon Brunswik (1903–1955) and Paul Lazarsfeld (1901–1976) made major contributions to the psychological study of perception and sociology respectively. The latter also participated in the *Macy Conferences* during the 1940s. Positivist philosopher Karl Popper (1902–1994), and the American creator of *purposive behaviourism* Edward Tolman also stood in connection with Buehler. Brunswik, who studied under Moritz Schlick (1882–1936) and Karl Buehler in Vienna received his PhD in 1927 with a thesis on *Structure-Monism and Physics.* He also met Fritz Heider (1896–1988) and Edward Tolman in the Austrian capital and came under the influence of the Vienna Circle.[399] Based on these influences he formed his own theory of perception. It can further be seen as a development of Helmholtz's *unconscious inferences;* in that it also takes subconscious processes into account. According to Brunswik, the mind is an "intuitive statistician", that filters stimuli from its surrounding based on probabilistic calculations, which are done subconsciously. With some delay, his theory was taken up by other psychologists and re-emerged in the study of cognition.[400] In 1935 Brunswik

[395] Buehler, 1929.
[396] Sturm, 2012, p. 462–472.
[397] Weimer, 1974, p. 235–258.
[398] Ibid.
[399] Tolman, 1956, p. 315–324.
[400] Gigerenzer and Murray, 2007.

spent a year at Berkeley as a research fellow, to which he soon after returned in 1937 as a visiting professor with the help of Tolman.[401] Brunswik married psychologist Else Frenkel (1908–1958) from Vienna in 1938 in California. She was a former student of Buehler, and also started working at Berkeley.

Here it is important to make note of Heinz Werner (1890–1964), who had studied in Vienna before the Second World War and who was immensely influenced by the Wuerzburg school. After his emigration to the United States he continued working on perceptual problems and mental processes, although shifting his focus to developmental psychology.[402] In 1921 Werner was appointed as an assistant professor in Hamburg where he stood in close collaboration with William Stern (1871–1937) and Fritz Heider.[403] Most of his work was concerned with specific problems of psychological perception. After fleeing Germany in 1933, he worked at the University of Michigan, then became a visiting professor at Harvard for one year in 1936, and later was hired at Clark University, Massachusetts. There, he rose through academic ranks and was even appointed as chairman of the Department of Psychology—a position he kept until 1960.[404]

The Progression from Early Experimental Psychology to the Holistic Gestalt School in Berlin

Karl Buehler further exerted a considerable influence through his active membership and later rule as chairman of the *German Society for Experimental Psychology*, which had been founded in 1904 by Georg Elias Mueller, Oswald Kuelpe, and Ernst Meumann (1862–1915) from Zurich. Additional early members were Friedrich Schumann (1893–1921) from Berlin, Robert Sommer (1864–1937) from Giessen and Hermann Ebbinghaus, who at this time held a professorship in Breslau. Prior to this professorship Ebbinghaus had turned to experimental psychology after he had been inspired by Fechner's empirical investigations as practiced in the third experimental psychology laboratory in Berlin, where he worked for one and a half decades from 1879 to 1894. In Fechner's laboratory Ebbinghaus explored the foundational principles of memory formation. Instead of using methods of introspection like they were used in Leipzig, he attempted to measure the subject's abilities to create memories rather than investigating memory that could have already been associated with prior knowledge.[405] One of his students

[401] Wolf, 1986.
[402] See: Pea, 1982, p. 303–308.
[403] Wapner and Kaplan, 1964, p. 513–517.
[404] Witkin, 1965, p. 306–328.
[405] Gardner, 1985, p. 104–109; Fancher, 1979.

William Stern is arguably credited with the creation of differential psychology.[406] When Carl Stumpf (1848–1936), instead of Ebbinghaus, was promoted to head the philosophy department in Berlin in 1894 William Stern followed Ebbinghaus to Breslau, and later co-founded a psychology laboratory in Hamburg with Ernst Meumann.[407] In 1933 Stern was one of five full psychology professors in Germany to be forced out of profession by the Nazi civil service law.[408]

Carl Stumpf, who had gained his interest in psychology from the philosopher Franz Brentano in Wuerzburg and Georg Elias Mueller's doctoral advisor Hermann Lotze (1817–1881) in Goettingen, taught all of the founders of Gestalt psychology in Berlin. In the Berlin Gestalt Psychology, we see a clear re-emergence of Brentano's early holistic notions of the mind.[409] Stumpf's previous philosophical influences from Brentano and Lotze led him to make no differentiation between epistemology and psychology, and led him to argue that empirical psychology was necessary to give explanations for higher philosophical concerns. This and Brentano's notion, that the mind is not purely mechanistic, reappeared in the Gestalt school through Stumpf's phenomenological approach to psychology. The Berlin Gestalt school formed one of the main traditions that continued a notable global following even during the behaviourist era. It has been argued that this was based on their distinct way of inspecting mental phenomena, as well as the emigration of nearly all of their contributing scientists from central Europe to the United States. Initiated through an observation by another one of Brentano's students, namely Christian v. Ehrenfels (1859–1932) the notion of Gestalt qualities made its way into psychology.[410] Otto Selz in his theory of human thought processes had already suggested that not all explanations for thinking processes are necessarily found in consciousness, but that instead the mind underlies automatic schemata to order thoughts and stimuli. However, it was not until the rising prominence of the Gestalt psychologist's research that it was widely accepted that certain mental processes happen subconsciously.[411]

The founding of the school is mostly credited in literature to Max Wertheimer, the only one who did not write his doctoral thesis under Stumpf but instead under Kuelpe in Wuerzburg. The other prominent Gestalt psychologists, namely, Kurt Koffka, Wolfgang Koehler, Adhémar Gelb (1887–1937), Johannes von Allesch (1882–1967), and Kurt Lewin (1890–1947), all wrote their dissertation under Carl Stumpf between 1906 and 1912. Karl Duncker one of their most

[406] Lamiell, 2006, p. 253–273.
[407] Probst and Bringmann, 1993, p. 1–14.
[408] Ash, 1996, p. 118.
[409] Gardner, 1985.
[410] See: von Ehrenfels, 1890, p. 249–292.
[411] Mandler and Mandler, 1964, p. 235.

promising students, joined them in the early 1920s and later in 1926 received his M. A. from Clark University, as one of the leading institutions in American psychology at the time. This research stay in the United States was made possible through Koehler's yearlong visiting professorship at Clark University in Massachusetts, during which he invited Duncker to join him there. Duncker received his PhD in 1929 from the Friedrich Wilhelm University of Berlin.[412] Another student of Koehler, Hans Wallach (1904–1998) received his PhD in 1934. Just like Ehrenfels had described a higher-level quality of a melody, which conveys more than the sum of its notes, this is that the musical notes create a new phenomenal aspect when arranged in a specific way, most of the research by the Gestalt psychologists was based on their interpretation of the heterogeneity of cognitive and psychological processes observed and perceived. The way that single functions and processes were perceived, was determined by the configuration of the whole such as the grouping of similar objects, or objects which are positioned close to each other.[413]

Although, the influence of Kuelpe and Marbe on Wertheimer was undeniable, in that he became interested in the study of mental processes, the Gestaltist approach yearned for a robust model, that accounted for a more holistic view and contrasted not only work done by the Wuerzburg School and Titchener's structuralism, but also later behaviourism. With their observation on apparent motion they showed that different stimuli can produce subjectively identical experiences. Thus, in contrast to Titchener whose theoretical bottom-up approach relied on breaking down mental processes into small elements, they pursued a top-down approach by observing the mental process and attempted to find the parts' role in creating such. On a similar basis, by arguing that there are special perceptual experiences that cannot be broken down into smaller elements, they dismissed the Behaviouristic account for atomic sensory elements, which gained them some recognition in America during the 1920s.

The Gestalt Theory comes to North America

While some concepts are still relevant today, the Gestalt movement quickly died down after their move to America. The historian of psychology Michael Sokal interprets this demise of the Gestalt school as a result of their scholars redirecting the mainstream ideas rather than their ideas being disregarded when mainstream psychology took a different approach.[414] Mitchell Ash however attributes this development also to the need for Gestalt psychologists to find jobs

[412] Schnall, 1999, p. 13–28.
[413] Gardner, 1985, p. 111–129.
[414] Sokal, 1984, p. 1240–1263.

in applied sectors such as insurance psychology, industrial sociology and the booming field of socio-psychological testing, political psychology and psychology of advertising. Their numerous students (Heinrich Kluever, 1897–1979, in Chicago, Norman Raymond Frederick Maier (1900–1977), George Katona (1901–1981) further incorporated their approach into expanded research programs on neuroscience, psychology, and economics. From their early work on perception, they soon applied similar concepts to different mental processes and problem solving. In contrast to the Wuerzburg school, the Gestaltists were more successful in integrating their school in America after their exile from Germany.[415] Koffka had left Berlin before Gestalt psychology became really successful, and from 1921 on he headed the psychological institute in Giessen, which August Messer (1867–1937) had helped to co-found in 1919.[416] During his time with Kuelpe in Wuerzburg, Koffka met the American psychologist Robert M. Ogden (1877–1959), who arranged for a visiting professorship at Cornell in 1924. After the Hessian government had continuously rejected support for the further institutionalization of psychology in Giessen, Kurt Koffka eventually accepted a professorship at Smith College in Northampton, Massachusetts in 1927.

Ogden also tried to convince Wertheimer to join Cornell University in 1929, and Edward Boring invited him to become a visiting professor at Harvard a few years later. In 1933, Wertheimer fled Germany, after having lost his position due to the infamous Law on the Re-establishment of a Professional Civil Service (*Gesetz zur Wiederherstellung des Berufsbeamtentums*) and acquired a professorship at the New York School for Social Science. One of his most influential American students was Abraham Maslow (1908–1970), who is best known for his hierarchy of needs.[417]

While Adhémar Gelb died of tuberculosis before he was able to emigrate for the University of Iowa, Wolfgang Koehler became renowned for his problem-solving theory, which he developed while studying apes.[418] In 1922 Koehler was appointed as the successor of Stumpf as the director of the psychological institute in Berlin. Hereafter, he was also offered a position at Harvard for several times, but remained in Berlin until 1935.[419] During that year, however he saw himself, like many of his colleagues before, to emigrate to North America. He had repeatedly and openly pronounced his disapproval for the Nazis' dismissal of Jewish academics.[420] In the United States he received a professorship at Swarthmore College in

[415] Ash, 1995. p. 323–324.
[416] Burger, 1975, p. 78–98.
[417] Greenwood, 2009, p. 268–271 and p. 527–528.
[418] Ash, 1985.
[419] Ibid.
[420] See: Henle, 1978, p. 939–944.

Massachusetts, where he remained until 1956, before moving to Dartmouth University in New Hampshire and serving as the president of the *American Psychological Association* in 1959.[421]

A year after his move to North America, Wolfgang Koehler invited his former assistant Dr. Hans Wallach from Berlin, to work together with him at Swarthmore as well. Contrary to the Gestalt psychologists' nativism, Wallach's research showed that learning could influence people's visual perception. He designed an experiment during which subjects would view a rotating object through a device which exaggerated binocular disparity. After removing the device, subjects would report perceiving the rotating object as flattened. Wallach stayed at Swarthmore for most of his career, and had no aspirations to promote himself by visiting symposia or joining societies, which hindered an early accreditation of his work. Once a week between 1947 and 1957 he would revisit the New York School for Social Research as a visiting professor. He also worked at the Institute for Advanced Studies in Princeton for one year.[422] Wallach was not only a skilled researcher, but also a formidable teacher. Among his students was, for one, the later very prominent *cognitive scientist*, Ulric Neisser who went to Swarthmore in the hope to learn from Wolfgang Koehler.[423]

The younger Gestaltists, Kurt Lewin and Karl Duncker, despite Duncker's early death in 1940, exerted the most influence with their developments of Gestalt theory. Following the views of Wertheimer and Koehler, Duncker had been the Gestaltists' most promising student,[424] and his work on problem-solving is regarded as a major pioneer's work for c*ognitive science* by Alan Newell (1927–1992).[425] Duncker briefly worked for Bartlett in Cambridge, Massachusetts, before following Koehler to Swarthmore College, where he worked on taste perception, and the relationships between learning and thinking. His life took a tragic end when he lost a long struggle to depression and took his life in 1940.

Although Kurt Lewin, with his background in Gestalt and himself a philosophy–psychology hybrid soon went his methodological way.[426] He closed the ties to Buehler and philosophers of science such as Ernst Cassirer (1874–1945) in Hamburg and Hans Reichenbach (1891–1953) in Berlin with whom he shared a close intellectual connection. Lewin's theories differed quite significantly from ordinary Gestalt in the sense that they relied on mental concepts by nature, rather than assuming the reduction to some physical entity. He also designed a phenomenological approach and resorted to new mathematical tools, such as

[421] Abersold, 2017.
[422] Harris, 2001, p. 73–74.
[423] Mandler, 2007, p. 152–153.
[424] King and Wertheimer, 2005.
[425] Newell, 1985.
[426] Ash, 1996.

topology and vector analysis. It was however his work on child psychology which gained him the broadest recognition in America even before 1933. After having rejected several professional offers from American universities in the past, when he was forced to leave Germany in 1933 he first needed to accept a mere research fellowship at Cornell University in New York, which he received by recommendation through Robert Ogden. Two years later he moved to the Iowa Child Welfare Research station, where he supervised Leon Festinger's (1919–1989) research and stayed for most of his life until his final move to the Massachusetts Institute of Technology in Cambridge, MA in 1944.[427]

Here it will be important to briefly elaborate on two earlier mentioned psychologists who had been influenced by Gestalt theory, Norman Raymond Frederick Maier and George Katona. Their continuation of experimental work in Michigan helped prevent the full suppression of German thought psychology.[428] Katona first studied under Georg Elias Mueller in Goettingen used his acquired psychological knowledge from Germany and influence of Gestalt to create novel economical models after his emigration the United States. Maier first studied at the University of Michigan and spent two years with the Gestalt school in Berlin from 1925–1926.[429] He later worked for the behavioural scientist Karl Lashley in Chicago from 1929 to 1931. His time in Berlin inspired his combination of associationism and Gestalt principles in his theories of thinking and problem solving.[430]

Heinrich Kluever, who would later become a leading member of the cybernetics movement had studied under Max Wertheimer (1920–1923) as a graduate student in Berlin. After Kluever moved to the United States, and received his PhD at Stanford, he befriended Karl Lashley in Minnesota during a visiting period there from 1924 to 1926, and joined Lashley in Chicago a few years later. He is best known for his research on frontal lobotomies in apes. It was however his experimental research on vision during the 1920s and early 1930s that became especially influenced by the Gestalt school.[431]

In all of the experimental and Gestalt psychologists, the influence of the Wuerzburg and Berlin schools had left a lasting impression. Particularly Helmholtz's, Fechner's, and Wundt's ideas and work paradigms influenced the new generations of psychologists in a marked way. Even though the Nazi regime forced out a large portion of psychological scientists and scholars from Germany and the rise of Behaviourism in the United States made it difficult to incorporate all of the ideas of émigré German-speaking psychologists in North America, their ideas and

[427] Ash, 1992, p. 198–207; Wildgen, 2001, p. 299–332.
[428] Herbert Simon, 2005.
[429] Pachella, 2010, p. 79–101.
[430] Mandler and Mandler, 1964, p. 248.
[431] Nahm and Pribram, 1998, p. 289–305.

approaches for the study of areas and disciplines relevant to modern *cognitive science* did not get lost, while they themselves became active and influenced university teachers of new generations of American students.

Some Contributions by Émigré Engineers and Information Scientists to the Technological Advances of the Modern Computer

The first efforts towards electronic computing machines started in the 1930s, and advanced quickly during the second World War, when several countries required higher computing power for their respective war efforts.[432] The experiences from their distinct endeavours were later tied together at the *Macy Conferences* in the United States. Also, the creation of the field of cybernetics, an important or even the most important preceding discipline, as some scholars have claimed, of *cognitive science*.[433] Another important source for the field was the creation of Artificial Intelligence at Dartmouth College in 1956 before it merged more closely with psychology and neuroscience during the 1950s. When scientists like the émigré John von Neumann started analyzing the relationship of mind and machine, the computer did not only serve as a tool for more efficient calculations and model generation, but also served as an important comparative metaphor to complex cognitive systems.

The development of these electronic computers however brings together the history of engineering advances and advances in other fields such as mathematics and logic. By the split nature of computers into its hardware and software the origins are also split and only join with the first computers in the 1930s and 1940s.[434] Thus, the origins of artificial computation systems can be traced back to the sixteenth, seventeenth, and eighteenth centuries when the first mechanical toys and mechanism such as dolls, and watches were built to simulate physiological processes in the organic machine of the human body.[435] Also, some of the first mechanical calculating devices were designed by Wilhelm Schickard (1592–1635) in 1623 and shortly thereafter by the French mathematician Blaise Pascal (1623–1663).[436] Further, an important predecessor was Charles Babbage's (1791–1871) work for the computer age to catch on. With his surprisingly accurate attempts at building a programmable machine for the calculation of

[432] Williams, 1997, p. 209–406.
[433] Dupuy, 2000, p. 173.
[434] Mahoney, 2011, p. 113–125.
[435] Offray de La Mettrie, 1912.
[436] Williams, 1985, p. 119–129.

mathematical polynomials,[437] he pioneered input models that could later serve as model approaches to compare his machine to the functioning of the human mind.[438]

In the late nineteenth century, punched card tabulators developed by the American engineer Herman Hollerith (1860–1929) were used to semi-automate the clerks tallying in the United States census. Hollerith later laid the foundation for IBM with the creation of his Tabulating Machine Company in 1896. The Austrian mechanic Otto Schaeffler (1838–1928) connected plug-boards instead of direct soldering the connections to the punched card machines to ease re-programming.[439]

The astronomer Laurence Comrie (1893–1950) was the first person to use these punched card machines for a large scale scientific calculation instead of bureaucratic or statistical purposes, when he calculated the predicted movement of the moon while working at the National Almanac Office in London. As the calculations were based on the mathematician and astronomer Ernest William Brown's (1866–1938) *Tables of the Moon*, Brown paid Comrie a visit in London. Back in the United States introduced these methods of calculation to his former student and friend Wallace J. Eckert (1902–1971). Eckert proceeded to convince IBM to fund the establishment of a real computer bureau at Columbia University in New York, and in this way contributed to the increasing use of punched card machines in scientific inquiries in North America.[440] In the century leading up to the 1930s the demand and use of mechanical calculation devices thus increased tremendously, driven by companies such as the International Business Machines (IBM) Corporation in the United States and its German subsidiary DEHOMAG (Deutsche Hollerith Maschinen Gesellschaft mbH German Hollerith Machines LLC).[441]

It took another step however, to build completely automated electronic computers. One of the major technological pioneers of modern computers with this inquiry was the German engineer Konrad Zuse (1910–1995) in Berlin who designed the well-received "*Z-machines*" in the 1930s. During the Second World War, his work got isolated from newer American efforts to build serial computers at the Bell Telephone Laboratories, in New York. Howard Aiken (1900–1973), at Harvard University and through cooperative work with IBM, however enjoyed such continued international exchanges of information and other than Zuse, Aiken and others advanced Babbage's previous work. Nonetheless Zuse succeeded in building an automatically controlled computing machine in 1941, namely the Zuse Z3 (see: *Figure 6*), which was based

[437] Ibid.
[438] Green, 2005, p. 35–45.
[439] Zemanek, 1970, p. 133–134.
[440] Williams, 2007, p. 123–144.
[441] Priestley, 2011, p. 65; Ceruzzi, 2003, p. 18; Campbell-Kelly, 2016, p. 42–65; Goldstine, 1973, p. 106–121.

on receiving information from a binary punch card. After the war Zuse would visit the United States, but never reached a major work agreement with IBM or Aiken.[442] As a parallel innovation, and accompanied by a feud between Aiken and the head of IBM, Thomas Watson (1874–1956), the cooperative project between Howard Aiken and IBM, the Harvard Mark I (see: *Figure 7*) machine was completed in 1943 which was an electromechanical general purpose computer.[443] Although the Mark I was more accurate, surprisingly the Zuse 3 was a faster and due to its floating-point representation a more flexible computer than the Harvard Mark I.[444]

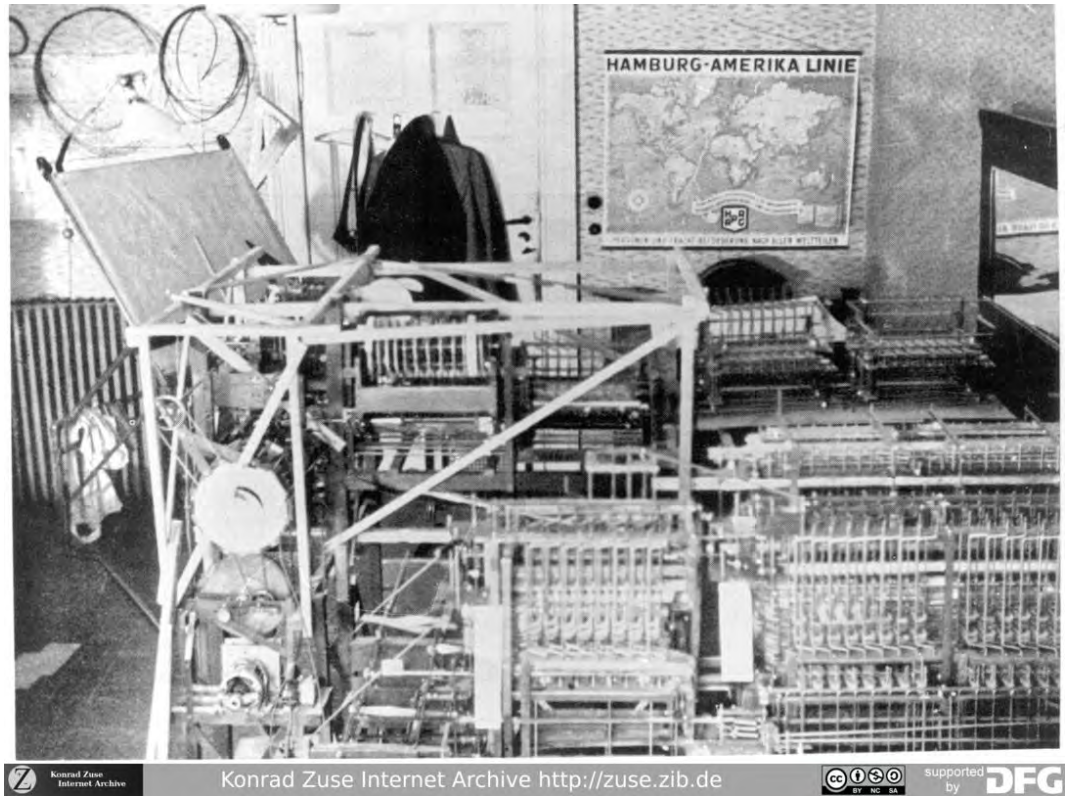


Fig. 6: Konrad Zuse's prototype for the model Z1. Photographed in his parent's apartment, 1937.[445]

[442] Zuse, 1984, p. 101–118.
[443] For details on the feud see: Brooks Jr., 1999, p. 139.
[444] Priestley, 2011.
[445] Fig. 6, from the Konrad Zuse Internet Archive: http://zuse.zib.de/collection/vb_dSKa5AwRFNsH/item/XthWMuTVQFwLxI8W.

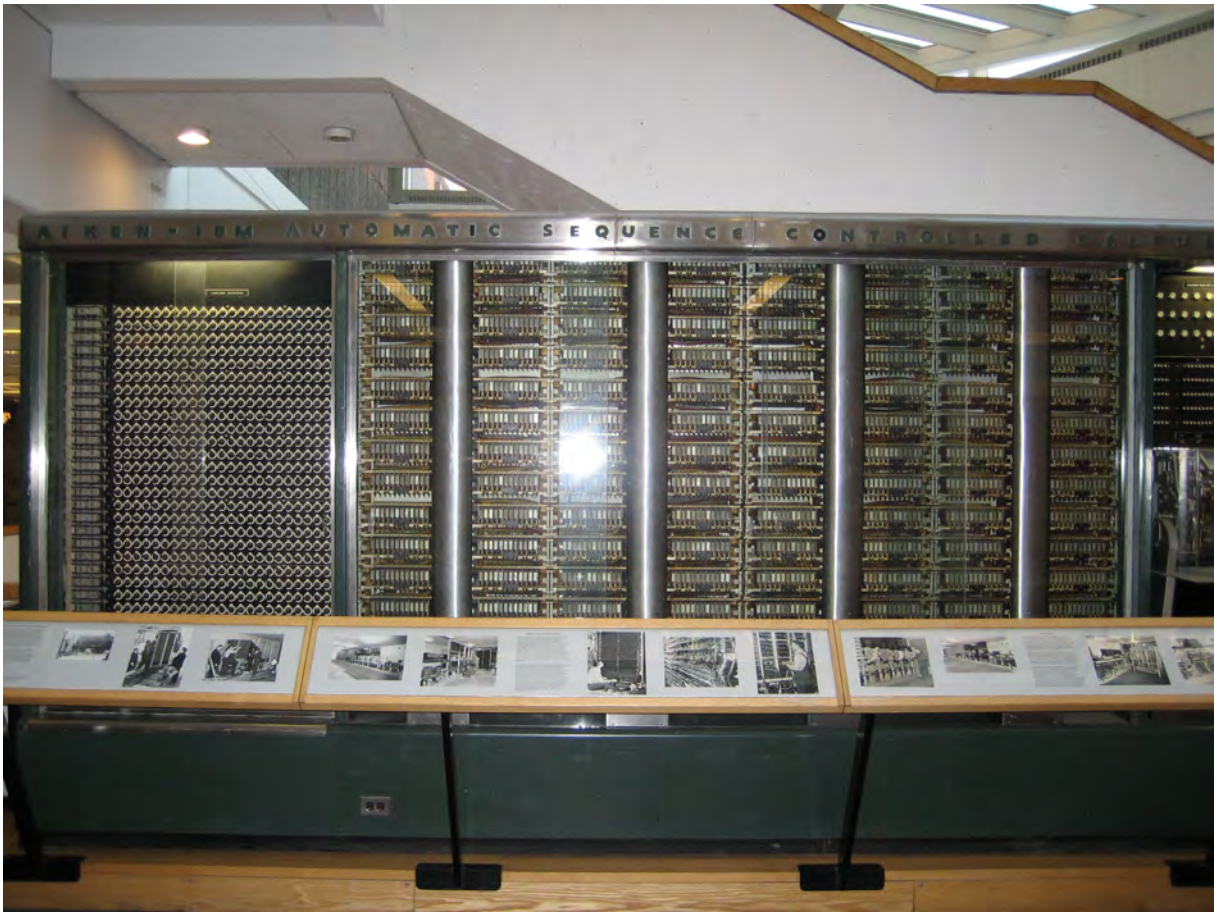


Fig. 7: The Harvard Mark I.[446]

The Mark I machine was followed by the development of electronic computer "Colossus" in Great Britain, designed to solve the German Enigma Code. It was build based on electronic relay models, yet it was not universally programmable. Such programmability had to await the construction of the Electronic Numerical Integrator and Computer (ENIAC) at the Moore School of Electrical Engineering at the University of Pennsylvania, with help of John von Neumann (1903–1957). Von Neumann joined the group in 1944, which accelerated the construction end in 1945. The work on the ENIAC inspired him to further experiment with the concept of a stored-program computer. Subsequently, he did not only help build the ENIAC, but also started with the design of a new machine called the Electronic Discrete Variable Automatic Computer (EDVAC),[447] which had quite significant increase in processing speed, before communications between him and the Moore school broke off when the war ended and von Neumann instead continued work at the Institute of Advanced Studies in Princeton. It

[446] Fig. 7, *Harvard Mark I*: Wikimedia Commons: https://commons.wikimedia.org/wiki/File:Harvard_Mark_I.jpg. Accessed 9 August 2018.
[447] Some people claim the design concept had already been established. See: John Mauchly, "Amending the ENIAC Story," letter to the editor of *Datamation,* 1979, p. 217–219.

ended up taking until 1951 for the EDVAC to finally be completed.[448] Although the invention of these computers was essential for the development of the mind as machine analogy, it took more to form a clear agenda for the new field of *cognitive science*.[449]

Mathematical Logic and John von Neumann's Contributions to Cognitive Science

In this section I will majorly concentrate on John von Neumann (1903–1957), who was born in Hungary and spent some years studying in Germany, as his contributions were disproportionally large. In the nineteenth and twentieth century many contributions to procedural logic had been made that proved to be essential for the later creation of the electronic computer. Among the first milestones were the binary algebra, defined by George Boole (1815–1864) and the functional calculus to prove sequential equations by Gottlob Frege (1848–1925). In 1854, Boole published his book *An Investigation in the Laws of Thought*[450] in which he made an attempt at describing logical relations in a similar form as mathematics had been used to describe numerical relations, namely as the rules of Boole's formalism were to hold in an algebraic system with truth values of 0 and 1, but it was not sufficiently expressive. Frege introduced a sufficiently expressive system in 1879, however deduction in this system did not hold enough clarity. Boole's earlier attempts culminated in the subsequent proof theories of Bertrand Russell's and Alfred North Whitehead's *Principia Mathematica* that was published in three volumes in 1910, 1912, and 1913. Each of the volumes tried to present a system of natural relations between mathematics and logic, by introducing a set of axioms and inference rules in symbolic logic, from which in principle all mathematical rules could be proven.[451]

In many ways, the beginnings of Artificial Intelligence can be further traced back to David Hilbert's (1862–1943) program in Goettingen, which was concerned with the philosophy and foundations of mathematics in an attempt to formulate math in a complete logical foundation. David Hilbert began his work in Goettingen on formal logic around 1917 and was supported by his two assistants Paul Bernays (1888–1977) and Heinrich Behmann (1891–1970).[452] His program changed its focus towards proving that it is impossible to make derivations from a contradiction.[453] Hilbert became one of the most renowned mathematicians at the time, and Goettingen attracted many international students and visitors. Among them

[448] Von Neumann, 1945.
[449] Sturm and Gundlach, 2013.
[450] See: Boole, 1951.
[451] McCurdock, 2004, p. 79–100.
[452] Macosu, 2003, p. 59–101.
[453] Zach, 2007, p. 411–447.

were John von Neumann, Norbert Wiener (1894–1964), and Hermann Weyl (1885–1955) from Erlangen. Norbert Wiener, who received his PhD at the early age of eighteen at Harvard University, had previously studied logic with Russell at the University of Cambridge, England, and spent a good portion of the years 1924 to 1926 in Goettingen. There he also met von Neumann for the first time, who had become very intrigued by Hilbert's work.[454]

However, in 1931, Kurt Goedel published his *Incompleteness Theorems*, which presented limits of provability in formal axiomatic theory. This publication mostly ended all efforts by Hilbert and his group, as it was now proven that any system of axioms cannot prove its own completeness. In Austria, Goedel had been associated with the Vienna circle of philosophers of science including Rudolf Carnap (1891–1971), who had originally introduced Goedel to logic. This publication mostly ended all efforts by Hilbert and his group, as it was now proven that any system of axioms cannot prove its own completeness. Hilbert hence turned away from his research program on the foundations of mathematics, and soon thereafter retired. Paul Bernays instead continued Hilbert's program. After being dismissed from his academic position in 1933 when the infamous Law for the Re-establishment of a Professional Civil Service had been inaugurated, Bernays found refuge and work at the Eidgenoessische Technische Hochschule in Zurich, Switzerland and also traveled to give lectures at the Institute for Advanced Studies in Princeton in the United States.[455]

Goedel himself continued working in Vienna until the political annexation of Austria by the Nazis in 1938, following to which he emigrated to Princeton as well.[456] From 1933 on, Goedel had frequently visited the United States and had given multiple lectures at the Institute for Advanced Studies until his death in 1978.[457]

Von Neumann had left Goettingen in 1927 to pursue his own career as a lecturer in Berlin. Although, he was eager to leave and lectured in Hamburg in 1929 as well as at Princeton from 1930 onwards, he would continuously give lectures in Berlin until his naturalization in 1933.[458] After the publication of Goedel's incompleteness theorems in 1931, John von Neumann quickly accepted the reality of Goedel's proofs posed upon the work he had done with Hilbert. Instead of continuing this work, von Neumann started discussing Goedel's incompleteness theorems in his lectures in Berlin. While Norbert Wiener spent some years teaching at MIT in Cambridge, MA, John von Neumann following his emigration to North

[454] Ulam, 1958, p. 1–49.
[455] Lauener, 1978, p. 13–20.
[456] For the naturalization of Goedel see: "*Memorandum from Mathematica*," Letter from Oskar Morgenstern, September 13, 1971.
[457] Dawson, 1997.
[458] McRae, 1992, p. 136–150.

America, as a consequence of Adolf Hitler's (1989–1945) rise to power, became a faculty member at the Institute of Advanced Studies in Princeton in 1931, which was modeled after the German research institutes.[459] Norbert Wiener, and John von Neumann would become leading figures in the emerging field of *cognitive science*.[460] Especially building on the catalyst machine developed by the Cambridge mathematician Alan Turing (1912–1954), von Neumann became increasingly interested in applications of game theory to the technological development of new computing machines.

Neumann and Turing were among the first researchers to realize that the new representations used in the formalism of logic were the key towards developing the new generation of electronic and universally programmable computers.[461] Both Wiener and von Neumann had close family ties to Europe. Wiener had married the German-born Margaret Engelmann, and Wiener as well as von Neumann encouraged bringing a number of mathematicians and physicists, for example von Neumann's earlier colleague and friend, Oskar Morgenstern (1902–1977) to North America.[462] They also comforted and supported a number of German émigrés hosted at the Institute for Advanced Studies in Princeton, such as the theoretical physicist Albert Einstein (1879–1955), von Neumann's fellow high school student Eugene Wigner (1902–1995), Rudolf Ladenburg (1882–1952), and Hermann Weyl.[463]

Von Neumann's participation in war related research became quite significant. His introduction to the ENIAC project had further sparked his interest in Turing's work, especially Turing's theoretical concept of a universal Turing machine. There is some discussion over when von Neumann first took note of Turing's work, but it is very likely that latest by 1938 von Neumann had encountered Turing's work on computability and held it in high esteem. Turing was well aware of von Neumann's work even prior to this discovery and reception of the latter's work.[464] This exchange of ideas had eventually led to his concept of creating a computer with a stored program (a computer which stores program data as well as instruction data in the same memory) and Neumann's idea to draw an analogy between computers and living organisms. Von Neumann first published on these analogies in his draft for the EDVAC in 1945. Already he had been discussing the subject with Wiener and neurophysiologists from Princeton during the war years before.[465] These collaborations would lead to a fruitful

[459] Heims, 1980.
[460] Gardner, 1985, p. 20–26.
[461] Preface to Metropolis, Howlett, and Rota, p. xvi.
[462] On Mathematician Émigrés see: Rider, 1984, p. 107–176.
[463] McRae, 1992, p. 69.
[464] Davis, 1988, p. 149–176; Asprey, 1990a, p. 294.
[465] Asprey, ibid., p. 289–309.

interdisciplinary research program during the postwar years, namely cybernetics. As British science journalist Andrew Hodges had claimed, Turing and von Neumann had become two of the main pioneers inherently connected with the invention of modern computing machines. They were the ones "assembling the necessary ideas for the digital computer out of the conjunction of Hilbertian rationalism and Second World War technology."[466] Certainly, von Neumann was someone who took his own path and while gathering inspiration from numerous interdisciplinary sources such as the McCulloch-Pitts neural model, had frequently been the driving force behind those novel ideas, such as the mind machine analogy, which culminated in the exciting scientific inquiries past his death in 1957.

Biology and the Machine—The Organism-Machine Model in Early Twentieth-Century Cybernetics

It is important to realize that several neurophysiologists from the early 1940s had argued for a resemblance of logical mechanisms to the anatomy of the central nervous system. Popularized by the Chicago based neuropsychiatrist Warren McCulloch (1898–1969),[467] and the logician Walter Pitts (1923–1969) who had been Rudolf Carnap's mentee,[468] it was argued that neurons were not only the smallest and binary entities of the nervous system but functioned logically to each other.[469] In conjunction with the mathematical work by Goedel, Boole and von Neumann, this allowed the research hypothesis that the human brain was merely a biological Turing machine, with finite information storage.[470]

Another approach which also struck comparisons between artificial and biological systems was cybernetics. The ideas for cybernetics in the beginning of the twentieth century can be seen as an attempt to combine biological and engineering assumptions into one research field. It was again Norbert Wiener, who in discussions with mathematician Julian Biegelow (Bigelow) (1913–2003) and the physiologist Arturo Rosenblueth (1900–1970) compared organisms with machines around 1942. Von Neumann himself had attained a large interest in neurophysiology and the biomedical community following the reading of the McCulloch-Pitts paper. His growing interdisciplinary interest in the years to come becomes clear when looking at the amount of scientists from different fields that he stood in contact with, such as the biochemist Sol Spiegelman (1914–1983), the chemist and biologist Alfred Lotka (1880–1949), and even chemist Karl Friedrich Bonhoeffer (1899–1957) in Germany and biophysicist Max

[466] Hodges, 1983, p. 556.
[467] Arbib, 2000, p. 193–216.
[468] Smalheiser, 2000, p. 217–226.
[469] McCulloch and Pitts, 1943, p. 115–133.
[470] Sturm and Gundlach, 2013.

Delbrueck (1906–1981) at the California Institute of Technology.[471] Hence, the work by Wiener, Biegelow, and Rosenblueth was immediately and positively received by von Neumann, at the end of WWII.

In 1945, Aiken, von Neumann and Wiener organized a quite interdisciplinary meeting at Princeton. On the agenda were topics such as von Neumann's insights of computing machines, communication engineering as pursued by Wiener, and lectures by Lorente de No and McCulloch about the organization of the brain.[472] Following this meeting at Princeton, a larger group around McCulloch, Pitts, Biegelow, Aiken, von Neumann and Wiener formed and decided to engage in a permanent collaborative research program. The administrative planning was taken on by Warren McCulloch, and with the financial aid of the Macy Foundation he organized the first official conference in 1946, which hosted twenty-one cognitive scientists. This first *Macy Conference* had been set up with the goal of bringing together several disciplines to contribute to the understanding of the functioning of the human mind and brain. This initial conference kicked off a period of many meetings and discussions, eventually resulting in a merger of several disciplines into a new research field.[473]

For the first conference, Warren McCulloch invited Wiener, Pitts, and von Neumann to represent mathematical engineering, Rosenblueth, Rafael Lorente de Nó (1902–1990), and Ralph W. Gerard (1900–1974) for Neurophysiology, Lawrence Kubie (1896–1973) and Hank Brosin (1904–1999) in representation of psychiatry, and Bateson (1904–1980) for sociology, Donald Marquis (1908–1973), Heinrich Kluever, Kurt Lewin, and Molly Harrower (1906–1999) in representation for Psychology and former student of Kurt Koffka at Smith College. Following to the suggestion of von Neumann, Kurt Goedel was also invited to pursue research into cybernetics.[474]

For the fourth conference Wolfgang Koehler was invited, as he became interested in neurophysiological studies of the visual cortex and turned to McCulloch for help receiving grant money. The members of the Macy conferences had previously been skeptical of inviting Koehler as a guest speaker to avoid controversy between different branches of Gestalt. Nonetheless, he was invited to speak on the second day of the fourth conference. His experiments had not progressed very far at this point and caused controversy in the audience, but were much better received when he could present more data at the Hixon symposium a year later.[475]

---

[471] Asprey, 1990b, p. 181; Kay, 2000, p. 104–115.
[472] William Asprey, ibid., p. 181–189.
[473] Heims, 1991, p. 1–13.
[474] Heims, 1980, p. 201–204; Heims, 1991, p. 203.
[475] Heims, "Gestalten go to Bits, 2: Koehler's Visits." In *Cybernetics Group*, chapter 10.

Subsequently to these regular meetings, Wiener published his book *Cybernetics* in 1948, which underlined the parallels that he saw between the new computing machines and living organisms, such as the similarity of a binary computer and nerve structures. Until the last conference in 1953, the group remained relatively constant, while only inviting a few guests to join and provide insights to interdisciplinary problems that could not be addressed by the inner community itself. Among them were the social psychologist Paul Lazarsfeld, Theodore Schneirla (1902–1968) a former student of N.R.F. Maier, and psychologist Heinz Werner, who presented *On The Development Of Word Meaning* in 1950.[476] Wiener and his following did not succeed at permanently establishing this round of conferences, they were however an important stepping stone for a much larger purpose as Frank Fremont Smith (1895–1975), medical director and later head of the Macy Foundation, announced in the program for the ninth conference.

> […] there is a further, and perhaps more fundamental, aim which is shared by all our conference groups. This is the promotion of meaningful communication between scientific disciplines. The problem of communication between disciplines we feel to be a very real and urgent one, the most effective advancement of the whole of science being to a large extent dependent upon it. Because of the accelerating rate at which new knowledge is accumulating, and because discoveries in one field so often result from information gained in quite another, channels must be established for the most effective dissemination and exchange of this knowledge.[477]

An endeavor to bring together sciences and to strengthen interdisciplinary communication was also present at other conferences at the time and accumulated in the successful establishment of *cognitive science* a few decades later.

Conclusion

During the period of 1900 to 1950, we see many ideas and technological developments come together in a new interdisciplinary approach. The direction however was far from clear at the beginning, but the pioneers of *cognitive science* had a vision for the kind of problems they wanted to solve. During the same year in which Wiener published his book *Cybernetics*[478] another major step for the creation of *cognitive science* as an interdisciplinary research field was taken. Breakthroughs in many disciplines and the advances of the previous century had been eagerly taken up by contemporary academics. In September of 1948 many leading scientists from different fields met at the California Institute for Technology.[479] Funded by the

[476] Pias, 2003.
[477] Frank Fremont Smith Program for the Ninth *Macy Conference*, 1952 in Pias, ibid.
[478] Wiener, 1961.
[479] Jeffress, 1967.

Hixon Foundation, it became known as the Hixon Symposium on *Cerebral Mechanism in Behaviour.* The discussions were focused on comparisons of the mind as in the publications of von Neumann, and McCulloch and a critique of behaviourism in Lashley's article. It is notable, that three of the six presented papers came from people closely associated to the previous cybernetics research group i.e. von Neumann, McCulloch and Kluever at the Institute for Advanced Studies in Princeton. Furthermore, half of the speakers were émigré scientists who were taught in the "old" German schools of psychology and mathematics i.e. Kluever, Koehler, von Neumann. Therefore, it seems natural that the then modern school of behaviourism was rejected, and instead the focus was laid on the study of cognitive processes.

The ideas explored at the Hixon Symposium on Cerebral Mechanisms in Behaviour quickly caught on in the relevant scientific communities. While the earlier conferences and meetings were concerned with exploring analogies between computers and the nervous system, in 1956 the comparison of machines with cognitive systems in living organisms was first directly formulated. Herbert Simon, who had long been a promoter of interdisciplinary approaches himself, assembled the advances in cybernetics and the Gestaltist's work on problem solving into an innovative idea. In the summer of 1956, together with American psychologist John McCarthy (1927–2011), linguist Marvin Minsky (1927–2016), and philosopher of science Allen Newell, he gathered with programmers from IBM at Dartmouth in New Hampshire to discuss new progress for the creation of thinking machines.[480] These attempts resulted in the field creation of the field of Artificial Intelligence, as it was later coined by John McCarthy. In September of the same year the Symposium on Information Theory took place at MIT. Here again scientists from different disciplines met, and many milestone theories of *cognitive science* were presented such as Newell and Simon's *Logic Theory Machine*,[481] American linguist Noam Chomsky's essay *Three Models of Language,*[482] and psychologist George Miller's paper on the seven items that can be stored in human short-term memory. It was the same year Jerome Bruner published *A Study of Thinking*.[483]

What followed was a slow but steady development towards an interdisciplinary pursuit of the study of the mind. This time came to be called the *cognitive revolution*, headed by Ulric Neisser's *Cognitive Psychology* published in 1967, which returned to the psychological study of mental processes. There were other émigrés scientists and physicians that I could not mention here, despite their contributions to the wider research field of *cognitive science.*

[480] Crowther-Heyck, 2005, p. 184–214.
[481] Newell and Simon, 1956, p. 61–79.
[482] Chomsky, 1956, p. 113–124.
[483] Bruner, 1956.

Rather, I had to limit myself to psychology and mathematics, thus individuals such as the German-speaking émigré neurophysiologists Stephen Kuffler (1913–1980)[484] or Bernard Katz (1911–2003) were not examined in this article, as were some individuals came at a young age and were mostly taught in American schools such as Karl Pribram (1919–2015), a student of Lashley. It took a while until the return to cognitive phenomena gathered pace and *cognitive science* was officially born as an institutionalized discipline in the 1970s. We have seen that many psychologists were still present and active during the time that had earlier studied the ways of experimental psychology as they were taught in Germany. Already in the beginnings of experimental psychology cognitive processes constituted the main interests of the researchers. Especially in the laboratories of Leipzig, Wuerzburg, and Gestalt psychology, in Berlin the scholars contributed majorly influential theories to the study of cognition. Their continuous pursuit of investigating these topics, even after their, often troubled, emigration to the United States contributed in a substantial way to the integration of their methods and ideas to the new interdisciplinary approach of *cognitive science.* This novel research field was for a long time based on the mind as machine analogy, which was developed in the first half of the twentieth century, drawing especially on the work of these early cognitive psychologists and the rapid progression of the development of a digital computer, and many of the scholars from Central Europe contributed.

[484] For a brief biography of Kuffler see: Von Hoeckendorf and Stahnisch, 2015, p. 1258–1260.

Table 1a: Influential psychologist émigrés

Name	*Born*	*Place of Birth*	*Deceased*	*Place Deceased*	*Formal Discipline(s)*	*PhD Received in*	*Notable Teachers*	*Place of Work in Europe*	*Year Emigrated*	*Institutions Worked at in the U.S.A.*
Brunswik, Egon	1903	Budapest	1955	Berkeley, CA	psychology	PhD in Vienna	Moritz Schlick; Karl Buehler	University of Vienna; University of Ankara	1937	University of California, Berkeley
Buehler, Karl	1879	Meckesheim	1963	Los Angeles, CA	medicine; psychology	PhD in Freiburg; PhD in Strasbourg	Oswald Kuelpe; Karl Marbe	University of Bonn; University of Munich; University of Dresden; University of Vienna	1938	University of Southern California, L.A.
Duncker, Karl	1903	Leipzig	1940		psychology	PhD in Berlin	Wolfgang Koehler; Max Wertheimer; Kurt Koffka	University of Berlin	1938	Swarthmore College, PA
Heider, Fritz	1896	Vienna	1988	Lawrence, KS	psychology; philosophy	PhD in Graz	Alexius Meinon; William Stern	University of Munich; University of Berlin; University of Hamburg	1930	Smith College, Northampton, MA; University of Kansas, KS
Katona, George	1901	Budapest	1981	Berlin	psychology	PhD in Goettingen	G.E. Mueller	proposedly Goettingen	1933	University of Michigan; Harvard University, MA; Brooklyn College, NY; Clark University, MA;
Kluever, Heinrich	1897	Holstein	1979	Oak Lawn, IL	psychology	PhD at Stanford	Max Wertheimer	-	1923	University of Minnesota; Columbia University, NY; University of Chicago
Koehler, Wolfgang	1887	Tallin	1967	Enfield, NH	psychology; physics	PhD in Berlin	Carl Stumpf	Psychological Institute Frankfurt; Tenerife; University of Berlin	1935	Swarthmore College, PA; Dartmouth, NH
Koffka, Kurt	1886	Berlin	1941	Northampton, MA	psychology	PhD in Berlin	Carl Stumpf	University of Giessen	ca. 1924	Cornell University, Ithaca, NY; Smith College, Northampton, MA

Fig. 8: Table 1a of psychologist émigrés contributing to cognitive science in order of appearance.

Table 1b: Influential psychologist émigrés

Name	*Born*	*Place of Birth*	*Deceased*	*Place Deceased*	*Formal Discipline(s)*	*PhD Received in*	*Notable Teachers*	*Place of Work in Europe*	*Year Emigrated*	*Institutions Worked at in the U.S.A.*
Lazarsfeld, Paul	1901	Vienna	1976	New York City, NY	mathematics	PhD in Vienna	Karl Buehler	Psychological Institute, Vienna	1935	University of Newark, NJ; Princeton University, NJ; Columbia University, NYC
Lewin, Kurt	1890	Mogilno	1947	Newtonville, MA	psychology; philosophy	PhD in Berlin	Carl Stumpf	University of Berlin	1933	Stanford University, CA; Cornell University, NY; University of Iowa, IA; M.I.T., MA
Neisser, Ulric	1928	Kiel	2012	Ithaca, NY	psychology	PhD at Harvard	George A. Miller; Hans Wallach	-	1933	Cornell University, Ithaca, NY
Wallach, Hans	1904	Berlin	1998	Media, PA	philosophy; Psychology	PhD in Berlin	Wolfgang Koehler; Max Wertheimer; Kurt Koffka	University of Berlin	1937	Swarthmore College, PA; New School for Social Research, NY; Princeton I.A.S., NJ
Werner, Heinz	1890	Vienna	1964	Worcester, MA	psychology	PhD Vienna	-	University of Hamburg	1933	University of Michigan; Harvard University, MA; Brooklyn College, NY; Clark University, MA;
Wertheimer, Max	1880	Prague	1943	New Rochelle, NY	philosophy; psychology	PhD in Wuerzburg	Carl Stumpf; G.E. Mueller in Berlin; Kuelpe in Wuerzburg	Psychological Institute Frankfurt; University of Berlin	1933	New School of Social Research, NY

Fig. 9: Table 1b of psychologist émigrés contributing to cognitive science in order of appearance.

Table 2: Mathematician and engineering émigrés

Name	*Born*	*Place of Birth*	*Deceased*	*Place Deceased*	*Formal Discipline(s)*	*PhD Received in*	*Notable Teachers*	*Place of Work in Europe*	*Year Emigrated*	*Institutions Worked at in the U.S.A.*
Bernays, Paul	1888	London	1977	Zurich, SWI	mathematics; physics; philosophy	PhD in Berlin	David Hilbert; Ernst Cassirer; Carl Stumpf; Hermann Weyl	E.T.H. Zurich; University of Goettingen	visits from 1935-36; 1959-60	visiting scholar at Princeton University
Goedel, Kurt	1906	Brunn	1978	Princeton, NJ	mathematics; physics	PhD in Vienna	Moritz Schlick; Hans Hahn	University of Vienna	1938	Princeton University
Morgenstern, Oskar	1902	Goerlitz	1977	Princeton, NJ	political science	PhD in Vienna	-	University of Vienna	1938	Princeton University
von Neumann, John	1903	Budapest	1957	Washington, D.C.	chemical engineering; mathematics	PhD in Budapest	David Hilbert; Hermann Weyl	University of Berlin; University of Goettingen; University of Hamburg	1933	Princeton University; Los Alamos; University of Pennsylvania
Weyl, Hermann	1985	Elmshorn	1955	Zurich, SWI	mathematics; physics	PhD in Goettingen	David Hilbert	E.T.H. Zurich; University of Goettingen	1933	Princeton University

Fig. 10: Table 2 of mathematician and engineering émigrés contributing to cognitive science in order of appearance.

References

Abersold, Alicia C. 2017. Former APA Presidents. *American Psychological Association*, http://www.apa.org/about/governance/president/past-presidents.aspx. Accessed 10 September 2017.

Abrahamson, Adele, and William Bechtel. 2012. History and Core Themes In *The Cambridge Handbook of Cognitive Science,* ed., Frankish, Keith, and William M. Ramsey, 9–28. Cambridge, Eng.: Cambridge University Press.

Alfred P. Sloan Foundation. 2009. *A Grantmaking History, 1934–2009*. New York City: Alfred P. Sloan Foundation.

Arbib, Michael A. 2000. Warren McCulloch's Search for the Logic of the Nervous System. *Perspectives in Biology and Medicine* 43: 193–216.

Ash, Mitchell G. 1985. Zur Geschichte des Berliners Psychologischen Instituts und der Zeitschrift 'Psychologische Forschung' vor und nach 1933. In *Psychologie im Nationalsozialismus*, ed., Carl F. Graumann, 113–137. Berlin, Germany: Springer.

Ash, Mitchell G. 1992. Cultural Context and Scientific Change in Psychology – Kurt Lewin in Iowa. *American Psychologist* 47: 198–207.

Ash, Mitchell G. 1995. Under Nazism and After: Survival and Adaptation. In *Gestalt Psychology in German Culture, 1890–1967*, 323–324. Cambridge, Eng.: Cambridge University Press.

Ash, Mitchell G. 1996. Émigré Psychologists after 1933: The Cultural Coding of Scientific and Professional Practices. In *Forced Migration and Scientific Change*, eds., Ash, Mitchell G., and Alfons Soellner, 117–138. Cambridge, Eng.: Cambridge University Press.

Ash, Mitchell G. and Alfons Soellner (eds.). 1996. *Forced Migration and Scientific Change.* Cambridge, Eng.: Cambridge University Press, 1996.

Asprey, William. 1990a. The Origins of John von Neumann's Theory of Automata In *The Legacy of John von Neumann*, eds., Glimm, James, John Impagliazzo, and Isadore Manuel, 265–283. Providence, RI: American Mathematical Society.

Asprey, William. 1990b. *John von Neumann and the Origins of Modern Computing*. Cambridge, MA: The MIT Press.

Baars, Bernard J. 1986. *The Cognitive Revolution in Psychology*. New York City: Guilford Press.

Boden, Margaret A. 2006. *Mind as Machine*. Oxford, UK: Clarendon Press.

Boole, George. 1951. *An Investigation of The Laws of Thought*. New York, City: Dover Publications (republication from 1854).

Boring, Edwin Garrigues. 1945. Georg Elias Mueller: 1850–1934. *The American Journal of Psychology* 47: 344–348.

Boring, Edwin Garrigues. 1950. *A History of Experimental Psychology, Second Edition*. New York City: Appleton-Century-Crofts.

Boring, Edwin Garrigues. 1961. *Psychologist At Large*. New York City: Basic Books.

Brock, Adrian. 1994. What Ever Happened to Karl Buehler? *Canadian Psychology/ Psychologie Canadienne* 35: 319–329.

Brooks Jr., Frederick. 1999. Aiken and the Harvard "Comp. Lab. In *Makin' Numbers: Howard Aiken and the Computer*, eds., Cohen, Bernard and Gregory W. Welch, 137–142. Cambridge, MA: MIT University Press.

Bruner, Jerome S. 1956. *A Study of Thinking*. New York City: Wiley.

Buehler, Karl. 1929. *Die Krise der Psychologie*. Jena, Germany: G. Fischer.

Burger, Hans-Georg. 1975. Anfaenge und Bedeutung der experimentellen Psychologie in Giessen. *Giessener Universitaetsblaetter* 8: 78–98.

Campbell-Kelly, Martin et. al. 2016. *Creating the Computer in Computer: A History of the Information Machine Third Edition*. Boulder, CO: Westview Press.

Ceruzzi, Paul. 2003. *A History of Modern Computing Second Edition*. Cambridge, MA: MIT Press.

Cevonis, David D. 2012. Ach, N., in *Encyclopedia of the History of Psychological Theories*, ed., Robert W. Rieber, 1–2. New York City: Springer.

Chomsky, Noam. 1956. Three Models for The Description of Language. *IEEE Trans. Inform. Theory* 2: 113–124.

Collins, Allan. 1977. Why Cognitive Science. *Cognitive Science* 1: 1–2.

Crowther-Heyck, Hunter. 2005. *A New Model of Mind and Machine, in Herbert A. Simon – The Bounds of Reason in Modern America*. Baltimore, MD, and London, England: John Hopkins University Press.

Davis, Martin. 1988. Mathematical Logic and the Origin of Modern Computers. In *The Universal Turing Machine – A Half-Century Survey*, ed., Herken, Rolf, 149–176. Hamburg, Berlin, Germany: Kammerer und Unverzagt.

Dawson, John W. 1997. *Logical Dilemmas*. Wellesley, Mass.: A K Peters.

Dingeman de Groot, Adrian. 1946. *Het Denken Van Den Schaker*. Amsterdam, The Netherlands: Noord-Hollandsch Uitgevers Mij.

Duncker, Karl. 1935. *Zur Psychologie des produktiven Denkens*. Berlin, Germany: Julius Springer.

Dupuy, Jean Pierre. 2000. *The Mechanization of The Mind*. Princeton, NJ: Princeton University Press.

Ehrenfels, Christian von. 1890. Ueber Gestalt Qualitaeten. *Vierteljahrsschrift fuer wissenschaftliche Philosophie* 17: 249–292.

Fancher, Raymond E. 1979. *Pioneers of Psychology*. New York City: Norton.

Gardner, Howard. 1985. *The Mind's New Science*. New York City: Basic Books.

Gigerenzer, Gerd, and David Murray. 2007. Tools=theories=data? In *Psychology's Territories*, ed., Ash, Mitchell G. and Thomas Sturm, 305–342. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Goldstine, Herman. 1973. The Historical Background up to WWII. In *Computer – from Pascal to Neumann*, ed., Herman Goldstine, 106–121. Princeton, NJ: Princeton University Press.

Green, Christopher D. 2005. Was Babbage's Analytical Engine Intended to be a Mechanical Model of the Mind? *History of Psychology* 8: 35–45.

Greenwood, John D. 2009. Physiology and Psychology. In *A Conceptual History of Psychology,* ed., John D. Greenwood, 139–14. New York City: McGraw-Hill Higher Education.

Harris, Charles S. 2001. Hans Wallach (1904–1998). *American Psychologist* 56: 73–74.

Heims, Steve J. 1980. *John von Neumann and Norbert Wiener*. Cambridge, MA and London, Eng.: MIT Press.

Heims, Steve J. 1991. Midcentury U.S.A. In *The Cybernetics Group*, ed., The Cybernetics Group, 1–13. Cambridge, MA: The MIT Press.

Henle, Mary. 1978. One Man against the Nazis – Wolfgang Koehler. *American Psychologist* 33: 939–944.

Hodges, Andrew. 1983. *Alan Turing: The Enigma*. New York City: Simon and Schuster.

Hornstein, Gail A. 1988. *Quantifying Psychological Phenomena*, in *The Rise of Experimentation in American Psychology*, ed., Jill Morawski, 1–25. New Haven, CT: Yale University Press.

Jeffress, Lloyd A. (ed.). 1967. *Cerebral Mechanism in Behaviour: The Hixon Symposium*. New York and London: Hafner Publishing.

Kay, Lily. 2000. Cybernetics, Information, Life. In *Who wrote the book of Life?*, ed., Lily Kay, 104–115. Stanford, CA: Stanford University Press.

Keyser Samuel J., and George A. Miller. 1978. *Cognitive Science 1978*. New York City: Unpublished Report of The State of the Art Committee to The Advisors of The Alfred P. Sloan Foundation.

King, Brett D., and Michael Wertheimer. 2005. *Max Wertheimer & Gestalt Theory*. New Brunswick, NJ: Transaction.

Kuelpe, Oswald. 1887. *Zur Theorie der sinnlichen Gefühle*. Leipzig, Germany: University of Leipzig.

Lamiell, James T. 2006. William Stern (1871–1938) and the 'origin myth' of differential psychology. *Journal fuer Psychologie* 14: 253–273.

Lauener, Henri. 1978. Paul Bernays (1888–1977). *Zeitschrift fuer allgemeine Wissenschaftstheorie* 9: 13–20.

Leahey, Thomas Hardy. 1994. *A History of moden Psychology 2nd ed.* Englewood Cliffs, NJ: Prentice Hall.

Leary, David E. 1973. The Philosophical Development of The Conception of Psychology in Germany, 1780–1850. *Journal of the History of the Behavioural Sciences* 14: 113–121.

Longuet-Higgins, Hugh Christopher. 1973. Comments on the Lighthill Report and Sutherland Reply. *Science Research Council* 1: 37.

Macosu, Paolo. 2003. The Russelian Influence on Hilbert and his School. *Synthese* 137: 59–101.

Mahoney, Michael S. 2011. The History of Computing in the History of Technology. In *The History of Computing*, ed., Thomas Haigh, 113–125. Cambridge, MA: Harvard University Press.

Mandler, George. 2007. *A History of Modern Experimental Psychology: From James and Wundt to Cognitive Science*. Cambridge, MA: M.I.T. Press.

Mandler, Jean, and George Mandler. 1964. *Thinking: From Association to Gestalt*. New York City: Wiley.

Massen, Cristina, and Juergen Bredenkamp. 2015. Die Wundt-Buehler-Kontroverse aus Sicht der heutigen kognitiven Psychologie. *Journal of Psyhology* 213: 109–114.

McCulloch, Warren S., and Walter Pitts. 1943. A Logical Calculus of the Ideas Immanent in Nervous Activity. *The Bulletin of Mathematical Biophysics* 5: 115–133.

McKeen Cattell, James. 1928. Early Psychological Laboratories. *Science* 67: 543–548.

McRae, Norman. 1992. *John von Neumann*. New York City: Pantheon Books.

Metropolis, Nicholas, Jack Howlett, and Gian Carlo Rota (eds.). 1980. *A History of Computing in the Twentieth Century – A Collection of Essays with Introductory Essays and Indexes*. Orlando, FL and others: Harcourt Brace Jovanovich, Publishers.

Miller, George A. 1956. "The Magical Number Seven, Plus or Minus Two" Some Limits on Our Capacity for Processing Information. *Psychological Review* 63: 81–97.

Miller, George A. 1979. *'A Very Personal History', Talk to Cognitive Science Workshop*. M.I.T. Stanford: M.I.T. Press.

Miller, George A. 1986. *Interview with George Miller*. In *The Cognitive Revolution in Psychology,* ed., Bernard Baars, 200–223. New York City: Guilford Press.

Miller, George A. 2003. The Cognitive Revolution: A Historical Perspective. *Trends in Cognitive Science* 7: 141–144.

Nahm, Frederick K. D., and Karl H. Pribram. 1998. Heinrich Kluever – 1897–1979. In *Biographical Memoirs,* ed., National Academy of Sciences, 289–305. Washington D.C.: National Academy Press.

Neisser, Ulric. 1967. *Cognitive Psychology*. New York City: Appleton-Century-Crofts.

Newell, Allen. 1985. Duncker on Thinking: An Inquiry into Progress in Cognition. In *A Century of Psychology as Science: Retrospections and Assessments*, eds., Koch, Sigmund and David Leary, 392–419. New York City: McGraw-Hill.

Newell, Allen, and Herbert Simon. 1956. The Logic Theory Machine – A Complex Information Processing System. *IEEE Trans. Inform. Theory* 2: 61–79.

Norman, Donald A., and David E. Rumelhart. 1975. *Explorations in Cognition*. San Francisco, CA: Freeman.

Offray de La Mettrie, Julien. 1912. *Man a Machine*. Chicago, Il: The Open Court Pub. CO.

Ogden, Robert M. 1951. Oswald Kuelpe and the Wuerzburg School. *The American Journal of Psychology* 64: 4–19.

Pachella, Robert. 2010. Experimental Psychology. In *Creating the Modern Michigan Psychology Department: The Chairmanship of Donald Marquis (1945–1957)*, ed., Robert Pachella, 79–101. Ann Arbor, Michigan: Psychology Department.

Pea, Roy D. 1982. Werner's Influence on Contemporary Psychology. *Human Development* 25: 303–308.

Pias, Claus (ed.). 2003. *Cybernetics: The Macy Conferences 1946–1953*. Zurich and Berlin: Diaphanes.

Pickren Wade E., and Alexandra Rutherford. 2010. Subject Matter, Methods, and the Making of a New Science. In *A History of Modern Psychology in Context*, ed., Pickren, Wade E., and Alexandra Rutherford, 42–70. Hoboken, NJ: John Wiley.

Priestley, Mark. 2011. *A Science of Operations – Machines Logic and the Invention of Programming*. London, Eng.: Springer Verlag.

Probst, Paul, and Wolfgang G. Bringmann. 1993. Ernst Meumann und William Stern: Analyse ihres Wirkens in Hamburg (1910–1933) unter Beruecksichtigung biographischer und soziokultureller Hintergruende. *Geschichte Der Psychologie* 10: 1–14.

Rider, Robin E. 1984. Alarm and Opportunity: Emigration of Mathematicians and Physicists to Britain and the United States, 1933–1945. *Historical Studies in the Physical Sciences* 15: 107–176.

Schnall, Simone. 1999. Life as the Problem: Karl Duncker's Context. *From Past to Future* 1: 13–28.

Schultz, Duane P. 1969. Physiological Influences on Physiology. In *A History of Modern Psychology*, ed., Duane P. Schultz, 37–54. New York City: Academic Press.

Selz, Otto. 1913. *Ueber Die Gesetze Des Geordneten Denkverlaufs*. Stuttgart, Germany: W. Spearmann.

Smalheiser, Neil R. 2000. Walter Pitts. *Perspectives in Biology and Medicine* 43: 217–226.

Sokal, Michael M. 1984. The Gestalt Psychologists in Behavioristic America. *The American Historical Review* 89: 1240–1263.

Sturm, Thomas. 2012. Buehler And Popper: Kantian Therapies for The Crisis in Psychology. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 43: 462–472.

Sturm, Thomas, and Horst Gundlach. 2013. Urspruenge und Anfaenge der Kognitionswissenschaft. In *Handbuch Kognitionswissenschaft*, eds., Stephan, Achim, and Sven Walter, 7–15. Stuttgart. Germany: Metzler.

Tinker, Miles A. 1980. Wundt's Doctorate Students and Their Theses 1875–1920. In *Wundt Studies*, ed., Bringmann, Wolfgang A. and Ryan D. Tweney, 269–279. Toronto, ON: C. J. Hogrefe.

Tolman, Edward C. 1956. Egon Brunswik: 1903–1955. *The American Journal of Psychology* 69: 315–324.

Ulam, Stanislaw. 1958. John von Neumann. In *John von Neumann – 1903–1957*, eds., Oxtoby, John C., Billy J. Pettis, and G. Baley Price, 1–49. Providence, Rhode Island: American Mathematical Society.

Valsiner, Jaan. 2012. The Mirror in the Making: Psychology as a Liminal Science. In *A Guided Science – History of Psychology in the Mirror of its Making*, ed., Jaan Valsiner, 75–170. New Brunswik, NJ: Transaction.

Von Hoeckendorf, Vincent, and Frank W. Stahnisch. 2015. Stephen William Kuffler (1913–1980). *Journal of Neurology* 263: 1258–1260.

Von Neumann, John. 1945. *First Draft of a Report on The EDVAC*. Philadelphia, PA: Moore School of Electrical Engineering, University of Pennsylvania.

Walter, Sven. 2013. Introduction to the Handbuch Kognitionswissenschaft. In *Handbuch Kognitionswissenschaft*, eds., Stephan, Achim, and Sven Walter, 1–5. Stuttgart, Germany: Metzler.

Wapner, Seymour, and Kaplan, Bernard. 1964. Heinz Werner: 1890–1964. *The American Journal of Psychology* 77: 513–517.

Watson, John B. 1913. Psychology as the Behaviorist Views it. *Psychological Review* 20: 158–177.

Weimer, Walter B. 1974. The History of Psychology and Its Retrieval from Historiography: I. The Problematic Nature of History. *Science Studies* 4: 235–258.

Wiener, Norbert. 1961. *Cybernetics; or, Control and Communication in the Animal and the Machine*. New York City: M.I.T. Press.

Wildgen, Wolfgang. 2001. Kurt Lewin and the Rise of 'Cognitive Sciences' in Germany: Cassirer, Buehler Reichenbach. In *The Dawn of Cognitive Science – Early European Contributors*, ed., Liliana Albertazzi, 299–332. Amsterdam, The Netherlands: Springer Netherlands.

Williams, Michael R. 1985. *A History of Computing Technology*. Englewood Cliffs, N.J.: Prentice-Hall.

Williams, Michael R. 1997. *History of Computing Technology*. Los Alamitos: IEEE Computer Society Press.

Williams, Michael R. 2007. Difference Engines from Mueller to Comrie. In *The History of Mathematical Tables: From Sumer to Spreadsheets*, ed., Campbell-Kelly, Martin, 123–144. Oxford, Eng.: Oxford University Press.

Witkin, Herman A. 1965. Heinz Werner: 1890–1964. *Child Development* 36: 306–328.

Wolf, Bernhard. 1986. Theoretical Positions of Kurt Lewin and Egon Brunswik – Controversial or Complementary Points of View? In *Lewin Legacy*, ed., Stiversand, Eugene, and Susan Wheelan, p. 40–51. Berlin, Heidelberg, Germany: Springer Verlag.

Wundt, Wilhelm. 1904. *Principles of Physiological Psychology*. London, England: S. Sonnenschein & Co., lim.; New York: The Macmillan Co. Originally published as *Die Grundzuege der physiologischen Psychologie* in 1873.

Zemanek, Heinz. 1970. Otto Schaeffler: Wiener Pionier der Lochkartentechnik. *It—Information Technology* 12: 133–134.

Zach, Richard. 2007. Hilbert's Program Then and Now. In *Handbook of the Philosophy of Science, Philosophy of Logic*, ed., Jacquette, Dale, 411–447. Dordrecht, The Netherlands: Elsevier B.V.

Zuse, Konrad. 1984. *Der Computer – mein Lebenswerk*. Berlin, Heidelberg, Germany, New York City, Tokio, Japan: Springer Verlag.

"REASON FOR DISMISSAL? – JEWISH FAITH:" ANALYSIS OF IN THE SPSL IMMIGRATION APPLICATIONS BY GERMAN-SPEAKING NEUROLOGISTS

Aleksandra Loewenau

Calgary Institute for the Humanities

Abstract:

Two months after Adolf Hitler (1889–1945) had been proclaimed the Reich-Chancellor, the first anti-Jewish law was passed in Nazi Germany, based on which "non-Aryan" academics and researchers were dismissed from their state-supported positions. These scholars were desperate to flee Germany, due to the appalling treatment they had been subjected to regardless of their academic status and scientific achievements. The growing socio-political tensions in Germany attracted considerable awareness by British scientists, who — lead by Sir William Beveridge (1879–1963) — established the *Academic Assistance Council* (later known as the *Society for Protection of Science and Learning*; SPSL). Between 1933 and 1945, the SPSL assisted several thousand scholars in need by providing stipends and placements at universities or research institutions in the United Kingdom and elsewhere. Among the fortunate émigrés were world-renowned professors as well as young and upcoming scientists. Regardless of their level of expertise, these young academics and physicians were equally distressed by the way they were treated and desperate to flee Germany. The SPSL immigration questionnaires and other supporting materials provide an insight today into events, which the applicants had to go through at the time. They furthermore present their hope to rebuild their lives and careers in their new host country in considerable detail.

This article analyses the work and family life of German-speaking neuroscientists as well as the political context and SPSL responses to Nazi and British policies. It focuses on applicants' social and scientific context at the time, by also emphasizing how the drastically worsening situation in the *Third Reich* affected refugees' morale, and increased their efforts in escaping the country. The case of émigré neuroscientists is particularly insightful, as this group encompassed an interdisciplinary and heterogeneous group of psychiatrists, neurologists, psychologists, and experimental biologists, which allows for useful cross-comparisons.[485]

[485] This article is an extended version of a paper presented at the 2016 Humanities and Social Sciences Congress at the University of Calgary, May 28–30, 2016. The author is grateful for the recommendations and suggestions from two anonymous referees and wishes to thank Frank W. Stahnisch, for his editorial read and constructive comments, and Paul J. Stortz for his adjustment of the English language of the final article.

Keywords:

Austria, Germany, immigration, neuroscientists, North America, refugees

> *"It is heartbreaking what is happening on our continent. We cannot keep turning our backs on this. We can — and must — do more. If every area in the UK took just 10 families, we could offer sanctuary to 10,000 refugees. Let's not look back with shame at our inaction."*
>
> Yvette Cooper, British Labour Party Politician and Shadow Home Secretary of Britain, commenting on Syrian refugee crisis, September 3, 2015

Introduction

While discussing the issue of the Jewish refugee crisis, which emerged in Europe in the 1930s after Hitler had gained power in Germany, one should emphasize considerable societal and political changes that had previously occurred after the Great War. The Great Depression and the growing fear of Bolshevism awoke far-right tendencies across Europe. Defeated in the Great War, Germany was forced to take a sole responsibility for the war and to pay extensive war reparations, which contributed to mass unemployment. The sudden transformation of German political formations from both the far right and the far left — and from a traditional monarchy to a parliamentary republic — led to a ruthless fight for power between German political fractions creating chaos and corruption.[486] Therefore, the early 1930s campaign program of the Nazi Party (NSDAP), which promised to decrease unemployment and bring Germany back to their prestigious political position in Europe, gained substantial support from the public. It led the party and then Hitler himself to political victory. Nazi policies attracted a lot of attention at home and abroad. International observers focused primarily on the economic achievements of the newly established *Third Reich* turning a blind eye on persecution of Jews and political opponents.[487]

Meanwhile, Fascists' organizations and legislations had been established in several countries worldwide. In Poland, for example, several universities introduced so-called "ghetto benches," which aimed at segregating Jewish students from gentiles by placing them on one side of the student lecture theatres. Moreover, Polish-Jewish students' transcripts were further

[486] Ritschl, 2013, p. 110–139.
[487] Cf. Nagorski, 2013, p. 113–129.

marked with "J" as *Jude*.[488] Nazi sympathies also spread to Britain, where in 1932 Sir Oswald Edward Mosley (1896–1980) created the *British Union of Fascists* that existed until 1940.[489]

Weeks after Hitler had taken control over Germany, the first concentration camp was created in Dachau in Bavaria.[490] On April 7, 1933, the Nazi government passed the "Law for the Re-Establishment of a Professional Civil Service" (*Gesetz zur Wiederherstellung des Berufsbeamtentums*) according to which those with "non-Aryan decent" were forbidden from being employed in any branch of the civil service, and those already hired were dismissed. Contracts of thousands of tenured academics and researchers were terminated. Consequently, an ever-increasing number of Jewish medical scholars tried to escape the Nazi terror in Central Europe.[491]

The dismissal of German academics and scientists in 1933 formed part of other alarming events, including the boycott of Jewish businesses which took place across Germany; the introduction of the Nuremberg Race Laws of 1935,[492] stripping Jews of their German citizenship and prohibiting them from sexual relations and marriage with German gentiles. The growing concerns about the terror following *Kristallnacht* of November 9, 1938, also initiated protests from many international public groups against the Nazi persecution of Jews.[493] Consequently, a number of organizations were established worldwide to assist Jews in their efforts to immigrate to safer designations. One of the most successful organizations was the British-based Academic Assistance Council,[494] which in 1936 consolidated under the *Society for the Protection of Science and Learning* (SPSL).[495] This article investigates documentation within the archive of the SPSL, recording the personal and professional situations of refugee academics in Europe before and during the Second World War, along with the efforts made by SPSL to help them, and the outcomes of these activities. In 1988, the SPSL deposited its archival document collection in the Bodleian Library at the University of Oxford. This collection includes both administrative and personal files of individuals who received aid from the SPSL. Based on correspondence exchange between applicants and the SPSL, an original interpretation of the stressful experiences related to immigration processes of German-speaking

[488] Natkowska, 1999, p. 7–9.
[489] Holmes, 2016, p. 91–96.
[490] Marcuse, 2008, p. 21–23.
[491] Sherman, 2013.
[492] Bock, 2010.
[493] Kaplan, 1998, p. 121–124.
[494] *Academic Assistance Council* (thereafter AAC).
[495] The activity of the *Society for Protection of Science and Learning* (thereafter SPSL) has never been suspended. In 1999 SPSL changed its name to *Council for At-Risk Academics*, which still exists. See http://www.cara.ngo. Accessed 15 June 2016.

neuroscientists[496] can be garnered.[497] The sources are limited in terms of the scientific and medical perspective they offer together with the personal narratives and descriptions. The quantity of German-speaking neuroscientists, who were assisted by the SPSL, is difficult to establish with precision; however, the SPSL collection that was deposited to the Bodleian Library holds the files of 111 scholars in total.[498] The émigré neuroscientists contributed with their lived experiences and the need to reintegrate into their receiving scientific and professional communities to many new ideas in related research fields, such as neurology, psychiatry, and neuropathology, during and after the Second World War, while visibly enriching the intellectual culture in their new home countries.

Society for the Protection of Science and Learning (SPSL)

Applying Procedures

The AAC officially began operating on 24 May 1933, after the political philosopher and economist Sir William Beveridge (1879–1963) of the London School of Economics (LSE) had published an announcement signed by several Nobel prize winners from the United Kingdom. Beveridge learned about the dismissal of German-Jewish academics during his trip to a conference in Vienna and was much appalled by the way the Nazi government in Germany treated its scientists. By August, the AAC had raised close to £10,000 in assistance funds. The AAC hereafter used the money to provide one-year grants to academics in need. This help was however meant to be temporary since Beveridge had hoped that the "Jewish crisis in Germany" would end sooner or later. The early AAC organization provided two types of stipends: £250 per annum for scholars with families and £182 per annum for unmarried academics. The idea was to first provide stipends and then to help find temporary placement for refugee academics at British universities and research institutes, because this temporary employment was one of the requirements imposed by the British government.[499]

The information about the creation of the AAC had spread very quickly in the scientific community. By late summer of 1933, the organization had already received hundreds of letters asking for help. Given that the situation in Germany became out of control, some professionals

[496] The terms "neuroscience" and "neuroscientist" are used here as descriptive and thus ahistorical notions, encompassing contemporary neuroanatomists, neurophysiologists, neurologists, psychologists, and neuropathologists.
[497] For more information on the history of SPSL, see Zimmerman, 2006, p. 22–45.
[498] There are files for 71 refugees in the field of neurology and 40 in psychology in the archival collection. SPSL Collection, Bodleian Library (I.20.11 Neurology — Shelfmarks: MSS. S.P.S.L. 393, – 9 / I.17 Psychology — Shelfmarks: MSS. S.P.S.L. 343/7 – 348/7).
[499] Ibid.

even began applying before their official dismissal took place. Dr. Alfred Storch (1888–1962)[500] — who at that point took a nine-months fellowship at the Muensingen Mental Hospital in Switzerland — wrote to the AAC on August 28, 1933:

> It is necessary for myself to get any protection […]. I would be very glad to receive any information of you, if it is possible to work in my proper department in an English Hospital.[501]

Each applicant had to follow strict rules when requesting aid from the AAC/SPSL. This, for example, involved providing several professional references, a list of publications, and a completed application questionnaire. Most of the neuroscientists, along with other kinds of scientists and academics, began gathering their supporting documents months, sometimes even years before submitting their finalized applications. The AAC/SPSL questionnaires consisted of four pages. The front page of the questionnaires presented the general information such as name, age, nationality, profession, specialization, place of work, and a list of people who would vouch for the applicant's grade of expertise. Having famous referees and work contacts in the United Kingdom and United States was seen as an advantage for many academic refugees. The second page contained questions regarding: (a) the reason for dismissal — most of the time the Jewish origin was provided, and in about 12% of the cases their political inclinations were provided as the main reason for being fired; (b) the date of dismissal; (c) applicant's financial situations — whether he/she had other income or was entitled to a state pension; and (d) whether the applicant had a professional position available for him or her abroad. In fact, the vast majority of the émigrés (up to 95%) were male, while the questionnaires were also inquiring about the status of family members to be supported by the ACC/SPSL. The clinical psychologist Olga Marum (1894–1944) from the Munich rehabilitation institute, which had been headed by the neurologist Max Isserlin (1879–1941), is a notable exception in this regard. She also approached the ACC/SPSL on her arrival in Britain in 1937, obtaining a partial scholarship that supplemented her research fellowship in relation to her adjunct appointment with the University College London, lasting until after the end of the Second World War.[502] Dr. Marum however could not fully reintegrate into the neurological and psychological communities in Britain and died tragically a year before the end of the war during a German V2 ("retribution weapon") rocket attack on the city of London, the morning of November 25,

[500] Dr. Alfred Storch was born in 1888 in Hamburg. He specialized in psychiatry and worked at the University Clinic in Tuebingen until his dismissal due to Jewish origin. He immigrated to Switzerland where he worked at the Mental Hospital in Muensingen until 1954. He died in 1962 in Muensingen.
[501] SPSL Collection, Bodleian Library, Oxford University, Folder Adolf Storch, *Letter* to the AAC by Adolf Storch, August 28, 1933 (Shelfmark: MS. S.P.S.L. 399/1).
[502] See Olga Marum's file, SPSL Collection, Bodleian Library, Oxford (Shelfmark: MS. S.P.S.L. 523/4).

1944.[503]

All of this information was essential for the ACC/SPSL's evaluation of the urgency of the case of each applicant. The third page of the questionnaire dealt with religion and language skills — fluency and publications in English were seen as an assurance that the candidates would be able to adapt, and more importantly, to communicate with colleagues in English-speaking countries. Additional questions referred to their marital status, and whether refugees had children or not. The final issue listed on the questionnaire, was their desired destination. Here the applicants were able to list countries they wished to emigrate to, but likewise to agree or disagree on regions and destinations such as tropical countries, the Far East, Soviet Union, and South Africa. Based on document analysis, I have been able to establish for the first time that single professionals were more willing to explore countries outside of Europe, whereas neuroscientists with families were rather reluctant to travel to the British colonies due to "unfavourable climate" that was "too hard for their wives."[504]

High Demand and Limited Resources

By 1935, the Nazi racial policies had become more oppressive. While in 1933, the ACC had restrained from commenting on the terror imposed by the Nazi regime on their Jewish citizens, by 1935 they not only openly condemned the Nazi government for their actions against academics in their country, but also began emphasizing the racial topic that had increasingly become apparent. On January 16, 1936, the SPSL Secretary, Esther Simpson (1903–1996)[505] enquired information from the philosopher Prof. George Stout (1860–1944) of St. Andrews University, regarding potential help for neurology professor Erwin Strauss (1891–1975)[506] stressing the reason of his dismissal was "his non-Aryan ancestry."[507] At that point, the crisis was no longer a temporary one and more extensive funds were needed to be secured. The SPSL began to approach banks and other major financial institutions, yet the outcome was a rather marginal one. Another issue was finding permanent academic or medical placement, which proved to be very difficult since hardly any British institution was able or willing to guarantee a placement. Anti-Semitism drove some institutional refusals, yet most of the institutions

[503] See also in Starr-Egger, 2017, p. 96–113; esp. 105f.
[504] SPSL Collection, Folder Samuel Last, Questionnaire (Shelfmark: MS. S.P.S.L. 396/5).
[505] Esther Simpson was born in 1903 in Leeds. She studied modern languages at the University of Leeds. Simpson was hired as the SPSL secretary in July 1933. She retired in 1978 after over forty years of service. In 1956, she received an Order of the British Empire Award. She died in London in 1996.
[506] Prof. Erwin Strauss was born in 1891 in Frankfurt am Main. He was trained as a neurologist and worked in Berlin until his dismissal in 1938. He later immigrated to the United States where he settled in Kentucky. He died in 1975 in Lexington in Kentucky.
[507] SPSL Collection, Folder Erwin Strauss, *Letter* to Stout by Esther Simpson, January 16, 1936 (Shelfmark: MS. S.P.S.L. 399/3).

genuinely struggled themselves financially at the time. In some cases, refugee scholars were allowed to use institutions' facilities free of charge. Despite such major obstacles, however, by 1937 the SPSL had been directly or indirectly involved in supporting eighty scholars from across the disciplines related to neuroscience. A year later, the number of permanently placed increased to 127.

The high demand that the SPSL had experienced during the first years of its operation put a lot of pressure on the organization's finances. Thus, the SPSL began being more selective, and it opted for providing aid to those whose situation had become the most urgent. The policy of the British government for admitting the best in the field did not help in this respect. Favoured were, for example, promising scientists from whom British psychiatry could benefit.[508] While analysing the SPSL questionnaires of German-speaking neuroscientists, one can observe that most of the scholars coming to North America were between twenty-eight and forty-one years old. Applications from younger neuroscientists, to the contrary, were processed quicker since most of them arrived in 1933 and in 1938 in the case of Austrian and Czech refugee academics. Younger neuroscientists, particularly those who were not married, were more open to work in tropical British colonies and, as in the case in Leopold Deutsch (b. 1907),[509] willing to temporarily accept unpaid work.[510] And here ageism in the scientific establishment was quite prevalent. Older scholars experienced serious issues and delays awaiting immigration. Psychiatrist Max Schacherl's (1876–1964)[511] application from 1938 was initially denied by the SPSL due to restrictions on the number of admitted Austrians. The information provided in his file shows that he came to Great Britain using his own resources. Schacherl was nevertheless unable to find paid work even after the *Temporary Registration Order* had been enacted.[512] His assessing officer attributed this to his advanced age and poor knowledge of English, while younger German scientists also tended to speak and write better English.[513]

While dealing with financial difficulties, the SPSL began approaching other organizations to secure funding for scholars in need. Thus, one of the major international

[508] Cf. Weindling, 2009a, 451–459.
[509] Dr. Leopold Deutsch was born in 1907 in Galocz in Austria-Hungary. He specialized in psychiatry and neurology and worked in Vienna until his dismissal in 1938. Deutsch then immigrated to Britain in 1939.
[510] See Leopold Deutsch's file, SPSL Collection, Bodleian Library, Oxford (Shelfmark: MS. S.P.S.L. 393/7).
[511] Dr. Max Schacherl was born in 1876 in Vienna. He specialized in psychiatry and neurology and worked at the Kaiser Josef Hospital of the Austrian capital. He was dismissed after the *Anschluss* of Austria in 1938. As a result, he immigrated to London but returned to Austria in 1946 where he died in 1964.
[512] In January 1941, this Temporary Registration Order was passed, acknowledging foreign professional qualifications and allowing for example the employment of refugee scientists and physicians in the British armed forces. Weindling, 2007, p. 141–154.
[513] SPSL Collection, Bodleian Library, Max Schacherl Folder (Shelfmark: MS. S.P.S.L. 398/5).

agencies for the advancement of science to be approached was the Rockefeller Foundation. By then the foundation had had a long tradition of sponsoring medical research conducted by German-speaking professionals and scientists. The organization, however, operated according to fairly strict rules. This means that, a potential candidate was expected to hold a permanent position within a research institution, a condition, which was a considerable obstacle given that most of the refugee scholars managed to secure only temporary positions. A second limitation referred to nationality. Stateless applicants were not being considered. These included many Jewish scientists who had been stripped of their nationality by the Nazi regime. In response to these challenges, the SPSL hoped to create some kind of cooperation with the Rockefeller Foundation. This plan had never been utilized before, since, after a period of almost two years, the foundation opted to act independently. Meanwhile, the intensification of the discriminating Nazi policies against Jews and political opponents influenced the foundation to ease their conditions. Consequently, several scholars who previously had received the foundation's support were awarded research grants that enabled them to continue their research mainly in the United States, but also to a lesser extent in Britain.[514]

After the *Anschluss* of Austria on March 12, 1938, the crises deepened. A new approach had to be developed that aimed at finding placement for the refugees at academic institutions and, in the case of psychiatrists and neurologists, potentially in medical research institutes both in Britain and abroad. Experiencing increasing financial issues and hostility towards the refugees' cause, the SPSL began to encourage the applicants to seek help elsewhere:

> We shall do our best to help you, though it is only fair to warn you that conditions now are very difficult indeed. If you have any contacts in U.S.A., we would advise you to get in touch with them without delay, as there are better prospects in that country than in Europe.[515]

[514] Weindling, 2000, p. 477–489; here p. 481.
[515] SPSL Collection, Bodleian Library, Ernst Straussler Folder, *Letter* to Dr. Straussler by Esther Simpson, 25 November 1938 (Shelfmark: MS. S.P.S.L. 399/5).

Obstacles

The Hostility of the British Scientific Community towards Jewish Medical Professionals

The attitude of the British general public towards Jewish refugees arriving in the early 1930s was rather sympathetic. The overall perception was that Britain required a number of manual workers and domestic servants, and therefore the newcomers were expected to fill those vacancies. Within five years, this positive approach began to change from rather reserved to openly hostile, especially when the number of refugees steadily rose after the *Anschluss* of Austria. Scholars like Louise London have argued that the British Government's immigration policies were focused on maintaining low unemployment, and altruism towards persecuted European Jews was not on their agenda. Additionally, by imposing limitations on the number of admitted German and Austrian Jews, the government allegedly prevented a potential domestic anti-Semitism from escalating.[516]

The living situation and personal fate of the refugee scientists' and doctors' experiences further allows us to gain valuable insights into the social atmosphere and political situation of wartime Britain. The *British Medical Association* (BMA) expressed a strong resentment towards medical refugees, since they were seen as a potential competition when applying for jobs. Thus, the BMA and the M*edical Practitioners' Union* pressured the Home Office to limit the number of admitted medical professionals to a bare minimum. In addition, the British medical establishment managed to impose quite strict requirements on the ability to practice in Great Britain. One of these restrictions was requalification. Italian professionals were much favoured, as their connection with previous political, eugenic, and racial views was much less seen as an issue, unlike Germans and Austrians. Thus, in order to practise medicine, refugees were obliged to sit for additional exams in anatomy and physiology. Further issues arose by the fact that the regulations to obtain medical licences became decentralized, for example at the Scottish medical schools or the royal colleges of physicians and surgeons in England and Wales. In England, where the concentration of medical refugees was the highest, the requalification process lasted two years, whereas in Scotland only one year. Hence, many of the émigré physicians chose to re-qualify in Scotland, by likewise using the extramural program of the royal college in Edinburgh as their point of entry into the community.[517]

The resentment of the medical establishment, however, even went beyond the common fear of unemployment. While the medical education system in Britain in the 1930s and 1940s remained unregulated, the German system had been standardized long before and was based on

[516] London, 2000, p. 1–2.
[517] Collins, 2009, p. 519–530.

active research, thus admitting large numbers of foreign-trained medical professionals also imposed a threat of potential changes to the "cozy," elite-oriented, and chauvinistic medical establishment on the British Isles.[518]

The *Anschluss* of Austria, and the new wave of refugees that came after that, further deepened the hostility of the British government and medical establishment. Despite of early signs of sympathy towards Austrian physicians expressed by the general public, in late May 1938 a visa entry system was introduced, which regulated the arrival of all Germans and Austrians in Britain from that point on.[519] The Home Office followed the suggestions of the British Medical Association and put a cap on the number of admitted Austrians — up to fifty per year. A number of physicians, particularly women, further managed to enter the country as domestic servants and as nursing aids in low status positions. Some medical professionals arrived completely on their own expenses. Due to various limitations on the labour market, they were forced to work *pro bono* as Dr. Schacherl explained in his letter to secretary Simpson dated on February 24, 1942:

> I am assistant to Dr. Hector […] so I [have] the possibility for practise in my profession as a neurologist, but until now I hardly [see] a patient […] I am not paid, but I would get three quarters of any amount I would get. So I have to wait for the amount. So I do.[520]

From Refugees to "Enemy Aliens:" Internment

The concept of internment of "enemy aliens" was previously introduced by the British Empire as a security measure during the South African War (1899–1902) and the Great War.[521] However, the new scale and harsh implementation of this enterprise harmed the international reputation of Britain. Therefore, during the months–long debates on the issue of "enemy aliens" that took place over the summer 1939, the Home Secretary, Sir Samuel Hore (1880–1959), decided that Britain would implement a tribunal system, which relied on an individual assessment of each "enemy alien."[522] According to this policy, foreign-born residents of Britain were judged upon their political inclinations and social connections rather than their nationality. Many politicians viewed this as time-consuming, unreliable, and costly. All together 73,353 "enemy aliens" appeared before tribunals. The majority (64,244) were marked as category "C" — loyal to the British and free of any restrictions since they did not impose any threats to British society or, more importantly, to the security of the country. A considerable number (6,782)

[518] Weindling, 2009b, p. 489–519.
[519] Sherman, 2013.
[520] SPSL Collection, Max Schacherl Folder, *Letter* to Esther Simpson by Max Schacherl, 24 February 1942 (Shelfmark: MS. S.P.S.L. 398/5).
[521] Panayi, 1993, p. 53–78; Van Heyningen, 2013.
[522] Kushner, 2013, p. 53–87; esp. p. 84.

was classified as category "B" — which consisted of those whose loyalty raised some doubts, and therefore certain limitations were imposed on them, the most important being no freedom of movement. A very marginal number of "enemy aliens" belonged to category "A" — those included about 569 persons who were known to the British authorities for having strong pro-Nazi sympathies for which they were immediately subjected to internment, while communists and socialists also tended to be placed in category "B."[523]

In April 1940, the "phoney war" came to an end and along with it the general compassion towards German-speaking refugees in Britain. On May 10, 1940 King George VI (1895–1952) confirmed nomination of Winston Churchill (1874–1965) as the new Prime Minister of Britain. One of Churchill's first initiatives was internment of "enemy aliens" who were placed within category "B." Several days later, residents in category "C" who were expected to potentially impose a threat to the British society, by planning terror attacks of spying out military secrets were also subjected to internment.[524] At this point targets were mostly Germans and Austrians, regardless of religion or political views. The situation changed after Italy had joined the Axis against the Allies on June 10, 1940. This decision generated an immediate reaction of the British government. All male Italians of an age between 16 and 70, and whose residency in Britain was fewer than twenty years, were also interned.[525] Unlike Germans and Austrians, only a few Italians were refugees who escaped Fascism in their country. In fact, most were economic immigrants who had lived in Britain for a long time, and were in general well-integrated into British society. Around 4,000 men were arrested. Among them were approximately 1,500 "dangerous" members of the fascist party.[526]

Finally, on June 21, 1940 an order was given to call all remaining male "enemy aliens" who were of military age.[527] By July of the same year 27,200 inmates, including 4,000 women, had been interned.[528] The individual assessment based on political views instead of nationality was quickly abandoned in the face of a threat of Nazi invasion. Churchill's decisions to protect Britain by internment of thousands of "enemy alien" were met with serious obstacles, the most important being lack of accommodation and insufficient food supplies. Therefore, as early as May 1940 the cabinet began pressing on several governments of Commonwealth countries, including Canada, India, Australia, and New Zealand, to share the burden of "unwanted enemy

[523] Denness, 2012, p. 218.
[524] Zimmermann *et al.*, 2015, p. 24.
[525] Sponza, 2005, p. 151–163.
[526] Ibid., p. 154.
[527] Denness, 2012, p. 250.
[528] Gillman and Gillman, 1980, p. 173.

aliens."[529]

The sudden change of attitude towards "enemy aliens" was partially dictated by the fear of the public opinion. The unexpected attack on Scandinavia, and later on Belgium, and finally on France came as a shock after a relatively calm period of "phoney war." Even more concerning was the rapid defeat of the Western Allies, which left Britain alienated and frightened. The British press maintained a rhetoric that the sudden capitulation of the Allies on the continent was caused by an inside infiltration by Hitler's spies called "the fifth column." Thus, from that point onwards every alien was under suspicion. Approximately 85% to 90% of the 80,000 "enemy aliens" who entered Britain in the 1930s were German-speaking Jews who had experienced Nazi persecution first hand before fleeing for Britain. Previous empathy towards them was replaced with xenophobia and, in some cases, anti-Semitic prejudices. As historian Zoë Denness argues, the attitude of the British was mainly anti-alien. She based her analysis on Home Intelligence reports published simultaneously according to which British public opinion regarding the "enemy aliens" depended on "military developments."[530] Consequently, the attitude towards Belgians residing in Britain rapidly deteriorated after the defeat of Belgium. Respectively, the attitude towards Italians became very hostile after Benito Mussolini (1883–1945) had declared war on the Allies. Thus, the interment policy of Jewish refugees was related to their nationality rather than their religion.[531] Historian Gavin Schaffer, in contrast, brings out a very interesting point by stating that during the public discussion about the internment of "enemy aliens," many accusations against Jews had surfaced, including: their disloyalty, unclear national identity, issues with social integration, and putting self-interest first. The perceptions of Jews as newly stateless combined negatively with pre-existing stereotypes, e.g. of the "wandering Jew," compounding latent anti-Semitism.[532]

Many scholars have previously analyzed the implementation of the internment policy by the British government. Charmian Brinson, for example, emphasized that also many women were interned at the Rushen camp on the Isle of Man.[533] The common belief was that women would excel as members of "the fifth column" of the Nazis, since they would be able to manipulate men through flirtatiousness, sex appeal, and personal appearance.[534] Consequently, women of German and Austrian origin were also subjected to tribunal evaluations, as were their

[529] Zimmermann et al., 2013, p. 23–44.
[530] Denness, 2012, p. 251–261.
[531] To some degree this argument can be supported by the attitude of the Military Intelligence, Section 5 (M15) that "warned" the government that Nazi Germany created the Jewish issue in order to flood Britain with German agents. Denness, 2012, p. 246; also: Zimmermann *et al.*, 2013, p. 30.
[532] Schaffer, 2008, p. 80–82.
[533] Brinson, 2005, p. 101–119.
[534] Denness, 2012, p. 251–261.

male compatriots. Rushen Women's camp began operating on May 29, 1940. It held nearly 4,000 women in total. Those interned had been previously categorized as "A" or "B".[535] At the onset of the revision of the British treatment of the "enemy aliens" all women, who had been involved in Nazi movements in Britain, were nearly immediately placed in the internment camps.[536] Brinson further emphasizes the prompt creation of an active pro-National Socialism movement in the camp.

British administration, however, failed to control the situation, and as a result the Nazi sympathizers managed to create several Aryan houses at the camp. The camp administration struggled with many practical and organizational issues including the shortage of beds. Jews often had to share their beds and rooms with Nazi sympathizers, and consequently were exposed to constant chicanery. Rushen camp was not an isolated case. The hostility towards Jewish inmates and the lack of intervention of the administration was quite common in the British-run internment camps.[537]

German-speaking neuroscientists were subjected to the same treatment as other refugees and many of them were interned as well (see Table 1). Their contribution to science was irrelevant. For some of them, and for the SPSL, verdicts of tribunals came as unpleasant surprises, for instance, as expressed by Esther Simpson in a letter to Dr. Hans Adolf Thorner (1905–1991) dated October 24, 1939:[538]

> The particulars which we sent to your tribunal have been returned to us today with the mark "B". If this is not a mistake, the tribunal has not exempted you from the special restrictions […] in some places people like yourself who have been here six years and who are well established, and whose police records are absolutely clear, have not had the restrictions removed.[539]

Refugees were placed in overcrowded camps that often lacked basic furniture and security. They were given poor quality food, and were exposed to much violence from the Nazi sympathizers.[540] Families of neuroscientists, who were interned, desperately sought active help from the SPSL. On July 1, 1940 Anna Stengel (1893–1983?), the wife of Dr. Erwin Stengel,[541]

---

[535] Women who had been place in category "C" were not subjected to internment.
[536] The number of Nazi sympathizers in Britain had been on the rise ever since Hitler had seized power in Germany. By March 1939, membership of the 'Fascist organizations' in Britain (both German and Italian) had reached 1,700.
[537] Brinson, 2005, p. 102.
[538] Dr. Hans Adolf Thorner was born in 1905 in Meissen in Germany. He specialized in psychology and neurology and worked at the University of Munich's clinical department of psychiatry and neurology. He immigrated to Britain via France in 1933 and worked in Peckham House Mental Hospital in London, England. He died in 1991.
[539] SPSL Collection, Bodleian Library, Hans Adolf Thorner Folder, *Letter* to Dr. Thorner by Esther Simpson, October 24, 1939 (Shelfmark: MS. S.P.S.L. 399/6).
[540] Zimmermann et al., 2013, p. 25.
[541] Dr. Erwin Stengel was born in 1902 in Vienna in Austria. He specialized in psychiatry. After the *Anschluss* of Austria, he immigrated to Britain where he worked in Bristol and Sheffield. He died in 1973.

wrote to secretary Simpson:

> I believe it is my duty to inform you that we had to leave Bristol in 3 days as it became protected area. We went to [Wales] on the 14th of June and here my husband has been interned on the 29th of June. I have not heard of him ever since and do not know where he has been taken to. My husband was employed at the Mental Hospital in Bristol as [a] doctor for research.[542]

The position of Dr. Stengel was particularly difficult since as his wife explained:

> He also should take the first part of his medical examinations in December 1940 and his final exams in June 1941 for the English Medical Degree at University of Bristol.[543]

Given that a considerable number of SPSL applicants had been interned, precise procedures were being undertaken in each case. On July 3, 1940, Esther Simpson responded to Anna Stengel:

> We are trying to obtain the release of people who were doing work of national importance at the time of their internment […]. I am hoping that special consideration will be given to medical people.[544]

The situation of Dr. Herman Josephy (1887–1960)[545] was somewhat similar. Simpson was alarmed by his wife and began immediate efforts for his release in accordance with standards set up by the British government. On July 17, 1940, she contacted the director of the Psychological Laboratory in Cambridge, Dr. Russell Davis (1914–1993):

> The only way of obtaining his release is to us to be able to tell the Home Office that prior to his internment Dr. Josephy was engaged on work of direct national importance, and that his personal integrity and loyalty to this country are assured, also that he would be able to continue his work in a non-protected area.[546]

Despite of the efforts, understanding, and compassion expressed by the SPSL towards the cause of interned refugees, not all institutions agreed to help. The rationale behind their reserved attitude might be explained by the need to protect their own reputation since the public opinion

---

[542] SPSL Collection, Bodleian Library, Erwin Stengel Folder, *Letter* to Esther Simpson by Anna Stengel, July 1, 1940 (Shelfmark: MS. S.P.S.L. 398/7).
[543] Ibid.
[544] SPSL Collection, Bodleian Library, Erwin Stengel Folder, *Letter* to Anna Stengel by Esther Simpson, July 3, 1940 (Shelfmark: MS. S.P.S.L. 398/7).
[545] Dr. Herman Josephy was born in 1887 in in Germany. He worked as a professor in neuropathology at University of Hamburg. After he had been dismissed from his academic post, Josephy practiced medicine until *Kristallnacht* when he was deported to the concentration camp Sachsenhausen. Following to his dismissal in 1939, he immigrated to Britain. He experienced internment as "enemy alien." After his release Josephy immigrated to Chicago in October 1940. He died in 1960. Cf. Zeidman, von Villiez, Stellmann, and van den Bussche, 2016, p. 275–298.
[546] SPSL Collection, Bodleian Library, Hermann Josephy Folder, *Letter* to Russell Davis by Esther Simpson, 17 July 1940 (Shelfmark: MS. S.P.S.L. 395/5).

felt apprehensive towards "enemy alien" in general. On July 11, 1940, the superintendent of the Bristol Mental Hospital responded to Ester Simpson's request regarding Dr. Stengel:

> I have a high opinion of Dr. Stengel's work, but it would be impossible for me to say that this was of immediate national importance.[547]

Table 1: Contingent of those Refugee Neuroscientists in Britain who were Placed in Internment Camps
Eric Guttmann (1896–1948)
Amadeo Limentani (1913–1994)
Felix Post (1913–2001)
Herman Josephy (1896–1971)
Erwin Stengel (1902–1973)
Favel Friedrich Kino (b. 1882)
Eric D. Wittkower (1899–1983)

The internment of the German-speaking refugees impacted their careers and many of them even lost their positions. As the final paragraph of the letter to Dr. Stengel from November 5, 1940 indicates regaining professional positions was a serious issue:

> I'm afraid that we are up against this problem in the case of very many of our released scientists: in fact, the problem has become so great that we shall have to consider some action to be taken.[548]

Dr. Stengel was released from the internment camp in late October 1940. His release was to some degree influenced by the efforts of his wife and the SPSL. More impact, however, had the progressively changing policy of the British Government towards internees. A revision of the "enemy alien" policies only emerged with the tragic events of July 2, 1940 when the British passenger ship *Arandora Star* sank due to a German U-boat torpedo attack. The Atlantic steamer *Arandora Star* departed from Port Liverpool for Canada with approximately 1,200 refugees and internees onboard, 717 Italians and 138 German and Austrian "enemy aliens" died in this tragedy.[549] The *Arandora Star* case investigation emphasized unfair treatment that

[547] SPSL Collection, Bodleian Library, Erwin Stengel Folder (Shelfmark: MS. S.P.S.L. 398/7).
[548] SPSL Collection, Bodleian Library, Erwin Stengel Folder, *Letter* to Dr. Stengel by Esther Simpson, 5 November 1940 (Shelfmark: MS. S.P.S.L. 398/7).
[549] Sponza, 2005, p. 154.

"enemy aliens" received due to rather undocumented concerns of the British cabinet. Unlike Germans and Austrians, Italian internees had never been brought before tribunals, and hence the internment of many of the victims of the *Arandora Star* was entirely contingent on their nationality. Mounting criticism resulted in a reconsideration of all individual cases of the internees. Consequently, by the end of 1940, a total of 9,816 "enemy aliens" had been released from British internment.[550] This number grew steadily. Most of the German-speaking psychiatrists and neuroscientists previously interned were released within four months.

Keeping in Touch

The majority of émigré neuroscientists, when asked about their preferred destination, put the United States on top of their list. Some files are rather fragmentary; but at least 55% succeeded in obtaining posts in various American institutions, in addition to Dr. Karl Stern (1906–1975)[551] and Dr. Erich D. Wittkower (1899–1983)[552] who in the end immigrated to Canada.[553] The fact that a considerably high number of psychiatrists and neurologists remained in Britain, can be explained by the relatively supportive attitude of the medical establishment and the British government towards this particular profession. Psychoanalyst refugees, especially from the Viennese school, to the contrary became victims of intensified restriction policies toward medical practice. Therefore, out of 120 émigré psychoanalysts originally admitted to Britain, only fourteen remained, the rest left, with a majority (80) immigrating to the United States.[554]

On September 16, 1943, the secretary of the SPSL, Esther Simpson, sent a letter to Dr. Erwin Stengel — a prominent Austrian psychiatrist and neurologist who at that time resided and worked at the Royal Mental Hospital in Edinburgh — expressing the interest of the SPSL in the whereabouts of all professionals who had previously reached out to the organization for help. This was a beginning of the action that aimed at gathering information on applicants for the internal records during the SPSL. The SPSL had a great difficulty in keeping records during the time of war. In fact, the SPSL was seeking information on people who they were unable to

[550] Denness, 2012, p. 222.
[551] Dr. Karl Stern was born in 1906 in Cham in Germany. He specialized in neuropathology and neurology and worked at the University of Frankfurt/M.'s Institute of Neurology. He immigrated to Britain in 1936 and later to Canada where he worked and lived until his death in 1975. See also the article on the topic by Daniel Burston, entitled "Dust and Fog, Fire and Salt: German-Canadian Psychiatrist Karl Stern's (1906–1975) Émigré Experience" in this Special Issue, p. 59–82.
[552] Dr. Erich Wittkower was born in 1899 in Berlin. He specialized in psychoanalysis and psychiatry and worked at Charité Hospital in Berlin. After being dismissed he left Germany for Switzerland. In September 1933, he moved to London to work at Maudsley Hospital. He later immigrated to Canada in 1950 where he worked at McGill University in Montreal. He died in 1983.
[553] SPSL Collection, Bodleian Library, Oxford (Shelfmarks: MS. S.P.S.L. 398/9 and 398/10).
[554] Ash, 1991, p. 101–121; esp. p. 103.

assist, wondering "whether they had managed to escape from the Continent in time."[555] The concern of the SPSL was understandable since in 1943 information about the extermination of Jews had already reached London. In order for the society to get and remain in contact with a group of applicants, the standard procedure was to send a list to one person with whom the SPSL had been in frequent contact before. Dr. Erwin Stengel is a case in point. The response by Dr. Stengel on September 28, 1943 gives us insights into the networking processes between medical professionals that were maintained during the war period. It is difficult to establish whether the contact was maintained on a strictly professional level, or if it had been the personal character and their common experiences related to the Nazi persecution.

After the Second World War had ended, the SPSL continued to gather information about their applicants. Thus, letters were sent out requesting for: "a brief list of appointments held, giving the dates of such appointments for [their] individual case records, and secondly a rather fuller account of [their] personal experiences."[556] The SPSL worked closely with the *Department of Resettlement of the Preparatory Commission of the International Refugee Organization*. The secretary general of the SPSL Ilse Ursell (b. 1922) pointed out that the resettlement of medical professionals proved to be particularly difficult while they struggled to support themselves financially through their research posts and fellowships.[557] In some cases the SPSL was unable to retrieve contact despite numerous attempts. One such case was Professor Erwin Strauss.

Over the years some of the applicants developed a friendly relationship with the secretary Esther Simpson. The SPSL collection provides evidence of correspondence being exchanged over many years. Two scholars kept in touch fairly frequently, and their correspondence went beyond the standard updating of records: Erwin Stengel experienced numerous obstacles after he settled in the United Kingdom, and therefore he enquired help on several occasions. On February 23, 1956, he wrote:

> Thank you very much for your kind letter on the occasion of my appointment to the Chair of Psychiatry at Sheffield. […] I like other owe a great deal to your Society, which apart from helping individuals, has done so much towards creating the climate essential for an admission and progress in this country. I am [fully conscious] of the fact that we owe a

[555] SPSL Collection, Bodleian Library, Erwin Stengel Folder, *Letter* to Erwin Stengel by Esther Simpson, September 16, 1943 (Shelfmark: MS. S.P.S.L. 398/7).
[556] SPSL Collection, Bodleian Library, Erwin Stengel Folder, *Letter* to Stengel by Ilse Ursell, November 10, 1947 (Shelfmark: MS. S.P.S.L. 398/10).
[557] Ibid.

> very great deal to you personally. Your familiar signature brought back to me the occasions when, in years past, your letters had to warm my heart and to strengthen my morale.[558]

Karl Stern's relationship with Mrs. Simpson was particularly close. They addressed each other by first name — "Tess" and "Karl" — and ended their correspondence with warm words such as: "with a thousand kindest regards, yours very sincerely" or "yours ever."[559]

Conclusion

By 1945, over 2,600 scholars had been registered with the SPSL.[560] 624 of them found placement in the United States and Canada and 615 in Britain. Given the high demand, restrictive immigration policies in 1930s, and limited financial resources, one should consider this outcome as a great success of this small assistance organization. Many of the refugee scholars became members of the prestigious Royal Society and British Academy. Among them was also the staggering number of eighteen Nobel Prize winners. While some files are incomplete, others present unique insights to refugees' despair, anxieties, but also personal and scientific achievements.

As recovered in this article, the SPSL's help went beyond immigration processes and finding suitable employment for applicants. One of the biggest challenges that both the refugees and the SPSL mutually faced was the consequence of internment. While internment of "enemy aliens" was relatively common during the Second World War both in Europe, in the British Empire, as well as and in North America, only the British government considered Jewish refugees — who had actively fled Nazism in Europe — a threat to its national security situation. It is the very lived experience, the difficulty in finding adequate academic and professional work, as well as the social adjustment problems of the émigré neuroscientists then, which allows us a better appreciation of the contemporary scientific and social context of wartime Britain. The SPSL, acting under tremendous pressure, however, secured the release of five hundred refugee scholars including approximately sixty neuroscientists.[561] In this context then, the British-based Academic Assistance Council that in 1936 became the Society for the Protection of Science and Learning had emerged as one of the most successful aid organizations providing partial support and fellowships to many of the émigré neuroscientists, who had fled Nazi-occupied Central Europe and found refuge in Great Britain during and after the war.

---

[558] SPSL Collection, Folder Erwin Stengel, *Letter* to Esther Simpson by Stengel, February 23, 1956 (Shelfmark: MS. S.P.S.L. 398/7).
[559] SPSL Collection, Folder Karl Stern, *Letter* to Esther Simpson by Stern, 12 May 1953; *Letter* to Karl Stern by Simpson, 12 May 1952 (Shelfmark: MS. S.P.S.L. 398/9).
[560] Zimmerman, 2011, p. 29–44.
[561] Marks, Weindling, and Wintour, 2011, p. 1.

The story of the SPSL provides an important lens into the political conditions in Europe within which it was established and operated, as well as of the plight of Jewish refugees seeking to flee or being expelled from Nazi Germany, and the extent to which the AAC had been successful in helping individuals who worked in the field of neuroscience. It offers analysis of obstacles to the successful treatment of refugees, and the effects of Government internment policies in the United Kingdom. Several individual cases have been considered above in documenting events and how the SPSL was approached to provide assistance, including follow-up in the post-war period to help the SPSL assess the degree of success met by its activities.

The post-immigration process of gathering data on applicant's fate and continuing careers in the 1950s provides us with important information about refugees' career development. Some neuroscientists nevertheless experienced employment difficulties after the war had ended. One example is Francis Reitmann (1908–1955), whose contract was terminated, and therefore decided to immigrate to the United States. Despite his extraordinary research results and supporting references, he remained unable to find any new scientific position.[562] In 1945. Americans altogether stopped accepting refugee scholars and reserved medical and academic vacancies for American neuroscientists returning as war veterans. Reitmann was an isolated case. The majority of medical refugees previously supported by the SPSL established gratifying careers in their adopted countries during the postwar period.

References

Ash, Mitchell G. 1991. Central European Émigré Psychologists and Psychoanalysts in the United Kingdom. In *Second Chance: Two Centuries of German-Speaking Jews in the United Kingdom*, eds., Carlebach, Julius, Gerhard Hirschfeld, Audrey Newman, Arnold Paucker, and Peter Pulzer, 101–121. Tuebingen, Germany: J. C. B. Mohr.

Bock, Gisela. 2010. *Zwangssterilisation im Nationalsozialismus: Studien zur Rassenpolitik und Geschlechterpolitik*. Muenster, Germany: MV Wissenschaft.

Brinson, Charmian. 2005. 'Loyal to the Reich': National Socialists and Others in the Rushen Women's Internment Camp. In *Totally Un-English?: Britain's Internment of 'Enemy Aliens' in Two World Wars*, ed., Dove, Richard, 101–119. Amsterdam, The Netherlands: Rodopi.

Collins, Kenneth. 2009. European Refugee Physicians in Scotland, 1933–45. *Social History of Medicine* 22: 519–530.

Denness, Andrea Zoë. 2012. *A Question which Affects our Prestige as a Nation:" The History of British Civilian Internment, 1899–1945*. Birmingham, England: University of Birmingham, PhD thesis.

Gillman, Peter, and Leni Gillman. 1980. *"Collar the Lot:" How Britain Interned and Expelled its Wartime Refugees*. London, England: Quartet Books.

[562] SPSL Collection, Bodleian Library, Oxford, File of Francis Reitmann (Shelfmark: MS. S.P.S.L. 398/2).

Holmes, Colin. 2016. *Anti-Semitism in British Society, 1876–1939*. Abingdon, UK: Routledge.

Kaplan, Marion A. 1998. *Between Dignity and Despair: Jewish Life in Nazi Germany*. New York City: Oxford University Press.

Kushner, Tony. 2013. Club Land, Cricket Tests and Alien Internment, 1939–1940. In: *The Internment of Aliens in Twentieth Century Britain*, eds., Cesarani, David, and Tony Kushner, 53–87. London, England: Frank Cass and Company.

London, Louise. 2000. *Whitehall and the Jews of Europe, 1933–1948: British Immigration Policy, Jewish Refugees, and the Holocaust*. Cambridge, England: Cambridge University Press.

Marcuse, Harold. 2008. *Legacies of Dachau: The Uses and Abuses of a Concentration Camp, 1933–2001*. Cambridge, England: Cambridge University Press.

Nagorski, Andrew. 2013. *Hintlerland: American Eyewitnesses to the Nazi Rise to Power*. New York City: Simon & Schuster.

Natkowska, Monika. 1999. *Numerus clausus, getto ławkowe, numerus nullus, "paragraf aryjski:" antysemityzm na Uniwersytecie Warszawskim 1931–1939*. Warsaw, Poland: Żydowski Instytut Historyczny.

Panayi, Panikos. 1993. An Intolerant Act by Intolerant Society: The Internment of Germans in Britain during the Great War. In *The Internment of Aliens in Twentieth Century Britain*, eds., Cesarani, David, and Tony Kushne, 53–78. London, England: F. Cass; Portland, OR: F. Cass, c/o International Specialized Book Services.

Ritschl, Albrecht. 2013. Reparations, Deficits, and Debt Default: The Great Depression in Germany. In *The Great Depression of the 1930s: Lessons for Today*, eds., Crafts, Nicholas, and Peter Fearon, 110–139. Oxford, England: Oxford University Press.

Schaffer, Gavin. 2008. *Racial Science and British Society, 1930–60*. Basingstoke, England: Palgrave Macmillan.

Sherman, Andrew J. 2013. *Island Refuge: Britain and Refugees from the Third Reich 1933–1939*. Ilford, UK: Frank Cass & Co.

Sponza, Lucio. 2005. The Internment of Italians 1940–1945. In *Totally Un-English?: Britain's Internment of 'Enemy Aliens' in Two World Wars*, ed., Dove, Richard, 151–163. Amsterdam, The Netherlands: Rodopi.

Starr-Egger, Felicitas M. 2017. Women Refugee Academics at the University of London. In *Exile and Gender II: Politics, Education and the Arts*, eds., Brinson, Charmian, Jana Barbora Buresova, and Andrea Hammel, 96–113. Amsterdam, The Netherlands: Brill, 2017.

Van Heyningen, Elizabeth. 2013. *The Concentration Camps of the Anglo-Boer War: A Social History*. Johannesburg, South Africa: Jacana Media.

Weindling, Paul. 2000. 'An Overloaded Ark?:' The Rockefeller Foundation and the Refugee Medical Scientists, 193–345. *Studies of History of Philosophy of Biological and Biomedical Sciences* 31: 477–489.

Weindling, Paul. 2007. Medical Refugees as Practitioners and Patients: Public, Private, and Practice Records. In *Yearbook of the Research Centre for German and Austrian Exile Studies*, eds., Hammel, Andrea and Anthony Grenville, 141–154. Amsterdam, The Netherlands: Rodopi.

Weindling, Paul. 2009a. Medical Refugees in Britain and the Wider World, 1930–1960: Introduction. *Social History of Medicine* 22: 451–459.

Weindling, Paul. 2009b. Medical Refugees and Modernisation of British Medicine, 1930–1960. *Social History of Medicine* 22: 489–519.

Zeidman, Lawrence A., von Villiez, Anna, Stellmann, Jan-Patrick, and van den Bussche, Hendrik. 2016. 'History has taken such a large piece out of my life' — Neuroscientist refugees from Hamburg during National Socialism. *Journal of the History of the Neurosciences* 25: 275–298.

Zimmerman, David. 2006. The Society for the Protection of Science and Learning and the Politicization of British Science in the 1930s. *Minerva* 44: 22–45.

Zimmerman, David. 2011. 'Protests Butter No Parsnips': Lord Beveridge and the Rescue of Refugee Academics from Europe, 1933–1938. In *In Defence of Learning: The Plight, Persecution, and Placement of Academic Refugees 1933–1980s*, eds., Marks, Shula, Weindling, Paul, and Laura Wintour, 29–44. New York City: Oxford University Press.

Zimmermann, Ernest Robert, Michael Beaulieu, and David Ratz (eds.). 2015. *The Little Third Reich on Lake Superior*. Edmonton, AB: University of Alberta Press.

"THE ROLE OF SERENDIPITY IN THE FORCED MIGRATIN OF FELIX HAUROWITZ (1896–1987): PRAGUE–ISTANBUL–BLOOMINGTON

Guel A. Russell

Texas A & M, University

Abstract:

Out of the estimated 650 émigré scholars and scientists who were dismissed from their academic positions under Nazi Germany between 1933 and 1934, 190 (largely Jewish) emigrated to Turkey, constituting 29% of the total. The figures may vary, but they are certainly significant. The circumstances of their arrival pose the greater interest. While individuals were facing insurmountable obstacles in trying to get into/find a safe haven in other countries, such as the United States (US) or the United Kingdom (UK), they were officially invited by the Turkish Republic to take up contractual university positions with high salaries. Not only their travel expenses were paid, but they could also bring their families, belongings, as well as laboratory equipment and assistants. Having survived the war years, some chose to remain, some even returned to Germany, but the majority moved to the United States. They left a profound legacy, impacting all aspects of the Turkish culture and the arts, all disciplines of higher education, medicine, and science, as well as related institutions. Curiously, this unique phenomenon seems to have received hardly any attention in the English scholarship of the subject or the period until this century.

Among this group of translocated émigré physicians and scientists was also the eminent biochemist Felix Michael Haurowitz (1896–1987), whose work on anti-body formation also laid important groundwork for later advances in psychoimmunology and neuroimmunology. Haurowitz was forced to leave Prague with the Nazi occupation of Czechoslovakia in 1939. He moved first to a secure academic position at Istanbul University, then to a brilliant scientific career at Indiana University (1948). In this article, the complex impact of translocation on Haurowitz will be explored with emphasis on the role of "serendipity" in his career and science. The related question will briefly be taken up of what constitutes the necessary and sufficient conditions to enable a scientist or physician to successfully continue experimental research despite translocation to an unfamiliar milieu.*

* The manuscript for this article is partially based on a previous invited presentation, entitled "The Unique and the Universal Features in Translocation: The Case of Felix Haurowitz (Prague – Istanbul – Bloomington 1938–48),"

Keywords:

Acculturation, Czechoslovakia, Felix Michael Haurowitz, forced migration, psycho- and neuroimmunology, Philipp Schwartz, translocation, Turkey, United States

Prologue: The Pozzo Illusion— An Analogy for Translocation

The church of St. Ignatio in Rome has an impressive cupola over the nave by Andrea Pozzo (1641–1709). To view this architectural masterpiece, the visitors are guided to a particular spot. When the viewer shifts to a different location, however, the whole monumental edifice collapses. The appearance of permanent, three-dimensional, solid structure turns out to be only an illusion of perspective, dependent on being at a particular location.[563] The dramatic experience of the "Pozzo illusion" can serve to visualize the impact of forced translocation as in the mass emigration of German-speaking scientists and physicians between 1933 and 1948. They were uprooted from their own environments to locations of unfamiliar cultural, linguistic, and scientific traditions. The permanence and stability that they had taken for granted, turned out to be an illusion, once shattered, never to be regained.

which was held at the 2016 double-panel on "Personal Stories and Institutional Narratives from German-speaking Émigré Physicians, Scientists, and Academics between the 1930s and the 1960s" at the annual meeting of the Canadian Society for the History of Medicine (CSHM) and the Canadian Historical Association (CHA) in Calgary. The gracious financial support from the Federation for the Humanities and Social Sciences Aid for Interdisciplinary Sessions Fund, which made the travel to Canada possible, is hereby acknowledged.

[563] The cupola frescoes of the Church of Sant 'Ignazio' represent a Baroque masterpiece of his illusionistic technique (~ *quadropara*). See: Pozzo, 1989).

"*... of a generation that will not be seen again.*"[564]

Introduction[565]

Felix Michael Haurowitz (1896–1987), viewed as one of the major scientists in twentieth-century biochemistry, serology, psycho- and neuroimmunology, had to leave the German University of Prague, in his native city, with the Nazi invasion of Czechoslovakia in 1938. He spent the rest of his life, first at Istanbul University in Turkey, and nine years later at Indiana University, Bloomington, in the United States. It will be argued here that finding a position in neither of the two countries was the result of Haurowitz's own planning and efforts, which for the United States were considerable but met with failure. Nor was it through the special organizations that were originally formed to assist the academics who were dismissed from their jobs in Germany with the coming to power of the Nationalist Socialist Government in 1933, and subsequently in Nazi occupied countries.[566] Haurowitz's survival and success in getting the two academic appointments was due to "serendipity"—a chain of totally unsolicited opportunities coming together by chance. This article will present the crucial role "serendipity" played in Haurowitz's translocation to Turkey, and subsequently to the United States, which has not been explored.

In a comparative analysis of its subsequent impact on Haurowitz's scientific career and research in both countries, the features that were unique in Haurowitz's experience, and those that were shared with other émigré scientists will be identified. The milieu that Turkey provided is of particular significance as German-speaking émigré scientists in various disciplines from similar backgrounds and scientific tradition, had come as a group to a totally unfamiliar culture and language, to remain together at the same institution, over a sustained period of time. This was in contrast to the experiences of most émigrés who were individually dispersed to other

[564] On Haurowitz, in: Putnam, 1994, p. 133–163; esp. p. 135.

[565] I would like to thank Frank Stahnisch for initially inviting me to explore this immensely complex subject of translocation of German-speaking academics in Turkey. There is a vast amount of unpublished material in the form of memoirs, correspondence of the émigrés in multiple languages, and related papers in the State archives of the Turkish Republic, libraries of the Universities of Istanbul and Ankara, as well as the Lilly Library of Indiana University and others in the United States. Please note: Haurowitz's trilingual (German, Turkish, and English) correspondence with colleagues (1920–1960s) is archived at the Lilly Library of Indiana University. In addition, there is substantial correspondence in the Linus Pauling archives in Colorado. Hence any research is "work in progress" outside studies of individual cases. The existing studies, pertaining to Turkey, derive largely from a few standardworks that are based on primary sources; see for example: Widmann, 1973a, p. 25–26; Raisman and Capar, 2004, p. 7, 9–10, 23–24, 31, 32, and 33; Raisman, 2004, p. 1–26; Raisman, 2006, p. 410–412; Raisman, 2007, p. 450–478; Raisman, 2008, p. 56–85; and Dölen, 2010, Vol. 4, Bölüm 6.5.

[566] There is a substantial body of scholarly studies on the challenging questions raised by the complexity of the subject. See: Ash and Soellner, 1996. For recent investigations, see: Stahnisch and Russell, 2017, p. 74–76 and 90–94; and Stahnisch and Russell, 2016, p. 2–19 and p. 219–226.

countries at diverse jobs and institutions.[567] Focusing on Haurowitz, the aim is to extend our understanding of what factors, subsequent to displacement, contribute to the continuity of scientific research, and conversely, serve to impede it.[568] The related question to be considered is "what form does 'continuity' in research take?" and "what role does serendipity play in the form or forms it takes?"

Prague to Istanbul

At the outbreak of WWII, Felix Haurowitz was a member of the faculty at the Medical School of the German University in Prague, where he had also received his graduate degrees (M. D. in 1922; D. Sc. in 1923), with a growing scientific reputation.

On October 10, 1938, Haurowitz received an enquiry whether he would be interested "in a teaching position in biochemistry at the University of Istanbul." It came from Hans Winterstein (1879–1963), *Professor ordinarius*, and Head of the Institute of General Physiology at Istanbul University Medical School (1933–1953), which was accompanied by an "unofficial request" of Haurowitz's "cv and list of publications." The offer had been unsolicited, but coincidental with two unrelated, parallel events. First of all, it had arrived immediately after the acquisition of the Sudetenland by Germany on October 1–10, 1938. Second, the position at Istanbul University had become vacant due to the departure of the Director of the Institute of Biochemistry, Werner Lipschitz (1892–1948), for the United States. After six years (1933 to 1939), his contract with the Turkish government had come to an end. Two of his assistants, Ernst Bueding (1910–1986) and Ernst W. Caspari (1909–1988) were also leaving.[569]

Haurowitz would have seemed a perfect candidate for the position: a scientist with an international reputation, whose academic position had become seriously threatened by the imminent German invasion of the rest of Czechoslovakia. The unsolicited offer had come from a colleague (born in Prague), who could envisage through personal experience, the consequences of the Nazi occupation for Jewish academics. Dismissed from the University of Breslau in 1933, Winterstein had translocated to Turkey, and remained there for twenty-four years.[570]

---

[567] For an example of the contrast in the experience of an émigré psychologist, Wilhelm Peters (1880–1963), who went first to Britain, then to Turkey, see Russell, 2016, p. 219–226.
[568] For a broader comparison, which is outside the scope of the present paper, see Ash and Soellner, *Forced Migration and Scientific Change*, which deals with the impact of biographical and socio-cultural elements on the innovative contribution of the émigré scientists and scholars to science." A critical review of the scholarship and analysis of the "loss and gain" thesis is undertaken in: Stahnisch and Russell, 2017.
[569] Widmann, 1973a; Raisman, 2004; Raisman, 2007, p. 450–478.
[570] Winterstein, 1962, p. 79–83.

At the time Haurowitz did not seem to fully realize the impending danger for himself. In fact, he had made no plans to leave his home country. His optimism about the situation in Prague is indicated by his cautious response to Winterstein as late as January 31, 1939:

> Thanks for all your efforts. Of course, I am a bit nervous about initiating anything at this end without official documentation to assure me that I will be permitted to enter Istanbul officially. But I am not that impatient because it is pretty quiet here and as far as I can judge it will remain quiet."[571]

He was also reluctant "to abandon his research lab and student co-workers." With the occupation of Czechoslovakia, however, the situation dramatically changed. The German University was incorporated into the Third Reich, and Haurowitz found himself deprived of his "privilege to teach and to examine." It was only then that he decided to visit Istanbul, to see whether he would be able to continue doing research there. Having found the conditions favourable, he accepted the Turkish position.[572] Within two weeks of the invasion of Prague (March 15, 1939), Haurowitz was on a train to Istanbul with his wife and two children. Most of their property seized, they were able to take their furniture and library of books with them. As Haurowitz's son, commented years later, "None of the Jewish members of our family who stayed behind survived the German occupation."[573]

Neither leaving Prague, nor official entry into Istanbul posed a problem for Haurowitz. Turkey had kept a politically neutral (non-hostile) position to Germany until almost the end of the war. Accordingly, the Turkish Republic, not only had a consular presence in expanding Nazi occupied countries in Eastern Europe, but more importantly, continued its 1933 policy of hiring foreign academics who were dismissed from their jobs under the Nazis. This was in keeping with advancing their higher education reforms and served "the interests of the state."[574] Thus Haurowitz was officially invited to take up a needed University appointment that had become vacant. The Nazi Government also supported the translocation to Turkey of Jewish and politically "undesirable" academics, for self-serving reasons. Underlying their compliance with the requests of the Turkish Republic was the broader policy of the previous Weimar

[571] Haurowitz (1975) in Raisman, 2007, p. 450–478.
[572] Haurowitz, in: Putnam, 1994, p. 33.
[573] Raisman, 2007, p. 455. For the excerpts from the *Memoirs* of Haurowitz's two children, see ibid., *Appendix*, p. 14–19. These include the "Memoir of Dr. Alice (Haurowitz) Sievers" (p. 14–16), who grew up in Turkey and received her PhD in the United States; and the "Memoir" of her younger brother Dr. Martin Haurowitz (p. 16–19), who subsequently changed his name to Harwit. He is an emeritus professor of astronomy at Cornell University, Ithaca, NY and former Director of the National (US) Air and Space Museum in 1987, but resigned in May 1995 for his handling of plans to display the *Enola Gay*, the B-29 bomber that dropped the first atomic bomb on Japan in 1945.
[574] Bahar, 2014a, p. 192–193, and p. 197.

government to expand German cultural influence, in addition to military advantages of keeping Turkey neutral against the allied powers.[575]

The Academic Milieu: A "German" University in Istanbul

Haurowitz had transferred directly to an academic position that was secured by a renewable contract. He was also promoted to full professorship as Director of the Institute of Biological and Medical Chemistry at Istanbul University, in keeping with the 1933 policy of the Turkish Republic. The émigré faculty were given appointments commensurate with, at least in title, or higher than their former positions in Germany.[576] This situation was unique in contrast to the experience of most of the individual émigrés in countries, such as Britain and the United States.[577]

As a result, Istanbul University had the highest concentration of German-speaking émigré academics in one place anywhere in the world.[578] Out of the 600 who had lost their jobs already in 1933, an estimated 25% had come to Turkey. Although some had left, most remained throughout the war, and beyond until their retirement.[579] For example, 138 academics and assistants were listed as scientifically active in Istanbul or Ankara, and 14 held chairs.[580] Thus upon arrival, Haurowitz found himself within a "community of scientists" literally in every field, undoubtedly eminent in their own areas. Most of them were born at the end of the nineteenth century in 1880s and 1890s, and risen to directorships at some of the most distinguished German institutions, such as Berlin, Breslau, Frankfurt am Mein, Freiburg, Goettingen, and Heidelberg.[581] Thus, Haurowitz had moved from a German University in Prague to a German University in Istanbul.

---

[575] Although the Reich would have preferred to send Aryan and especially Nazi professors in the early 1930s, few were actually willing to go. Those who went, served as covert agents, spying on the Jewish academics at Istanbul University. See: Schwietering, 1993, p. 74–77; Russell, 2016, p. 219–226.
[576] Dölen, 2004, p. 43 and p. 47f.
[577] For example, Carl Oppenheimer (1874–1941), the editor of *Enzymologia*, was forced to move from Berlin to Holland, see in: Aiken, 1937, p. 340. When his journal ("the only joy in my professional life") too was finally taken from him, Oppenheimer felt that he had lost everything: "The war has put an end to all my plans and dreams" (Correspondence: Nov. 26, 1938 – Jan., 1939). While Haurowitz, who had contributed to the journal, was trying to get Oppenheimer a position at Istanbul University, he had become quite ill and died in 1941; Raisman, 2007, p. 460f.
[578] Erichsen, 1998, p. 1–21.
[579] Bentwich, 1953; Erichsen, 1991, p. 73–105; Raisman, 2006, p. 410–412.
[580] Sarkowski and Goetze, 1997, p. 337–402 and p. 449; Ege and Hagemann, 2010, p. 1001–1030.
[581] Widman, 1973b.

Problem of Identity: "Bildung"

Like most of his colleagues displaced under the Nazis, he had not been a practicing Jew. He had kept silent about his Jewish identity since childhood. As a safeguard against any exposure to antisemitism, his parents had sent him to a Catholic school in Prague. His own children were baptised at birth, sent to an Evangelical grade school, brought up as Protestants, celebrating Christmas at home. "Religion was never mentioned."[582] This was not unique, as recalled by Haurowitz's son:

> I don't ever remember my father using a Yiddish or Hebrew word or phrase and, to the best of my recollections, none of the other professors we visited from time to time, or their wives or children did either. So it may not be surprising that I was totally taken aback, one day when I was about fourteen, when Father pointed out that he and Mother were Jewish. Since I was Protestant, I had assumed my parents must be, too. My father was the most honest and ethical person I have known. Never knew him to tell me anything that I could not totally trust. He also was deeply agnostic. He had been painfully aware of antisemitism long before [Adolf] Hitler [1889–1945]. He always said that he would not change his religion because people would think he was doing it for personal gain. But he wanted to keep his children from having to suffer anti-Semitism. … For many Europeans, who had witnessed anti-Semitism for many decades, integration seemed a way to break these mutual hatreds. Religion seemed best when ignored.[583]

Haurowitz could identify with his Jewish colleagues who were products of the *Bildung* tradition that was built around the eighteenth-century concept of a "rational elitism." It was a way of intellectual integration into German society, which turned out to be an illusion.[584] Thus, in a country of totally unfamiliar culture, and language, Haurowitz had found himself within a thoroughly familiar environment of German-Jewish faculty of a similar intellectual, scientific, and social background.

The Scientific Milieu

Haurowitz had also found the conditions for research at Istanbul University initially satisfactory for himself, which was not surprising. There was already an established institute of more than two decades, despite a checkered history. It was set up with a research laboratory during the period of 1915 to 1918 by visiting foreign faculty, largely from Germany,[585] which included the biochemist Hans Winterstein, and the chemist Fritz Arndt (1885–1969). Both had subsequently returned to Istanbul in 1934 and remained until 1954/55.[586] Werner Lipschitz

[582] Putnam, 1994, p. 135.
[583] Haurowitz qtd. after Raisman, 2007, p. 460f.
[584] Mosse, 1983, p. 344; Bahar, 2010, p. 48–79 and p. 82–84; Bahar, 2014b, p. 192–193 and p. 197.
[585] Berkem, 1993, p. 112–115; Burk, 2003, p. 42–53; Dölen, 2004, p. 47f.
[586] Arndt's General Chemistry Division (separate from medicine and biology) at Istanbul University was held up as a model of success. Gürgey, 2005, p. 87–88; Aras, 2012, p. 30–115. The laboratory was destroyed by fire at

(1892–1946), whose position Haurowitz was taking over, had previously been Director of the Institute of Pharmacology at the University of Frankfurt am Main from 1929 to 1933.[587] He had further developed the Institute of Biological and Medical Chemistry between 1933–1939 at Istanbul University together with Fritz Arndt, Professor of Chemistry from Breslau.[588]

For an emerging interdisciplinary subject as biochemistry, a significant number of émigré faculty were in related areas from leading positions at some of the best institutions in Germany. For example, Phillip Schwartz (1894–1877) in pathology, and pathological anatomy, and Hugo Braun (1881–1962),[589] Director of the Institute of Microbiology were both from the University of Frankfurt-am-Main, as well as Siegfried Obendorfer (1876–1944) in experimental (practical) pathology.[590] Tibor Peterfi (1883–1953), a biologist with a focus on cytology, had worked at Nobel Laureate Emil Fischer's (1852–1919) laboratory at Berlin.[591] Max Sgalitzer (1884–1974), Head of the Department of Radiology, came from the German University of Prague.[592] Friedrich Reimann (1897–1995) in haematology, had arrived in the same year as Haurowitz, also from the German University in Prague as Director of the Institute of Medical Research.[593] Friedrich L. Breusch (1903–1983) in organic and inorganic chemistry was formerly Director of the Chemistry Department of the Institute of Pathology at the University of Freiburg.[594] During his stay at Istanbul University (1937–1971), he worked with Haurowitz, then set up the second Institute of Chemistry.[595] There were also trained technicians and assistants in chemistry.[596] It

"Zeynep Hanım Konağı, the building where it was housed, and had to be entirely rebuilt and refurbished. Cf. Kadıoğlu, 1998, p. 197.

[587] Widmann, 1973b, p. 25f.

[588] Burk, 2003, p. 44f.

[589] Braun remained at Istanbul University until 1950, when he accepted the Directorship of the Tuberculosis Research Institute in Munich, Germany, retiring in 1957. Kalaycıoğulları, 2009, p. 593. Haurowitz's on-going correspondence with him is at the Lilly Library in Bloomington and contains views of their experience at Istanbul University.

[590] Widmann, 1973b, p. 25.

[591] Peterfi's scientific career was broken by the political persecution following the Communist revolution in 1919 and emigrating to Prague, Czechoslovakia, Jena and Berlin, Germany, and eventually Cambridge in England. The final period at Istanbul University is regarded as the apogee of his achievement where he created a device (named micro-manipulator) to conduct his research on microscopic examination of living cells, that paved the way for the development of microsurgery. He returned to Budapest; Hungary, only after the war, but already mortally ill, unable to continue his research. See: Raisman and Capar, 2004, p. 23f.; Donáth, 2010, p. 215–222.

[592] Rechcigl, Jr., 2016.

[593] Widmann, 1973b, p. 25.

[594] Breusch had arrived in 1937 remained in Istanbul until 1971, becoming a professor in organic chemistry in 1941, and publishing textbooks in Turkish. When Breusch left for Turkey, he had been conducting joint studies on the effect of the changes in the diet of mice on the formation and breakdown of cholesterol. They found that cholesterol is synthesized when needed, and destroyed when in excess. See in: Fruton, 1999, p. 378.

[595] Kalaycıoğulları, 2009, p. 26.

[596] Paula Schwerin had worked (1933–1948) with Lipschitz (Kobes and Hesse, 2008); Kurt Steinitz (1934–1948) in medical chemistry, Ernst Bueding (1935–36), Sara Gitla (1863?), Lisie Anhegger (1947–57), and Harry Rosenbaum (1935–45) with Winterstein. Aras, 2012, p. 30–115; Widmann, 1973a, p. 26.

is estimated that during the period of 1933 and 1950, there were almost as many assistants as professors.[597]

In addition to the exceptional faculty environment, Haurowitz had a relatively secure and safe haven at Istanbul University to continue his work without further disruption.[598] Yet, within two years of his arrival in Istanbul, despite the unique circumstances, Haurowitz was already looking for a job in the United States. Why? Haurowitz was hired, as all émigré academics, to promote higher education as part of the Westernizing reforms of the Turkish Republic. Their foremost responsibility was to teach and prepare the younger generation to eventually take over so that Turkey would no longer depend on invited foreign experts, as had historically been the case. Interestingly, the emphasis in the selection criteria of émigré scientists had been international reputation in their specific disciplines.[599] The top priority given, however, to pedagogic objectives in their contractual obligations already set limiting parameters for research, where attempts at provision of resources also proved to be inadequate.[600] The required training of students in the very basics of research in experimental sciences posed a problem when émigré scientists and physicians needed a team of trained assistants to be able to continue with their own area of research. Not surprisingly, most of the faculty preferred to work and publish with the assistants whom they had been allowed to bring.

Haurowitz appears to have successfully resolved this conflict within two years of his arrival. First of all, he became, with a number of notable émigré scientists, such as Fritz Arndt[601] and Hugo Braun, sufficiently fluent to lecture without interpreters, as expected, and to write a text book in Turkish on Biological and Medical Chemistry (*Hayatī ve Tibbī Kimya*). Secondly, he was also able to start publishing research articles in *Enzymologia*, and other international journals of biochemistry and immunology, in both German and English, that included his Turkish students.[602] Although the rate of his articles in journals were higher in

[597] During the period of 1933–1973, there were 66 German and Austrian professors, and 82 assistants; 30 professors and 9 assistants of other nationalities, totalling 96 professors and 91 assistants in various disciplines. In the sciences (excluding clinical medicine, pharmacy, and dentistry), there were 30 professors and 18 assistants. Ege and Hagemann, 2010, p. 956.

[598] This security was relative with the presence of Nazi German spies to undermine Jewish academics, despite the protection of the Turkish government and the encroaching German military armies close to the Turkish borders. Schwietering, 1993, p. 74–77.

[599] Dölen, 2010, Vol. 4, p. 6f.

[600] For some of the problems, see: Kuruyazıcı, 1998, p. 37–50; Dölen, ibid., Vol. 4, p. 6f.; Dölen, 2004, p. 43 and p. 47–8; Bahar, 2010, p. 48–79 and p. 82–84; Bahar, 2014, p. 192–197.

[601] The task was perceived as impossible by, for example, Arndt, who was fluent in Turkish, and had written textbooks. He publicly stated that what was needed was applied science, not research. He was criticized for failing to fulfil his obligations when all the resources were provided for him. Aras, 2012, p. 30–115.

[602] Haurowitz successfully trained his students, as reflected by joint papers with both Turkish and German assistants. During the period of 1939 to 1948, out of 63 published papers, 33 included Turkish assistants. One of his Turkish assistants, Mutahhar Yenson, subsequently assumed (from 1969–1981), on his recommendation, the

Prague, and subsequently at Indiana University, he remained productive at Istanbul University.[603]

Access to Published Research

Nonetheless, his correspondence reveals problems during the war years, that may account for his turning to the United States for a job. With no funds for subscription to international journals, keeping up with the published research in his field had become difficult.[604] For example, Haurowitz had sent the manuscript of a paper prior to its publication for comment to Michael Heidelberger (1888–1991), a leading immunologist at the College of Physicians and Surgeons at Columbia University. His sharply critical response is revealing of the problem Haurowitz faced:

> If you do not agree with the referees[’] comments [which were included], that is your privilege, but you should not make a categorical statement contradicting published evidence without referring to the original material and giving your own evidence.[605]

After a detailed discussion, Heidelberger lists the omitted Journal articles—“This was done in *J[ournal]. [of] Exp[erimental]. Med[icine]*., 1941, 73, 125, 293; 1942, 75, 135”—and suggests to Haurowitz “to present his views properly,” and “to explain their differences from those already in print.”[606] The omission of these articles may indicate the extent of the difficulties of Haurowitz’s efforts of “keeping up to date with biochemical research done elsewhere.”[607] As Heidelberger writes in his professional correspondence: “Turkey has no money and will not permit buying foreign publications.” He was not even able to get copies of his own articles published in the Netherlands.[608] In the same year of leaving Istanbul University, Haurowitz published a textbook on the *Chemistry and Biology of Proteins*, first in German (1948), then in English (1950). It was praised for lucidity in a discipline that required bringing together “most of what is known about the structure, properties, and mode of action of proteins underlying modern biochemistry” (see a book review in: *Science*, April 20, 1951, 449–491).

Directorship of the Institute after Haurowitz left for the United States. Cf. Aras, Armutcu, and Dinc, 2015, p. 423–430.

[603] Putnam, 1994, p. 135.

[604] Raisman, 2007, p. 450–478.

[605] Putnam, 1994, p. 135.

[606] After moving to the United States, Haurowitz had a more positive interaction with Heidelberger at a small conference in Bermuda, during an annual meeting of the Federation of American Societies for Experimental Biology. “One afternoon it rained, and Heidelberger and his wife, an accomplished violinist, and Felix Haurowitz, a fine pianist [and the originator of the antigen template hypothesis to explain the diversity and specificity of antibodies], entertained the gathering with an impromptu performance of wonderful chamber music.” Qtd. after Eisen, 2001, p. 137.

[607] Putnam, 1994, p. 135.

[608] Haurowitz qtd. after Raisman, 2007, p. 455.

With a staggering "1500 references and inclusion of original papers," it would have certainly been prepared in Istanbul. In light of his difficulties in journal subscriptions, this may be a reflection of the richness of his library that he had been able to bring with him from Prague, as well as those of his colleagues, such as Arndt.[609] In addition, he would also have utilized his series of reports, *Progress in Biochemistry*, which he had started in Prague and clearly continued in Istanbul, as it covered the years from 1938 to 1947 on the research in his field. It was also published in 1948 (in: *Fortschritte der Biochemie*, 1938–1947) in Basel, Switzerland, in German language.[610] That he was trying in Istanbul to keep abreast of the research elsewhere is also evident in his nomination of two scientists for the Nobel Prize from institutions as far apart as Harvard and Uppsala.[611] Haurowitz's *Chemistry and Biology of Proteins,* despite its unanimous praise, was also criticised for its factual content as a textbook: "unless it is conceded that the aims of modern pedagogy are the instillation of large numbers of facts in the student rather than the elucidation of principles and development of a critical attitude… ." (*Science,* April 20, 1951, 449–91). The distinction between rote learning and critical thinking reflects the challenges of the educational environment for Haurowitz and the earlier émigrés.

Absence of an Indigenous Scientific Tradition

In addition, the situation was exacerbated by the lack of an established indigenous tradition in experimental, laboratory sciences, as well as trained graduate and post graduate students.[612] To the products of the intellectual culture of the Weimar Republic, this was an unbridgeable gap, and in part may account for the arrogant and condescending attitude of the émigré professors not only towards students, but to their Turkish colleagues, Haurowitz was among the notable

[609] Arndt's assistant in İstanbul for many years, Lotte Loewe's (b. 1900) comments in 1949 are of interest: "In the last 15 years the difficulties that affected our work were bad, contrary to the objectives, and inadequate infrastructure, and poor provision of building space. In the war and postwar years, added to these were insufficient chemical materials and equipment. Despite these, I can comfortably state that the present chemistry curriculum is equivalent to that in the 1930s at Breslau University. All of the scientific work that was completed at the Institute of Chemistry was published in the *Journal of the Faculty of Science* (Fen Fakültesi Dergisi). The library of the Institute of Chemistry was equipped with all the essential scientific books and studies up to 1941 in German, English, and French." http://aaspot.net/forum/ showthread.php?35151-Profesor-Arndt-bey-in-anilari. Accessed 19 April 2018; Kadioğlu, 1998, p. 185–186 and p. 197 (Translated from Turkish by the Author.)

[610] Widmann, 1973a, p. 25f.

[611] In 1948, Haurowitz sent in two nominations in biochemistry for the Nobel Prize in Physiology or Medicine: Edwin J. Cohn (1892–1953), Harvard Medical School, USA, and Arne W. Tiselius (1902–1971), Uppsala University, Sweden. Tiselius was awarded the Nobel Prize in Chemistry in 1948 for his work on the "Methods for separation and purification of serum components and their identification and use of these components." Haurowitz's Institution as University of Istanbul, and country as Turkey are listed in the Nomination Database: *Nomination for Nobel Prize in Physiology or Medicine 1948*, nobelprize.org. Accessed 19 April 2018.

[612] See Erichsen, 1991, p. 73–105, for the problems associated with a lack of infrastructure in Turkey as well as in Palestine and Latin America. For a discussion of the general problems associated with settlement in new countries, see: Ash and Soellner, 1996.

exceptions.[613] Yet despite his long-term impact on the discipline in Turkey, the decline in the level of research with his departure exemplifies the difficulties of importing such a tradition.[614]

Conflict of Attitudes

There were noticeable conflicts with the Turkish faculty, who did not approve of the priority given to experimental sciences. And there was also resentment of the preferential positions and salaries (more than twice their own), as well as the condescending attitude of the foreign faculty towards them.[615] These factors impeded the possibility of a productive collaboration in teaching or research.[616] The hostility of some of the German-speaking faculty towards France, carried over to faculty and students who had been trained at French or Swiss institutions, further precluded professional relationships. Haurowitz's comment is of interest in his letter (April 28, 1950) to microbiologist Hugo Braun (1881–1963) who was by then in Munich: "I never regretted the nine years I spent in Turkey, and I feel that the Turks conducted themselves towards us much better than some of the European professors [among us] towards the Turks."[617]

During the war years, the economic conditions in Turkey had become increasingly onerous. In the 1930s, the Turkish government had allocated substantial resources, and money, in equipment and salaries (Letter by the American Ambassador, 1936). The salaries had, however, remained at the initial amounts for many years, despite inflation, nor offered retirement protection. Like his colleagues, Haurowitz had to sell some of their furniture to survive.[618] At the end of the war, it is estimated that a third of the émigré academics preferred to go back to Germany. The reason for their return to Germany, as explained, was "because it was not possible to reach an agreement for a retirement plan, good or bad, in spite of all the efforts of our Turkish colleagues. Those who did not have significant savings looked on their old age with trepidation."[619] Germany had offered retroactive pension funds. What they could not receive from the Turkish government, they could claim in Germany.[620]

[613] Kalaycıoğulları, 2009, p. 26.
[614] Dölen, 2004, p. 47f.
[615] Bahar, 2010, p. 82–84; Ege and Hagemann, 2010, p. 1030.
[616] Dölen, 2004, Vol. 4, p. 408.
[617] Haurowitz qtd. after Raisman and Capar, 2004, p. 31.
[618] Raisman, 2007, p. 455f.
[619] Neumark, 1952, p. 153 and 229.
[620] Bahar, 2010, p. 48–78.

Failed Attempts–United States: Through a Glass Darkly

Haurowitz, does not seem to have considered returning to Prague. This may have been due to the complex political situation.[621] In 1946, Haurowitz sent his two children with his wife to the United States for their university education. He remained behind not only to fulfil his contractual obligations for two more years, but to ensure a position in the United States before relinquishing a secure job, which despite financial hardships, enabled him to send money to his family.[622]

Starting in 1941, Haurowitz had applied directly to institutions in the United States, such as Harvard, as well as indirectly exploring possible openings. His job hunting lasted for seven years. Although he had been able to procure a visa for himself and his family in 1943, his attempts to find a position through his professional network of contacts failed. Haurowitz's application to Harvard exemplifies one of the problems the émigré academics encountered. On September 25, 1941, Linus Pauling (1901–1994), the American biochemist, received an enquiry from archaeologist George Chase (1874–1952), the Dean of Harvard University's Faculty of Graduate Studies in Art and Sciences, on behalf of President James Bryant Conant (b. 1933): "it would be helpful if you would send us your estimate of Professor Haurowitz's standing and whether you have any suggestions about possibilities in this country." Haurowitz had been in correspondence with Pauling since 1936, and to the enquiry from the Dean, suggestive already of redirecting Haurowitz away from Harvard, Pauling replied on October 12, 1941:

> I have been greatly interested in his work for a number of years. In my opinion he is one of the leading men in the world in the field of the chemistry of proteins. His researches are characterised by imagination and good execution. His work on hemoglobin and on problems of immunology has been especially successful. I do not know at present of any opening for Professor Haurowitz in this country.[623]

Despite such a high recommendation from a scientist in the forefront of the field, Harvard's lack of an offer, is attributed to a policy under President Conant in not hiring Jewish faculty.[624] Subsequently, Pauling supported Haurowitz's placement in 1947 at the University of Indiana where President Herman B. Wells (1902–2000) had a different policy of hiring faculty based on their achievement, without discrimination of religious or political affiliations—a policy that raised Indiana University to the rank of one of the top institutions in the country.[625]

---

[621] Applebaum, 2012.
[622] Putnam, 1994, p. 135.
[623] Pauling qtd. after Raisman and Capar, 2004, p. 23f. The correspondence between Pauling and Haurowitz encompasses the years from 1936 to 1947 and continued after Haurowitz came to Bloomington intermittently during the period from 1951 to 1974.
[624] Raisman, 2007, p. 460f.
[625] Watson, 2007, p. 3.

The Dilemma: "Visa Granted – No Job Prospects"

Two years later, the correspondence between Haurowitz and Max Bergmann (1886–1944) shows that the situation for the hiring of émigré academics had not improved. Bergmann, also a biochemist, had been at the Rockefeller Institute for Medical Research in New York City since 1934. He had lost his position as Director of the Kaiser Wilhelm Institute for Leather Research in Dresden, Germany, where he had created one of the world's leading laboratories for protein chemistry. He too had been rejected earlier by Harvard.[626] Despite being granted immigration visa in 1943 for himself and his family, and the supporting pressure from his friends and relatives in America, Haurowitz wanted to first find out whether any jobs were possible in his own area before leaving Turkey. He wrote to Bergmann (May 28, 1943):

> I suppose that you are informed about the fate of the German professors emigrated to the United States. Have they found satisfying appointments? And do you think that I could find something?[627]

Bergmann's response, dated July 8, 1943 and written on Institute letterhead, was not reassuring at all:

> As a rule every scientist from abroad, even if he is famous the world over and is a Nobel Laureate, has to start here on a small scale, that is, with a small salary and one or two collaborators, and it depends on his achievement in his new position whether he makes progress. In general, it takes several months or one-half year for the newly arrived scientist to find a job and nobody gets a job offered to him before he has immigrated. [It] is not certain whether you would find a job to you're [!] liking at once or not until after some time. During the last years, everybody could be sure of finding a job. Now, under war conditions, it is almost impossible to predict anything.[628]

Faced with the discouraging picture of future prospects, Haurowitz had been reluctant to relinquish a secure job, and join his family in the United States. He remained behind, with two more years on his contract at Istanbul University, that enabled him, despite financial hardships, to send money to them.[629]

---

[626] Fruton, 1999, p. 378.

[627] They hired few Jews through the 1930s and some into the 1950s. A national survey conducted by the Carnegie Commission on Higher Education in 1969, involving 60,000 faculty respondents, showed that Jews in the upper-age brackets were significantly low at American universities (3.8 % vs. 79.0% Protestant, and 13.7% Catholics). This changed after WWII. Prior to 1933 German universities, such as Heidelberg, Breslau, Frankfurt am Main, Munich, Goettingen, Koenigsberg, and the German University of Prague, individually employed more Jewish professors than did Harvard, Yale, Brown, and Princeton combined at the time, and for over a decade beyond. See: Lipset and Ladd, 2007, p. 89–128.

[628] Raisman and Capar, 2004, p. 34–41.

[629] Putnam, 1994, p. 135.

Indiana University and Serendipity

When Haurowitz finally received an offer of a faculty position from Indiana University, it did not come through the usual channels of his own search, but from an unexpected quarter. A series of coincidental events had come together in Bloomington initiated by his daughter's enrolment as an undergraduate, her lodging (as a paying guest) in the house of a chemistry professor, and the presence of the daughter of a close family friend from Istanbul University, who happened to be there, as the wife of Hermann Joseph Muller (1890–1967), the Nobel Laureate geneticist. Haurowitz's daughter, Alice Sievert (b. 1937), had applied to different schools. Indiana University was the first to respond and to accept her.[630] She could not get lodgings through the University due to priority given to former students returning from their military service in WWII:[631]

> My parents were relieved to learn that Thea Muller, the daughter of our family friend Dr. Kantorowicz, Professor of Dentistry at the University of Istanbul, lived in Bloomington. Alfred Kantorowicz (1880–1962) had served in Turkey in teaching and research in paediatric dentistry during 1934–1948. Her [Thea's] husband, Herman J. Muller was Professor of Genetics, and shortly thereafter he was awarded the Nobel Prize in Medicine (1946). Thea Muller introduced me to the family of Harry G. Day (1906–2007), a professor of chemistry. He and Mrs. Day accepted me as a lodger and treated me as a daughter from then on. They invited my mother to visit, and Dr. Day learned from her that Father was also a biochemist and was seeking a position in the United States. After reviewing my father's publications, Dr. Harry Day arranged for him to lecture at Indiana University in the summer of 1947.[632]

This is also corroborated by the memoirs of Haurowitz. He could not immediately accept the offer of appointment that followed as Professor of Chemistry to teach biochemistry. He had to return to Istanbul University for one more year to fulfil his contractual obligation. There was also an offer of the chair of Biochemistry from the Medical School in Basel, Switzerland. Although he was the unanimous choice of the medical faculty, the position turned out to be conditional on overcoming the cantonal government's preference of a Swiss citizen. As this

---

[630] To add to their personal burdens, the émigré professors, like Haurowitz, served as a communication conduit between colleagues left behind in Nazi occupied countries and the relatives in free countries because of Turkey's neutrality. Haurowitz correspondence, see: Raisman, 2004, p. 27f.

[631] Ibid., *Appendix*, p. 16f.

[632] Kantorowicz was removed from office on April, 1 1933 as a Jewish Social Democrat, and interned first in the Boergermoor concentration camp, then in Lichtenstein. He was released at the end of December 1933 by Nazi authorities, due to the intervention by the Swedish Royal House and a formal invitation through the Turkish Embassy in Berlin, and emigrated to Istanbul. He remained there from 1934 to 1948, teaching and conducting research in clinical dentistry. For the Shah of Persia, he manufactured an upper and lower jaw prosthesis from rubber in 1935 at the Dolmabahçe Palace in Istanbul. Ibid. In October 1934, he was welcomed with special enthusiasm in Prague at an international scientific conference of the German dentists in the Czechoslovak Republic. He was among those who returned to Germany in 1950, a year before his retirement. In recognition of his work, the Medical Library at Istanbul University was named after him. His research in fluoride to reduce dental decay, led to the development of Crest toothpaste. Doyum, 1985.

process would have taken time, Haurowitz accepted the appointment at Indiana University and moved to Bloomington in July 1948. He was deeply impressed by the hospitality and warmth with which they were received not only by his "colleagues but also by the officers of the University, by neighbors, and by almost everyone with whom we had to deal in our daily life." This made, as he put it, their "assimilation to American life very easy."[633]

Bloomington was certainly a different university environment from Istanbul for Haurowitz. It was no longer German speaking, or multilingual. More significantly, the science was no longer in the German tradition of the 1930s as represented by his colleagues in Istanbul. America had been moving forward, abreast of Germany, with its own style of scientific practice.[634] From a situation of scientific survival, Haurowitz had moved into a challenging progressive community of research scientists strong in chemistry and biology, as well as genetics, a significant number of whom subsequently became Nobel Laureates. For example, Herman Joseph Muller (1890–1967) on the effect of X-rays on mutation in living organisms;[635] Tracy Sonneborn (1905–1985) on protein synthesis, and non-Mendelian inheritance, involving interactions between nuclear genes and the cytoplasm;[636] Ralph Cleland (1892–1971) on cytogenetics, specifically of the plants oenothera;[637] Irwin Gunsalus (1912–2008) on bacteriology, and biochemistry;[638] and Salvador Luria (1912–1991), an assistant professor in microbiology at the time, who too subsequently won a joint Nobel Laureate in Physiology of Medicine on the replication mechanism and the genetic structure of viruses.[639]

His facility with languages enabled Haurowitz to take over the teaching in English. This time, however, his teaching included not only introductory, but also graduate courses in biochemistry in proteins and nucleic acids. A graduate student who came over from Salvador Luria's lab was James D. Watson (b. 1928), also a subsequent Nobel Laureate (1962).[640]

---

[633] Haurowitz (1975) in Raisman, 2007, p. 450–478.
[634] Harwood, 1987, p. 390–414.
[635] See: Carlson, 2007, p. 32.
[636] Sonneborn was at Indiana University as an associate professor. There he stayed for the rest of his life, becoming professor in 1943, distinguished service professor in 1953, and distinguished professor emeritus in 1976. See: Preer, Jr., 1981.
[637] See: Cleland, 1982, p. 121–139. He discovered lipoic acid, a vitamin-like substance (an enzyme cofactor) that has been used as a treatment for chronic liver disease, and pyridoxal phosphate, one of the active forms of Vitamin B 6. In his role as assistant secretary general at the United Nations, he led the international body's research on genetic engineering.
[638] In 1982, he was the recipient of the Selman A. Waksman Award in Microbiology from the National Academy of Sciences.
[639] Salvador E. Luria won the Nobel Prize in Physiology or Medicine in 1969, with Max Delbrueck (1906–1981) and Alfred D. Hershey (1908–1997), for their discoveries on the replication mechanism and the genetic structure of viruses; nobelprize.org. Accessed 19 April 2018.
[640] Watson went on to the University of Cambridge in England, to subsequently discover the structure of DNA with Francis Crick (1916–2004), and Rosalind Franklin (1920–1958) in January 1953. Watson was awarded with Crick and Maurice Wilkins (1916–2004) the 1962 Nobel Prize in Physiology or Medicine "for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material."

Haurowitz's influence on him is established, though curiously not acknowledged by Watson himself.[641]

Chain of Serendipity: His Impact

In Prague Haurowitz had inspired Max Ferdinand Perutz (1914–2002), the Nobel Laureate, to study the crystallographic structure of haemoglobin. Perutz recollects, in an interview, how Haurowitz's initial advice gave him the crucial direction in his research:

> It came home to me that now I had been doing research in Cambridge for a year and I had no subject for a PhD thesis yet. And I really wanted a biological problem, and I remembered that a cousin of mine in Prague was married to a young Professor of Biochemistry, at the Charles University in Prague. I took the train to Prague and visited him. And I suggested to him that I could perhaps determine the crystal structure of the red pigment of haemoglobin, the haemin, but he pointed out to me that [Emil] Fischer [1852–1919] in Munich had already synthesised that and everything was known about it and there was really no point in determining its structure. But he said why not work on haemoglobin itself? And the idea appealed to me, but I wondered how I could get hold of crystals of haemoglobin. So Felix told me that there was a biochemist here in Cambridge, [Gilbert Smithson] Adair [1896–1979], who had actually crystallised haemoglobin, and I should try and ask him.[642]

Between 1925 and 1936 Haurowitz had made fundamental discoveries in his research on haemoglobin. What inspired Perutz was his discovery of the change in crystalline shape of deoxyhemoglobin from hexagonal plates to elongated prisms when crystals were diffused with oxygen.[643] When this encounter took place in 1937, Haurowitz had, however, changed the direction of his research as the result of a phone call from a colleague.

[641] Morange, 2010, p. 17–20. It is of interest that in his book, *Avoid Boring People*, Watson in relating his graduate years at Indiana University, lists all the teachers with whom he took courses, and who influenced him but does not mention Haurowitz anywhere.
[642] Perutz was awarded the Nobel Prize, jointly with John Cowdery Kendrew (1917–1997) "for their studies of the structures of globular proteins;" nobelprize.org. Accessed 19 April 2018.
[643] Putnam, 1994, p. 135.

Serendipity and Science

> *Scientists do not solve problems because they possess a magic wand—methodology and a theory of rationality—but because they have studied the problem for a long time.*[644]

Fritz Breinl (1888–1936), a virologist, had just returned from year at the Rockefeller Institute in New York, with Karl Landsteiner (1868–1943),[645] the Austrian immunologist and Nobel laureate for his work on blood groups (1930). Stimulated by Landsteiner's work, Breinl wanted to see how the "mystery" of the antibody production could be solved, at time when little was known about the production of proteins. The collaborative research of Breinl and Haurowitz resulted in what came to be known as the "instructional theory of antibody formation,"[646] which, developed further by Linus Pauling (1901–1994), acquired predominance.[647] Haurowitz remained committed to the role of antigen as a template for the formation of antibodies to explain both their diversity and specificity.[648]

His lifelong attachment to a theory, despite the increasing accumulation of contrary evidence and proposals of alternative models,[649] has been related to Haurowitz's personal insecurity due to his experience of translocation. By remaining close to what had initially made him famous, Haurowitz was re-establishing a continuity in a scientific career interrupted by the war. Furthermore, it was viewed as a sign of Haurowitz's difficulty in acknowledging that the apparent "perfect" specificity of antibodies is, in fact, the result of chance variations, and due to natural selection.[650] In other words, the predictable pattern in his research compensated for what he lacked in his personal life and career. Such a correlation, however plausible it may seem, is not warranted by any supportive evidence.

First of all, Haurowitz's subsequent career in research does not indicate any need on his part to hold on to past achievements – including his ventures away from biochemistry to areas of clinical physiology and neuroserology –, as it was marked by great honours. In 1960, he won the prestigious Paul Ehrlich Gold Medal in Germany, the highest honour in immunology and pathology. This was followed by his election to the German Academy of Sciences (*Deutsche Akademie der Naturforscher Leopoldina*), the American Academy of Arts and

---

[644] Feyerabend, 1975, p. 302.
[645] He continued to investigate blood groups and the chemistry of antigens, antibodies and other immunological factors that occur in the blood, and introduced chemistry into the service of serology. Nobel Organization, 1965.
[646] See: Haurowitz and Brenl, 1930, vol. 192,1, p. 47–57. The collaboration was cut short by Breinl's death in 1936.
[647] Kay, 1989, p. 211–219.
[648] Fruton, 1999, p. 378.
[649] Silverstein, 1988.
[650] Morange, 2010, p. 19.

Sciences (1970), and the US National Academy of Science (1973). He also received an honorary "Doctor of Medicine" from the University of Istanbul (1973) in Turkey, as well as an honorary "Doctor of Science" from Indiana University in the United States.[651]

If he had suffered from loss of self-esteem,[652] he was certainly put in the limelight almost immediately upon arrival at Indiana University by Linus Pauling, the President of the American Chemical Society. Although they had corresponded and exchanged articles, Pauling had never met Haurowitz.[653] During the inaugural meeting of the Society's Southern Indiana Section (October, 1948), he was speaking on "The Formation of Antibodies." His dramatic speech, as described by an eyewitness, is worth quoting:

> Pauling, to be better seen and heard in the large auditorium, climbed up on the lecture demonstration desk, which was large enough so he could walk back and forth. He began, "I visualized that if God was going to form antibodies, would form them in the simplest way, and these antibodies are therefore merely coiled up chains of amino-acids, and nobody ever thought of that before, except HAUROWITZ," and he turned and pointed at the Professor, sitting in the front row! He continued to present the various aspects of his theory, each time ending with a spectacular, "and nobody ever thought of that before, except Haurowitz."[654]

Haurowitz may have felt isolated in Turkey, but he quickly discovered, as he wrote to Hugo Braun (November 19, 1950), who was no longer Istanbul either: "My colleagues in the US seem to value my work." This was after his invitation as the "honoured speaker" at the symposium on antibody formation at the New York Academy of Medicine.[655]

Secondly, Haurowitz adhered to the template theory based on continued follow up research and publications as late as 1978, long after he was securely established and had gained distinction in his career in the United States.[656] At Indiana University he was also in an environment of highly specialized research in closely related fields, such as genetics.[657] Therefore the underlying reasons must be sought elsewhere than the personal difficulties in his career. It has been emphasized that Haurowitz "moulded" his models on protein and antibody

---

[651] Putnam, 1994, p. 135.
[652] Morange, 2010, p. 20.
[653] As related by Haurowitz: in follow-up experiments based on Haurowitz's theory, Pauling claimed that he could synthesize antibodies in vitro by exposing slowly renaturing globulin to antigens. Pauling, 1940, p. 2643–2657. Haurowitz repeated these experiments and showed that antibodies were not formed in this way. He wrote this up, sent the manuscript to Pauling to give him a chance to submit a correction, and offered not to publish in that case. Pauling's response was for Haurowitz to go ahead and publish his results, and let the scientific world be the judge. Haurowitz did publish his views (Haurowitz, et al., 1946) and later, a postdoctoral student of Pauling's, working at Cal. Tech in 1948/49, was unable to replicate and confirm that claim. Campaigne, 1988, p. 321–327.
[654] Ibid., p. 324f.
[655] Raisman and Capar, 2004, p. 23f.
[656] For his research focus in his articles between 1947 and 1979, see the bibliography in Putnam, 1994, and Morange, 2010.
[657] Kohler, 1982.

synthesis on the evidence from chemistry, and that he was perceiving scientific problems in a complex interdisciplinary field primarily as a "protein chemist."[658] In fact, historians have drawn attention to the contemporary existence of two kinds of immunologists,[659] the "chemists" and the "biologists," who spoke in a different language, and hardly communicated with each other: Apparently for decades, they asked the same questions but weighed the answer using different criteria, based upon different aspects of the immune response which each felt to be critical.[660] What reduced the distance between them was the modern synthesis with increased understanding of the mechanism of protein synthesis, the role of cellular receptors in the regulation of immune phenomena, and genetics.[661] Thus the grounds of Haurowitz's commitment to his scientific theory are more complex than is proposed.

Haurowitz had advanced the Institute of Biochemistry at Istanbul University between 1940 and 1948, making significant progress in his research with a team of his assistants and trainees, despite the budget crisis brought on by the war, and institutional limitations in laboratory research took-up.[662]

Unforeseen Consequences

At the same time, his displacement to Turkey turned Haurowitz towards an unexpected direction that subsequently also enhanced his reputation together with research. His highly praised, *Chemistry and Biology of Proteins,* of which he was justifiably proud,[663] was published initially in German in 1948, the year he took up his new appointment at Indiana University. Its subsequent English version (1950) went through several editions, translated into numerous languages, and became widely known. It was, however, prepared in Istanbul. He might not have undertaken to write a textbook at all, if he had not come to Istanbul, as he had previously declined such a proposal in Prague.[664] It was initiated by the contractual obligation of his appointment by the Turkish Government.

Haurowitz exemplifies the role of serendipity also in a broader context**,** where the reform objectives of the Turkish Republic paved the way for unforeseen consequences. Haurowitz had survived the war. If he had remained, he would have perished as all his relatives did.[665] This applied to all the émigrés. They survived *en masse*, not only with their families, assistants, and

[658] Morange, 2010, p. 20.
[660] Silverstein, 1988.
[661] Ribatti, 2017, p. 86–90.
[662] Yenson, 1987, p. 49–55; Kalaycıoğulları, 2009, p. 26.
[663] Putnam, 1994, p. 135.
[664] Ibid.
[665] Haurowitz qtd. after Raisman, 2007, p. 460f.

technicians, but in an intellectual, scientific, and social enclave in one place throughout the war. The conditions, with various complex impediments (economic, political, institutional, and administrative), were less than ideal at best, and hardly conducive to experimental science in certain disciplines.[666] The responses to the hardships depended both on the research area, as well as on the research scientist as in the case of Haurowitz.

Their overt achievements have been recognized. As one of the former émigrés to Turkey, intimately familiar with the circumstances, commented:

> Although in the years following 1933, the number of German-speaking refugees in other countries especially in the United States, far exceeded those in Turkey, in no other place was the relative significance of German refugees as great as it was in Turkey and nowhere else did their work leave as permanent an impact.[667]

What is significant is, not only the overt achievements, but also a "dormant productivity," stimulated by the encounter with a different culture, outside Europe. It led to a kind of "gestation period" of creative ideas, the results of which emerged only after the war, largely in the United States. This has been shown, for example in the creation of novel interpretations, new theories, or new disciplines—including the fields of biological psychiatry and interdisciplinary neuroscience—immediately following their arrival, in addition to contributions to scientific and other areas.[668]

Conclusions

The initiation of scientific disciplines was within the pedagogic objectives of the Turkish Republic. The émigré academics started an experimental scientific tradition in Turkey which has slowly continued to develop up to the present. At the same time, a substantial number of scientists survived (1933–1950) to contribute, in varying degrees, to scientific research, if not directly in, then through Turkey in the United States.[669] With the forced migration of academics from Nazi Germany in 1933, a major concern as expressed by the Royal Society in Britain then, was "saving the future of science."[670] In this sense, one could say that in the displacement of scientists, Turkey had gone beyond its reform objectives, and inadvertently served the "future of science." This was an important role, but a consequence of serendipity.

---

[666] Kuruyazıcı, 1998, p. 37–50.
[667] Raisman, 2008, p. 82.
[668] Konuk, 2012.
[669] Erichsen, 1998, p. 1–21.
[670] Ash, 1991, p. 101–121; esp. p. 121.

Postscript: The Personal Link

In my last year as a graduate student at Indiana University, I received an invitation to tea. To be invited by my German professors to an occasional dinner was not unusual. (Always a memorable occasion with special German cheese cakes and conversation.) This was not by my own teachers. (My mother, who had also joined me in my last year, accompanied me.) Curious with anticipation, we were ushered into a lush garden on a warm summer's day where a table was set for tea with a mesh dome over a delectable cake. To our surprise, a mellifluous voice in elegant Ottoman Turkish welcomed us. It was Gina Haurowitz (1903–1983). I do not remember much about the conversation. The surprising discovery that they had lived in Istanbul for nine years stuck in my mind. Felix Haurowitz was away.

The second tea invitation was from Thea, Alfred Kantorowicz's (1899–1879) daughter. Thea (1909–1986), the wife of Herman J. Muller, the Nobel Laureate biochemist. I had heard about him from my teacher, Herbert J. Muller (1905–1980), the historian and author of *The Loom of History* (1961), who used to refer to him as "my distinguished cousin." The Kantorowicz family had also been in Turkey during the war years. With Hitler's rise to power, Alfred Kantorowicz (1880–1962), Professor of Dentistry, was dismissed from the Institute in Bonn which he had developed. He was arrested and imprisoned first in Bonn, then interned at numerous concentration camps. His release from Lichtenberg was secured by the intercession of the Swedish head of the international Red Cross, supported by the contractual offer of appointment from the Turkish Government, as director of the Dental school at Istanbul University.[671] As Professor of dentistry and personal dentist to Mustafa Kemal Atatürk (1881–1938), he had reformed dental education and paediatric dentistry. Subsequently the Medical library at Istanbul University was named in his honour. He had recently died in Germany (1962). Hermann Joseph Muller had met their daughter, Dorothea (Thea) in 1938 at Edinburgh University, where she had gone after completing her medical studies in Istanbul. They were married a year later in 1939, when WWII had broken out.[672]

To learn then that her parents had spent some time interned in a small town in the east of Turkey was also surprising. Towards the end of the War, Turkey, changing its neutral, non-hostile position towards Nazi Germany, had joined the Allies. The German émigré academics in Turkey had suddenly found themselves on the side of the enemy that had persecuted them. They became "stateless," with no passports, no money, and limited options. (*Those, whose university contracts had not expired appear to have been relatively safe.*) To avoid being made

[671] Raisman, 2008, p. 83f.
[672] Carlson, 2007, p. 32.

prisoners of war, they could become Turkish citizens, or leave for another country, neither of which was easy to acquire. Eventually, some returned to Germany. Others were allowed to remain by the Turkish government in temporary internment in a provincial town until they found passage to the United States.

Decades later, at a conference at Istanbul University, in commemoration of the contribution of German medical faculty, I met the daughter of neuropathologist Philipp Schwarz (1894–1977), without realizing who she was. A psychiatrist and psychotherapist practicing in Zurich, Switzerland, Susan Ferenz-Schwarz, had spent her childhood in Istanbul, like the children of Haurowitz. In her keynote address in fluent Turkish, she movingly expressed how Turkey had given them not simply a safe haven during the war, but a home and a country.

At the time, none of the background was known to me. I realize only now, with regret, the missed opportunity to gain their personal views about which most had remained silent. I had grown up totally ignorant of their immense contributions to Turkey. That I should be working on their lives, resurrecting their memories through the research invitation of my colleague, Frank Stahnisch, completes the intricate web of serendipity.

References

Aiken, Ross. 1937. Enzymologia. Edited by Carl Oppenheimer. *Journal of Physical Chemistry* 41: 340.

Applebaum, Anne. 2012. *Iron Curtain: The Crushing of Eastern Europe 1944–56*. New York City: Allen Lane.

Aras, Şükrü. 2012. *The Foreign Biochemistry Authors Coming to Turkey during the University Reform in 1933 and their Contributions*. Istanbul, Turkey: Istanbul University, Institute of Health Sciences, PhD Thesis.

Aras, Şükrü, Armutcu, Ferah, and Gülten Dinc. 2015. In the History of Department of Biochemistry of Istanbul Medical Faculty (1933–1957), Three German Scientists: Werner Lipschitz, Felix Haurowitz, and Zdenko Stary. *Biochemistry* 40: 423–430.

Ash, Mitchell G. 1991. Central European Émigré Psychologists and Psychoanalysts in the United Kingdom. In: *Second Chance: Two Centuries of German-speaking Jews in the United Kingdom*, eds., Mosse, Werner A., Julius Carlebach, Gerhard Hirschfeld, Aubrey Newman, and Peter Pulzer, 101–121. Tuebingen, Germany: JCB Mohr.

Ash, Mitchell G., and Alfons Soellner (eds.). 1996. *Forced Migration and Scientific Change: Emigre German-Speaking Scientists and Scholars after 1933*. Washington, DC: German Historical Institute and Cambridge, MA: Cambridge University Press.

Bahar, Izzet. 2010. German or Jewish, Humanity or Raison D'état: German Scholars in Turkey, 1933–1952. *Shofar: An Interdisciplinary Journal of Jewish Studies* 29: 48–79 and 82–84.

Bahar, Izzet (eds.). 2014a. *Turkey and the Rescue of European Jews*. London, England: Routledge.

Bahar, Izzet. 2014b. Turkey and the Rescue of European Jews. *Studies in Modern European History* 26: 192–197.

Bentwich, Norman. 1953. *The Rescue and Achievement of Refugee Scholars: The Story of Displaced Scholars and Scientists, 1933–1952*. The Hague, Netherlands: Martinus Nijhoff.

Berkem, Ali Riza. 1993. Türkiye'nin son 70 Yılında Kimya Alanında Gelişmeler. In *Tük Dünyasında Kimya Bilim ve Eğitim Tarihi*, ed., Köker, Ahmed Hulusi, 112–115. Istanbul, Turkey: Kayseri.

Burk, Lale A. 2003. Fritz Arndt and his Chemistry Books in the Turkish Language. *Bulletin of the History of Chemistry* 28: 42–53.

Campaigne, Edward. 1988. Haurowitz and Pauling. *Proceedings of the Indiana Academy of Science* 98: 321–327.

Carlson, Elof Axel. 2007. *Hermann Joseph Muller (1890–1967). A Biographical Memoir*. Washington, D. C.: National Academy of Sciences.

Cleland, Ralph. 1982. *A Biographical Memoir*. Washington, D. C.: National Academy of Science.

Dölen, Emre. 2004. Cumhuriyet Döneminde Türkiyede Kimya. *Proceedings of the V. Türk Kültürü Kongresi. umhuriyetten Günümüze Türk Kültürünün Dünü, Bugünü ve Geleceği Songül Boybeyi* 1: 43–48.

Dölen, Emre. 2010. *Türkiye Üniversite Tarihi, 1933–1946*. Istanbul, Turkey: İstanbul Üniversitesi, Vol. 4.

Donáth, Tibor. 2010. Tibor Péterfi, The Founder of Micromanipulation. *Orvostort Kozl* 56: 215–222.

Doyum, Vicdani. 1985. *Alfred Kantorowicz unter Besonderer Beruecksichtigung seines Wirkens in Istanbul (ein Beitrag zur Geschichte der modernen Zahnheilkunde)*. Wuerzburg, Germany: Bayerische Julius-Maximilian University of Wuerzburg, Doctoral Dissertation.

Ege, Ragip, and Harald Hagemann. 2010. The Modernisation of the Turkish University after 1933: The Contributions of Refugees from Nazism. *The European Journal of the History of Economic Thought* 19: 1001–1030.

Eisen, Herman N. 2001. Michael Heidelberger. *Biographical Memoirs, National Academy of Sciences (NAS)* 80: 122–137.

Erichsen, Regine. 1991. Die Emigration deutschsprachiger Naturwissenschaftler von 1933 bis 1945 in ihrem sozial- und wissenschaftshistorischen Wirkungszusammenhang. In *Die Emigration der Wissenschaft nach 1933*, ed., Strauss, Herbert A., et al., 73–105. Munich, Germany: K. G. Saur.

Erichsen, Regine. 1998. Scientific Research and Science Policy in Turkey. *Cemoti – Cahiers d'études sur la Mediterranée Orientale et le Monde Turco-Iranien* 25: 1–21. http://journals.openedition.org/cemoti. Accessed 19 April 2018.

Feyerabend, Paul. 1975. *Against Method*. London, England: Verso.

Fruton, Joseph S. 1999. *Proteins, Enzymes, Genes: The Interplay of Chemistry and Biology*. New Haven, NJ and London, England: Yale University Press.

Gürgey, İsmet. 2005. Türkçe Âşığı Bir Bilim Adamı: Ord. Prof. Dr. Fritz Arndt. *Türk Dili* 206: 87–88.

Harwood, Jonathan. 1987. National Styles in Science: Genetics in Germany and the United States between the World Wars. *Isis* 78: 390–414.

Haurowitz, Felix and Fritz Brenl (eds.). 1930. *Hoppe Seyler's Zeitschrift fuer Physiologische Chemie*. Leipzig, Germany: Knoop & Thomas.

Kadıoğlu, Yazar. 1998. *Türkiye Bilimsel ve Teknik Araştırma Kurumu'nun (TÜBİTAK) Kuruluşu ve Türk Bilim Hayatındaki Yeri*. Istanbul, Turkey: Istanbul University, PhD Thesis.

Kalaycıoğulları, İnan. 2009. *Cumhuriyet Dönemiinde Türkiyede Bilim*. Ankara, Turkey: University of Ankara, PhD Thesis.

Kay, Lily E. 1989. Molecular Biology and Pauling's Immunochemistry: A Neglected Dimension. *History and Philosophy of Science* 20: 211–219.

Kobes, Joern, and Hesse, Jan-Otmar. 2008. *Frankfurter Wissenschaftler zwischen 1933 und 1945*. Goettingen, Germany: Wallstein Verlag.

Kohler, Robert E. 1982. *From Medical Chemistry to Biochemistry: The Making of a Biochemical Discipline*. Cambridge, MA: Cambridge University Press.

Konuk, Kader. 2012. *East-West Mimesis: Auerbach in Turkey*. Palo Alto, CA: Stanford University Press.

Kuruyazıcı, Nilüfer. 1998. Farklı Bir Sürgün: 1933 Türkiye Universite Reformu ve Alman Bilim Adamları. *Alman Dili ve Edebiyatı Dergisi* 11: 37–50.

Lipset, Seymour Martin and Everett Carl Ladd. 2007. Jewish Academics in the United States; Their Achievements, Culture and Politics. *American Jewish Year Book* 72: 89–128.

Morange, Michel. 2010. What History Tells: Felix Haurowitz (1896–1987) – A Difficult Journey in the Political and Scientific Upheavals of the 20th Century. *Biosciences* 35: 17–20.

Mosse, George L. 1983. *German Jews Beyond Judaism*. Tel Aviv, Israel: Hebrew Union College Press.

Neumark, Fritz. 1952. *Zuflucht am Bosporus. Deutsche Gelehrte, Politiker und Kuenstler in der Emigration 1933–1953 (Escape to Bosphorus: German Scholars, Politicians, and Artists in Exile 1933–1953)*. Frankfurt am Main, Germany: Knecht.

Nobel Media. 2017. Nomination Database: *Nomination for Nobel Prize in Physiology or Medicine 1948*, https://www.nobelprize.org. Accessed 19 April 2018.

Nobel Organization. 1965. *Nobel Lectures, Physiology or Medicine 1922–1941*. Amsterdam, The Netherlands: Elsevier Publishing Company.

Pauling, Linus. 1940. A Theory of the Structure and Process of Formation of Antibodies. *The Journal of the American Chemical Society* 62: 2643–2657.

Pozzo, Andrea. 1989. *Perspective in Architecture and Painting* (an unabridged reprint of the English-and-Latin edition, 1693). *Perspectiva pictorum et architectorum*. New York City: Dover Publications, 1989.

Preer, Jr., John R. 1981. *Tracy Morton Sonneborn 1905–1981: A Biographical Memoir*. Washington, D. C.: National Academy of Science.

Putnam, Frank W. *Felix Haurowitz 1896–1987, A Biographical Memoir*. Washington, D.C.: National Academy of Sciences, 1994.

Raisman, Arnold. 2004. Exiled in Turkey from Nazi Rule: Eminent Biochemist Felix Haurowitz. Became Indiana's Adopted Son. *The Journal of the Center for the Americas* 4: 1–26.

Raisman, Arnold. 2006. *Turkey's Modernization: Refugees from Nazism and Atatürk's Vision*. Washington, D. C.: New Academia Publishing.

Raisman, Arnold. 2007. German Jewish Intellectuals' Diaspora in Turkey: 1933–1955. *The Historian* 69: 450–478.

Raisman, Arnold. 2008. They Helped Modernize Turkey's Medical Education and Practice: Refugees from Nazism 1933–1945. *Gesnerus* 65: 56–85.

Raisman, Arnold, and Ismail Capar. 2004. *The Nazis' Gifts to Turkish Higher Education and Inadvertently to Us All: Modernization of Turkish Universities (1933–1945) and its Impact on Present Science and Culture*. New Orleans, MS: Mississippi State University; http://dx.doi.org/10.2139/ssrn.624525. Accessed 20 April 2018).

Rechcigl, Jr., Míla. 2016. *Encyclopedia of Bohemian and Czech-American Biography*, Vol. 3. Prague, Czechoslovakia: Czechoslovak Society of Arts and Sciences.

Ribatti, Domenico. 2017. *Milestones in Immunology: Based on Collected Papers*. Amsterdam, The Netherlands: Elsevier, Inc., Academic Press.

Russell, Guel A. 2016. A Variation in Forced Migration: Wilhelm Peters (Prussia via Britain to Turkey, and Muzafer Sherif (Turkey to the United States). *Journal of the History of the Neurosciences* 23: 219–226.

Sarkowski, Heinz, and Heinz Goetze. 1997. *Springer-Verlag. Foundation, Maturation, Adversity. Pt. 1: 1842–1945*. Berlin, Germany: Springer Science & Business Media. Language Arts & Disciplines, p. 337–402 and 449.

Schwietering, Julius. 1993. Hennig Brinkmann – Scholar Spy. In *Linguistics and the Third Reich: Mother Tongue, Fascism, Race and the Science of Language*, ed., Hutton, Christopher M. Hutton, 74–77. London, Eng.: Routledge.

Silverstein, Allan M. 1988. *A History of Immunology*. San Diego, CA: Academic Press.

Stahnisch, Frank W. and Guel A. Russell (eds.). 2016. New Perspectives on Forced Migration in the History of Twentieth Century Neuroscience. A Special Issue of the *Journal of the History of the Neurosciences* 23: 2–19 and 219–26.

Stahnisch, Frank W., and Guel A. Russell (eds.). 2017. *Forced Migration in the History of Twentieth Century Neuroscience and Psychiatry – New Perspectives*. New York City and London, England: Routledge.

Watson, James D. 2007. *Avoid Boring People: Lessons from a Life in Science. And Other Lessons from a Life in Science*. Los Angeles, California: Knopf.

Widmann, Horst. 1973a. *Atatürk Üniversite Reformu: Almanca konuşulan ülkelerden 1933 yılından sonra Türkiyeye gelen ö.retim üyeleri–Hayat Hikayeleri–Çalışmaları–Etkileri*. Trans. Aykut Kazancıgil and Serpil Bozkurt. Istanbul, Turkey: Üniversitesi Cerrahpaşa Tıp Fakültesi Atatürk'ün Yüzüncü Doğum Yılını Kutlama Yayınları.

Widman, Horst. 1973b. *Exil und Bildungshilfe: Die deutschsprachige akademische Emigration in die Tuerkei nach 1933*. Bern, Switzerland: Herbert Lang and Frankfurt am Main, Germany: Peter Lang.

Winterstein, Hans. 1962. Skizzen aus meinem Leben. Aerzte unserer Zeit in Selbstdarstellungen. *Hippokrates* 33: 79–83.

Yenson, Mutahhar. 1987. Ord. Prof. Dr. Felix Haurowitz and Contributions to the Department of Biochemistry of Istanbul Faculty of Medicine. In *Proceedings, Symposium of Turkish-German Medical Relations (Sept. 24–25, 1981)*, ed., Terzioglu, Arsian, 49–55. Istanbul, Turkey: Fatih Genclik Vakıf Matbaasi.

Reviews

William Feindel and Richard Leblanc, *The Wounded Brain Healed: The Golden Age of the Montreal Neurological Institute, 1934–1984*. Montreal: McGill-Queen's University Press, 2016. Pp. 632 pp. CDN$100.00 (Cloth). ISBN: 978-0-7735-9816-0.

Reviewed by James L. Bernat

Geisel School of Medicine at Dartmouth, NH

For over eight decades, the Montreal Neurological Institute (MNI) has been one of the world's premier neurosurgery-neurology-neuroscience institutions. This book, written by a neurosurgeon-director of the institute, who died in 2014, and a currently active staff neurosurgeon-researcher, traces the history and principal actors of the MNI during what the authors argue was its golden era spanning its first 50 years. They have produced a beautifully illustrated and well-written volume that tells a compelling story and is a fitting tribute to their beloved institution.

The MNI is infused by its history, beginning with its earliest planning in 1928 by the distinguished neurosurgeons Wilder Penfield (1891–1976) and William V. Cone (1897–1959), who were recruited from New York to develop a neurosurgery service at the Royal Victoria Hospital of McGill University. The authors are exceedingly knowledgeable about the historical details of the MNI and were assisted by small group of colleagues who co-wrote chapters. Within each section are biographies of the clinicians and researchers who developed the MNI. Perhaps, because of the orientation of the senior author, the history is divided into four eras corresponding to the pre-MNI planning period at the Royal Victoria Hospital (from 1928 to 1934) followed by one era for the tenure of each of the MNI's first three directors (from 1934 to 1984).

The volume is magnificently illustrated and printed on high-grade paper making the many illustrations and photographs sharp and adding to the book's heft. Many of the illustrations and photographs are archival and previously unpublished. The authors provide tables and appendices listing the names of invited speakers, fellows, and staff at each stage, increasing its value as a reference work. The authors' scholarship is exemplary with over 90 pages of endnotes.

As would be expected, there is great emphasis on the life, work, and vision of Wilder Penfield, the man most responsible for the creation and development of the MNI. Penfield was

a remarkable neurosurgeon, scholar, researcher, program developer, fundraiser, and visionary thinker. His pioneering work and research in epilepsy surgery, cortical functional anatomy, and brain tumors is legendary. Assisting Penfield at every step was his able right-hand-man, William Cone, who was Penfield's lower-profile partner in the development of the MNI from its very beginning. Cone's neurosurgical skills, high personal standards, indefatigability, loyalty, and incredible work ethic allowed Penfield to enjoy the glory of leadership. The authors poignantly described Cone's tragic and early end with appropriate respect and sensitivity.

Numerous other famous staff members are described, including how they were recruited, how they contributed to starting services at the MNI, and their principal clinical and research accomplishments. Familiar names include Cosimo Amjone-Marsan (1918–2004), Frederick Andermann (b. 1930), André Barbeau (1931–1986), Gilles Bertrand (b. 1924), Stirling Carpenter (b. 1922?), Kenneth Allan Caldwell Elliott (1903–1986), Arthur Roland Elvidge (1899–1985), William H. Feindel (1918–2014), Pierre Gloor (1923–2003), Herbert Jasper (1906–1999), George Karpati (1934–2009), Francis Leblanc (b. 1931), Donald McEachern (1941–2013), Francis McNaughton (1932–2005), Brenda Milner (b. 1918), Theodore Brown Rasmussen (1910–2002), James Preston Robb (1914–2004), Colin Kerr Russel (1877–1956), and Allan Sherwin (1932–2016). I was particularly delighted to see that nursing service was afforded equal footing to the physicians, with lengthy descriptions of nursing leaders and their innovations.

Bill Feindel and Richard Leblanc described how the many fellows and other trainees of the MNI later became influential leaders at other medical centres throughout the world. I learned that many of these prominent clinicians and researchers, who I always associated with their parent institutions, such as Charles Miller Fisher (2013–2012) and David H. Hubel (1926–2013) of Harvard, began their careers by training at the MNI. Penfield maintained numerous international collaborations throughout his career, traveled extensively around the world, and invited clinicians and researchers from many countries to visit the MNI.

Embedded within the biographies are fascinating stories and anecdotes. The role of MNI neurologists and neurosurgeons in the European theater of World War II was covered extensively. The remarkable story of Penfield removing a brain tumor from his own sister Ruth (b. 1918?) is recounted in detail. We are introduced to the famous patient HM (now known to be Henry Molaison, 1926–2008), who developed profound anterograde amnesia and complete absence of working memory after bilateral hippocampectomy to treat epilepsy. Although his surgery was performed in Hartford, Connecticut, his amnesia was studied in detail by the MNI neuropsychologist Brenda Milner and her fellow, Suzanne Corkin (1937–2016)[1], who, herself,

has been the subject of a recent *exposé* monograph. The history of the development of the Wada test for language laterality, developed by Juhn Atsushi Wada (b. 1924), is described interestingly. At several stages of the MNI, the tension between the Francophile and Anglophile political divisions of Montreal, and between McGill University and the Université de Montréal, are described sensitively.

I was fascinated by the stories and biographies in this volume. I found the earlier history of the MNI to be better told and more exciting, perhaps because with fewer people to cover, the authors offered more complete accounts of their personalities. The authors' desire to provide comprehensive descriptions of the final two decades at times devolved into tedious lists of who did what and when. I have myself spoken at the MNI and viewed the shrines to its founders, so perhaps my interest was primed to wanting to learn more about its biography and provenance. I thoroughly enjoyed reading this book and can recommend it as the lovingly told, definitive history of the MNI's first 50 years.

Notes

[1] Dittrich, Luke. 2016. *Patient H. M.: A Story of Memory, Madness, and Family Secrets*. London, Eng.: Random House, 2016.

Nikolas Rose and Joelle M. Abi-Rached, *Neuro: The New Brain Sciences and the Management of the Mind*. Princeton, NJ, and Oxford, Eng.: Princeton University Press, 2013. Pp. 325. USD$29.95 (paperback). ISBN 978-1-4008-4633-7.

Reviewed by Anna von Villiez

University of Hamburg

Neuroscience is the discipline that explores the nervous system and most prominently it's center──the brain. In modern understanding, the brain became the place where thoughts and feelings are generated, the place where concepts like personhood and human free will are shaped. Neuroscience is therefore naturally a field much discussed and the ensuing debates have transcended from the laboratories into the public and the political sphere. *Neuro: The New Brain Sciences and the Management of the Mind* is an intellectual history of neuroscience with an emphasis on the second half of the 20st century when the knowledge of neurons and of nervous system function became increasingly further elicited and framed in molecular contexts. The authors Nicholas Rose, Professor of Sociology, and historian Joelle M. Abi-Rached, based then at Harvard's Department of History of Science, describe major conceptual shifts in the scientific and public understanding of the brain over the last half century. They had further sat out to chart the emergence of a new neuromolecular vision of the brain, while their approach is rooted in a cultural history context and in the social sciences, and it considers the various connections between neuroscience, its allied sciences, society, politics, and economics. Written in an engaging eloquent style, the book addresses both experts in the field as well as the wider public. *Neuro: The New Brain Sciences and the Management of the Mind* maps key findings in the history of the neurosciences which each influenced the paths that the discipline took: psychiatric pharmacology, psychiatric genomics, new technologies in visual imagery, leading to paradigmatic changes both in anatomy of the brain and regarding the physiological activity of the living brain.

Chapter 1 ("The Neuromolecular Brain") follows the key conceptual shifts driven by new technical means for exploring the biological nature of the brain. Nikolas Rose and Joelle M. Abi-Rached demonstrate that the modern exploration of the brain as an organ of human thought is taking place claimed a dissolution of the mind-body-dualism. This again has led to a new polarization, however, between the humanistic and the neuroscientific understanding of what the brain does.

Chapter 2 (“The Visible Invisible”) discusses epistemological issues, such as the gap between new technologies and new scientific and psychological insights: Visualisation of brain functions does not “enable the neuroscientist to walk among thoughts, feelings, or desires” (p. 81). Technology alone cannot bridge the gap between the level of molecules and higher mental states.

Chapter 3 (”What’s Wrong with Their Mice“) points out limits in neuroscientific research by looking at animal models. While the conceptualization of the book is rather to give an overview of the many discourses, within the field itself this chapter, takes an argumentative stand by criticizing he problems in translation of the scientific findings from animal models to humans. The lack of ethical consideration regarding animal testing in this chapter—for the benefit of neuroscientific research within this epistemological discussion—is somewhat puzzling.

Chapter 4 (“All in the Brain?”) looks at the benefits of neuroscience and its new pathological insights into diagnostics in the field of psychiatry. The insightful history of psychiatric diagnostic tools and charts provided in this chapter makes nevertheless for a great read. The authors judge the diagnostic benefits of neurosciences for psychiatric patients as rather limited: “Has neuropsychiatry brought us any closer to resolving that centuries-old problem of how to define ‘true madness’ … ? At present, one must answer in the negative” (p. 140). In this chapter, the terminology remains somewhat unclear when the authors for example state: “At root, the neurobiological project in psychiatry finds its limit in the simple and often repeated fact: mental disorders are problems of persons, not of brains. Mental disorders are not problems of brains in labs, but of human beings in time, space, culture, and history. And, indeed, so is diagnosis …” (p. 140). What is a person as opposed to a brain? Where does “personhood” happen in the body if not in the brain? And where do the social and cultural factors manifest themselves if not in the brain?

Chapter 5 (“The social brain”) explores the findings of the neurosciences particularly on empathy and the social self by discussing key studies like the ones provided in the writings of neurophysiologist Michael Gazzaniga and behavioural scientist Robin Dunbar. Rose and Abi-Rached show how the “mental hygiene movement” of the first half of the twentieth century was transformed into the discourse of social neuroscience during the second half of the century: “Parenting, biography, experience, diet, alcohol, drugs, stress, and lifestyle all pass through the brain, shaping and reshaping the brain at the very same times those capacities and attributes—–cognition, emotion, conduct, disorder, resilience, and the like—are shaped by the brain“ (p. 162–163). In their attempt to argue for a stronger liaison between traditional psychological

understandings of mental health and the conceptualization in modern neuroscientific disciplines the argument in this chapter appears somewhat flawed: "It is not that human beings have become conceived of as mere puppets of their brains, far from it. Human beings are not thought of as identical with their brains, or reduced to their brains or determined by their brains" (p. 163). The ensuing philosophical question is, in fact, where personhood happens if not in the structure and functioning of the brain?

Chapter 6 ("The Antisocial Brain") deals with brain pathologies of criminals——a topic with a particularly dark history under National Socialism in Germany, when criminals became incarcerated in concentration camps merely due to their alleged criminal biological "nature." Brain research into the underlying pathologies of mental disabilities became an infamous ally in this regard to the "euthanasia" killings of mentally ill patients during that time. *Neuro: The New Brain Sciences and the Management of the Mind* follows the historical route of research into the pathological brains, and it discusses the political claims of the findings by taking a chronological perspective. When during the high time of eugenics (until the 1950s) pathologies where linked to the biology of genes, today's understanding regarding the connections between genetics and brain pathologies appears much more differentiated and less deterministic. It particularly recognizes the adaptability of the developing brain. Pathologies, for example attention deficit hyperactivity disorder, autism, schizophrenia, bipolar disorder, or dementia) are now seen as developmental, and not as written into the human genes. Where the societal management of criminal individuals used to concentrate on eugenic measures in the past, it concentrates today rather on measures of prevention by acting on the child's developing brain.

Chapter 7 ("Personhood in a Neurobiological Age") discusses the socio-political claims arriving from present neuroscientific understandings of the brain as a malleable entity, leading to a constant call for self-improvement (p. 223).

The authors do not shy away from a stand regarding the current debates in the neurosciences themselves. A central topic for them, in this chapter, is the relationship with social science and how concepts of the brain, personhood, or free will are challenged by recent and genetically orientated neurosciences. They stress similarities rather than contradictions between the disciplines: "We argue that despite apparent contradictions, neurobiological research emphasizing the role of nonconscious neural processes and habits in our decisions and actions can——and does——happily coexist with longstanding ideas about choice, responsibility, and consciousness that are so crucial to contemporary advanced societies" (p. 21). Looking at the volume overall, how the two disciplines——the neurosciences and social sciences——should bring their different views together stays slightly blurry in parts. The book provides

nevertheless a thorough and thoughtful intellectual history of neurosciences by considering not only the discipline's scientific history but also a social history of many of its key protagonists. Especially the very insightful descriptions of the entanglement of the neurosciences with politics, the public and (pharmaceutical) markets makes the overview so informative and a must-read for everyone interested in the field.

Volker Roelcke, Paul J. Weindling, and Louise Westwood, eds., *International Relations in Psychiatry: Britain, Germany, and the United States to World War II*. Rochester Studies in Medical History. Rochester, N.Y.: University of Rochester Press, 2010. Pp. vi + 254 + Ill. USD$90.00 (cloth). ISBN 978-1-58046-339-3.

Reviewed by Paula Larsson

Oxford University

The discipline of history has made a conscious effort in recent years to engage with newer academic approaches to studying the nations and peoples of the past. Increasing worldwide connections that have developed through processes of globalization have allowed for the breakdown of previous national barriers. Too often these barriers constrained restricted intellectual inquiry to certain types of historical approaches. In the history of psychiatry and neuroscience, for example, these approaches were often biographical discussions of important individuals, or of the unique political and social structures that shaped the development of a discipline within a single country. Comparative approaches have similarly taken the stage with discussions of the main researchers and institutes, who were involved in the birth of these disciplines in each nation.

The editors of this volume have taken the field into a new plain of analysis by placing themselves firmly outside these standard approaches. Such approaches, they state, are "intrinsically linked with the danger of a historiographically inappropriate assumption of national self-sufficiency or even uniformity" (p. 2). Thus, these earlier approaches are self-limiting, as they homogenize a complex network of individual interactions between scholars and institutes in various regional locations. The compiled chapters of this volume allow for this nuance to shine through the grander narratives by highlighting how people, ideas, and money travelled across the western world to influence the development of psychiatric practice and theory in many political and social contexts.

Britain, Germany, and the United States serve as the focal point for how these networks formed and interacted throughout the course of the late nineteenth and early twentieth century. This work is a true meeting of minds, containing contributions from many authorities on the history of psychiatry, including well-known scholars such as Paul J. Weindling, Eric J. Engstrom, and Hans Pols. The larger themes of international discourse and interconnectedness in psychiatry are present in all eleven chapters through numerous examples of international

influence. For example, the clear evidence for permeability of intellectual concepts from France, Germany, Scandinavia, and America in the creation of the British 'medico-pedagogy' given by Mark Jackson (pp. 30–47) provides a solid foundation to the claim of the editors that comparative studies too often emphasize differences (p. 2).

The volume begins with an opening chapter by Heinz-Peter Schmiedebach, who provides an insightful discussion of how early German psychiatrists viewed the British Asylum system. German psychiatrists held a rosy view of British asylums in the nineteenth century, viewing them as being "ahead of the German system in many aspects" (p. 24). Constant reference was made to British institutions as German psychiatrists discussed how best to change their system of institutional treatment in the following years. Rhodri Hayword's later chapter provides a mirror discussion on British reactions to German psychiatry, which excellently situates the reader within a cross-national conceptualization of domestic forms of treatment. The chapters by Volker Roelcke and John Burnham similarly tease out the international influences which permeated the intellectual discussions of psychiatry between Germany and the United States. Burnham argues these connections represent "the great tradition of medicine operating as a universal enterprise" (p. 103) and his analysis of such international dimensions indeed solidify this statement.

The alternative approach of this volume is further supported by the exceptional chapters provided by Louise Westwood and Pamela Michael. Both chapters highlight regional variations within Britain by breaking away from the dominant anglo-centric narrative and analyzing Scottish and Welsh psychiatry. In Westwood's chapter, we are presented with a discussion of not only the pivotal differences between Scottish and English psychiatry, but additionally are confronted with the gender politics which regulated the place of woman within the profession. Michael gives a unique insight into the development of Welsh psychiatry and the incorporation of intellectual frameworks from America and Europe throughout its growth. This process "was not one of linear diffusion, but rather one of a more dynamic circulation" (p. 213). In both chapters, the reader is spurred to see the deeper regional complexities of nationalized medical systems.

Despite the best of intentions, at times the chapters do fall back into the standard narrative of psychiatric history, with a focus on 'great men' and 'great institutes.' For example, the career of Emil Kraepelin (1856–1926) is intimately traced in the discussion of psychiatric research in Munich, where the reader is given an almost biographical sketch of his actions in the early twentieth century. Kraepelin has been much discussed in the historiography and one wonders what else could be left to say about him. Yet it should be noted that even here a new aspect is

teased out from the well-known narrative, as the author traces the movement of funding between international parties and makes connections to Kraepelin's personal travels in America.

By continuously revealing the underlying connections that influenced intellectuals in Britain, Germany, and the United States, this book has painted an intriguing picture of the larger complexities that regulated psychiatric disciplines in Western countries in the past. Overall this is an excellent addition to the medical and global historiography as it takes the analysis past the comparative approach, into a new sphere, revealing the complex connections of nations, people, and funding institutes that existed early on. Too often historians have found themselves caged within nationalistic barriers placed on historical research and this volume serves as a reminder of the importance of contextualizing networks of influence which stretch beyond imagined political borders and entangle historical actors in larger systems.

Delia Gavrus and Stephen T. Casper, eds., *The History of the Brain and Mind Sciences: Technique, Technology, Therapy*. Rochester Studies in Medical History. Rochester, NY: University of Rochester Press, 2017. Pp. vii + 299, illustrated. USD$125.00 (cloth). ISBN 978-1-58046-595-3.

Reviewed by Paul Foley

Neuroscience Research Australia, Sydney, NSW

Moving home last year was an unpleasant experience, not least because of the need to transfer my books. That I have a lot, for study and distraction, was especially clear after I had packed them into so many cartons that I pondered whether it was not time to shrink my library. The not inconsiderable cost of transport was one problem, as was the space they would occupy in our new house. But losing access to them would also be painful. For example, my complete sets of the *Neurologisches Centralblatt* and the *Zentralblatt fuer die gesamte Neurologie und Psychiatrie*, 4½ shelf metres of pre-Medline chronicles purchased in Leipzig, have been invaluable portals to pre-1945 neurology and psychiatry, enabling me to indulge my passion for European neuroscience history despite being 16,000 km from the focus of my research. Not restoring them to my shelves would be taking definitive leave from a source not only of information but of inspiration.

My conundrum was trivial compared with the tragedy of scientists attempting to re-establish their personal and professional lives in exile after fleeing Germany during the 1930s. Yet I felt special empathy for *Nervenarzt*–philosopher Kurt Goldstein (1878–1965) when reading of his problems attempting to bring his library to America following his flight from Europe, as poignantly described by Frank W. Stahnisch in this volume. Customs officials were convinced Goldstein was defrauding his hosts of lawful taxes on commercial goods; why would an academic physician need so many books and films? (Australian customs officials exacted full taxes on my Leipzig books for the same reason). Even the brightest intellects cannot easily transplant their activities to new soil without access to material objects that assist them elaborate and test their ideas. For most émigré scientists, beginning again under different social and academic conditions (genuine continuity was rarely possible) was difficult enough without losing the few items they managed rescue in their luggage. For some, marginal factors had even more dire consequences: requests by respected neurologist Felix Stern (1884–1941) for assistance to emigrate from Germany, for instance, were repeatedly declined, primarily because

his poor English was deemed a hindrance to integration. Stern committed suicide to avoid deportation to a concentration camp in 1942.

Scientists and academics see themselves as members of an international community that overcomes national and social boundaries in the pursuit of knowledge. Membership is nonetheless contingent on many factors and conditions that are often taken for granted or overlooked. These "marginal" elements are typically also passed over in silence by historians and other commentators. The contributors to this collection of essays seek to redress a few of these omissions, ranging from the incidental to the unjust. Should they achieved nothing else, these vignettes of neuroscience history highlight the fact that science is as human an activity as any other, pursued by people who are neither entirely autonomous nor dispassionate, human beings limited in their capabilities and endurance, creatures of their time more or less dependent on the support and recognition of others. Like the Genuese explorer Christopher Columbus (1451–1506), no-one discovers new worlds alone. This is not to underplay the impact of the lead actors: without Columbus, his sailors would not have sailed west at all.

Editors Delia Gavrus and Stephen Casper define the collection as "a meditation on the role that technique, technology, and therapy … have played in the constitution of the mind and brain sciences over the past one and a half centuries" (p. 1), aspects hitherto relatively unexplored by neuroscience historians. They approach this goal "through the lens of seemingly marginal stories——stories that appear, from a contemporary perspective, to be situated at the edges of history" (p. 2). The nine contributions range from nineteenth-century Paris to the recent past; their thematic foci include laboratory assistants, scientific models, material and intellectual artefacts, bibliography, and social and political trends, which enabled or shaped scientific practice. Their styles also vary, including narrative, analytic and sometimes polemic elements. These expeditions into past worlds, weekend digs rather than archaeologic campaigns, allow the reader more time to breathe their air than would a broader perspective. Each tale exudes the charm of a short story, imbued with implications for the cultural mosaics of which they form part.

Stephen Jacyna discusses the menagerie in post-revolutionary France as a laboratory for studying animal behavior under controlled conditions, with the dual aims of attracting visitors and facilitating comparisons of mental processes in man and beast. Realizing both aims depended as much upon the assiduous efforts of anonymous keepers as on trained naturalists. Apart from the reference to the unnecessarily mystifying concept of "truth machines" (p. 26), this fascinating exploration of the seemingly marginal, the study of the animal mind for

understanding the human, provides the ideal opening to a volume on the backroads of neuroscience history.

Delia Gavrus similarly concerns herself with people whose essential contributions to research are not always explicitly recognized: laboratory assistants and technicians. Her intriguing example is Edward Dockrill (1838–1927), sometime laboratory assistant to New York neurosurgeon Wilder Penfield (1891–1976) during the 1920s. Penfield was interested in the pathology of brain injury, even travelling to Spain to learn the most advanced methods for visualizing glia. Dockrill, without formal laboratory qualifications, refined their execution in Penfield's laboratory, and was taken aback that his work was not recognized by authorship on Penfield's publications——and recorded his disgruntle in a semi-autobiographic novel that was never published. Dockrill was a likable if somewhat scurrilous character, and his marginal role in Penfield's pursuit of a mistaken model of epilepsy is a wonderful example of his own view that science "is very humanly warm and frail" (p. 136).

Thomas Schlich explores the role of laboratory physiology in the development of modern surgery, moving from empiric and anatomic justifications to an experimental physiology evidence base, accompanied by a shift to viewing it as a purely scientific or even technical activity. Schlich criticizes the implied exclusion of political and social factors, but, as his account indicates, the acceptance of surgery, including neurosurgery, was chiefly advanced by its increased success and reduced mortality rates.

Max Stadler and Stephen Casper each analyze aspects of how the presentation of scientific concepts affects their development and reception. Stadler describes the transition from direct to alternating current models of nerve cell physiology, and how investigators relied on emerging physical concepts——that is, from outside the immediate realm of biological science——for modelling and delivering controlled electrical stimulation, resulting in a multi-layered metaphor for comparing nervous transmission with electrical circuits. Inevitable discrepancies between ideal circuits and nerve behavior motivated ingenious modifications of biophysical concepts that did not protect against hyperbole, such as seeing the models as a "Rosetta stone [for] deciphering the closely guarded secrets close to the very borderland of mind and matter" (p. 128)——not unlike more recent enthusiasts who believe artificial intelligence of human grade is within reach. Casper focuses on how science was explained to the lay public during the Festival of Britain in 1951, an attempt to restore public morale after the disappointingly vapid victory of 1945. The assiduous soliciting and organization of contributions on contemporary science from its leading authorities revived memories for me of the esteem in which science was held by the general public when I was a child (during the

1960s). Casper notes that neuroscience was not a major focus in 1951, although psychological techniques guided the exhibition of material so that it was both intelligible and inspiring for its primarily lay audience: somewhat ironic, in view of the overall reductionist bent of the exhibits.

The essay by Kenton Kroker reviews the use of bibliography and statistics between the World Wars to "make visible" encephalitis lethargica, the elusive neuropsychiatric disease that puzzled clinicians and public health officials alike, defying attempts to specify its cause and transmission. The major American publications on the strange disorder were not original research reports, but the co-operative volumes produced by the New York-based Matheson Commission of Investigation, essentially extensive lists of literature on the epidemiology and treatment of encephalitis. The League of Nations' health organizations, precursors of the World Health Organization (WHO), were similarly limited to collating data from member nations, a frustrating contrast to their relative success in restricting the spread of infectious diseases into Europe during the dissolution of the Russian Empire. Kroker also discusses the relationship that was briefly suspected to exist between lethargica and encephalitis associated with smallpox vaccination in some countries, a potential catastrophe for health policy. His account reflects the impotence felt by American and international authorities at the time. A more detailed picture of the disease, I would argue, was achieved in continental Europe because fences between specialties, particularly neurology and psychiatry, were lower.

Justin Garson's interpretation of "amphetamine psychosis" as a model of schizophrenia during the 1960s and 1970s is more contentious. Two features of scientific practice often marginalized by philosophers of science are that most participants are driven not by hidden agendas, but actually believe in what they do; and that models and paradigms rise and fall according to their real-world usefulness. That lysergic acid diethylamide (LSD) was supplanted by amphetamine in 1960s models of psychosis had more to do with recognition of the weaknesses of the hallucinogenic version than with biases in the psychiatric or pharmacological communities. The dopamine hypothesis of schizophrenia, in turn, was found to not account for the entire psycho-neurophysiologic complex that is psychosis; nevertheless, its history cannot be reduced to a conspiracy motivated by a need to demonize "speed freaks." Garson's exploration of the social setting for discussions of the nature of idiopathic and model psychoses during the 1960s is impressive, but to elevate their significance relative to prosaic scientific reasons in determining the preferred model, which can hardly be ascribed "almost entirely [to] Snyder's creative imagination and a handful of notes feverishly scribbled by speed freaks" (p. 220), is adventurous.

The language of Brian Casey's account of the role of the United States National Institute of Mental Health in the return to biological psychiatry during the 1970s is more restrained, although he also employs "reductionism" as a disparaging synonym for an "attractively simple mechanical explanations of complex mental and behavioral phenomena" (p. 230). The chapter is a generally fair depiction of the early period of the new biological psychiatry, buoyed, like the early stages of the microbiologic era in infectious diseases, by sometimes exaggerated hopes for the elimination of disease, before limitations and adverse consequences became more manifest. Casey appears surprised that the National Institute of Mental Health (NIMH) supported in its public pronouncements the direction pursued by its own people. That practical successes could possibly be the primary motors of a concept is downplayed in the otherwise justified emphasis on the role of research funding in determining scientific pathways.

Katja Guenther closes the volume by arguing that factors considered marginal may, in retrospect, prove to have been crucial, so that "historicizing the marginal … makes us better historians" (p. 258). Technique is certainly central to the neurosciences: history and progress have largely been guided, for better or worse, by the emergence and modification of methods and technologies, in symbiosis with the research questions that motivated them and were motivated by them. But Guenther too suggests that scientific practice is primarily driven by lower motives: surgeons "legitimated" their procedures by reference to physiology, the NIMH used "scientific rhetoric" to establish biological psychiatry as the dominant "biomedical paradigm", medical scientists made "schizophrenia more real" through "symptom reconceptualization" in order to "integrate the disease into the biomedical paradigm" (p. 261); we learn that NIMH scientists "knew" that antidepressant drugs were essentially placebos (p. 262), and that "we need historical analysis to 'undo' the move from a psychodynamic to a biological paradigm within psychiatry" (p. 263). This one-sided view implies that we should understand the function of science history as being the exposure of charlatanry rather than critically assessing——*sine ira et studio*!——the processes by which human beings seeking informed responses to complex questions develop their concepts, test them in the real world, and correct them as necessary. The star of biological psychiatry rose not because of politics but because it provided solutions——not least: relief for patients——that psychoanalysis could not (as documented in Casey's essay). The social and personal side-effects that attend "reductionist" solutions can be debated, but that is a different discussion.

Investigators can cling to cherished models beyond their period of usefulness, and, as German physicist Max Planck (1858–1947) observed, some paradigms cling to life until their proponents have all died. Scientists are as capable of error as anybody——possibly more so, as

they ideally operate on the frontiers of human knowledge——but it is wrong to marginalize their essential belief in their own methods and findings. I might question the potential of brain imaging to reveal specific cognitive content, but have no doubt that proponents of the idea are sincere in their aspirations. Nor are scientists or clinicians unmoved by prevailing social, political and personal circumstances. Nevertheless, the major currents of scientific thought are stirred not by thrusts towards power or prestige, but by confidence in one's direction. "Alternative facts" are of only ephemeral value in science, and a discrepancy between claim and reality is more often a mistake than evidence of dissemblance.

Like all good scientists and other thinkers, I enjoy a robust discussion, and this collection of essays has enthralled and entertained, moved and irritated me; most importantly, it has stimulated and challenged me. The microhistories (or, as I prefer, historical cameos) offered in these pages without exception vividly conveyed a sense of events and of the times and situations in which they transpired. This book is recommended to all historians and other readers interested in experiencing the usually overlooked colours and smells of strange worlds we sometimes imagine we know, and which are the bases of our own.

Shula Marks, Paul Weindling, and Laura Wintour, eds., *In Defence of Learning——The Plight, Persecution, and Placement of Academic Refugees, 1933–1980*. New York: Oxford University Press for The British Academy, 2011. Pp. xx + 320, tables. USD$110.00 (cloth). ISBN 978-0-19-726481-2.

Reviewed by Frank W. Stahnisch

University of Calgary

This volume, which is edited by Shula Marks, emeritus professor and distinguished research fellow at the School of Advanced Study in the University of London, Paul J. Weindling, Wellcome Trust research professor in the history of medicine at Oxford Brookes University, and Laura Wintour, historian and grant program officer at the Council for At-Risk Academics (CARA), is probably the most significant book published on the history of the "Society for the Protection of Science and Learning" (SPSL). It notably adds to the two books written by British economist Sir William Beveridge (1879–1963) on the history of the SPSL and his personal involvement in this key academic support society, namely *Power and Influence* (1953)[1] and *A Defence of Free Learning* (1959)[2]. *The Plight, Persecution, and Placement of Academic Refugees, 1933–1980* is the scholarly result of an interdisciplinary conference, which was primarily organized by Laura Wintour together with the other co-editors of this volume on the occasion of SPSL/CARA's seventy-fifth anniversary, in conjunction with the Royal Society and held at the British Academy in December 2008. In total twenty authors bring together a wide range of topics in the book, which describes the beginnings of the so-called Academic Assistance Council (AAC) in May 1933, only two months after the introduction of the notorious Nazi "Law on the Re-Establishment of a Professional Civil Service" ("*Gesetz zur Wiederherstellung des Berufsbeamtentums*"). This law had led to the persecution and dismissal of tens of thousands of civil servants, scientists, and physicians in government-supported positions of the *Third Reich* and later Nazi-occupied countries as well.

Yet the volume has a much broader outlook, than just accounting for the early history of the SPSL and British support of émigré academics fleeing the terror of the Nazis, as it also addresses the global dimension of the placement of the intellectual refugees in America, Africa, East Asia, and Oceania, along with their consecutive working situations, adjustment processes, and their personal fate. Several chapters of the book examine SPSL/CARA's important support work for refugee academics and students during the second half of the twentieth century, which includes those who fled the political suppression in the postwar Soviet Union, the Russian

crackdown on the Hungarian people's revolution of 1956 and of the democracy movement in Czechoslovakia in 1968. This perspective is further expanded to the waives of émigrés from Latin America, when general Augusto Pinochet (1915–2006) overthrew the elected Chilean government of Salvador Allende (1908–1973) on September 11, 1973, and from South Africa with students and professors seeking refuge in Great Britain from the 1960s to the 1980s. Despite the important place that this volume takes in the larger scholarship about the history, working, and contribution of SPSL in Britain, some limitations are noticeable in the book. As with many edited volumes, the quality of the individual chapters remains quite mixed. While the chapters by David Zimmerman (Victoria, British Columbia) on "Lord Beveridge and the Rescue of Refugee Academics from Europe, 1933–1939" (chpt. one) and by Christian Fleck (Graz, Austria) on the "Austrian Refugee Social Scientists" (chpt. twelve) are outstanding in their contribution of original perspectives, scholarly depth, and social contextualization, particularly the chapters written by eye witnesses, such as family members of refugees and science administrators, are quite lacking in intellectual format and scholarly depth. For example, chpt. seven by Lewis Elton (Gloustershire, England) about "Eva and Esther" Ehrenberg (1891–1964) and (1916–2011?), or by Paul Broda (London, England) on "Esther Simpson: A Correspondence," almost entirely neglect the existing secondary literature and fail to provide sufficient historical context to the individual family stories described. Of course, one could argue that the book has many roles to fill——including research documentation and the provision of first-hand accounts which would have gone lost otherwise——, so that historians' expectations for scholarly depth had to be hold over. Yet one could have nevertheless thought, that some more assistance through the individual editors could have helped bringing all of the chapters to a comparable standard, thus augmenting the scholarly accessibility and ease of use of the book.

Beyond such critique regarding the development and presentation of the volume, the book itself provides many new insights and perspectives on the history of forced migration of twentieth-century intellectuals and physicians. Its focus lies on those individuals who came through the British Isles and were aided by the AAC/SPSL since the 1930s, while giving special emphasis to what refugee statistician Sir Claus Adolf Moser (1922–2015) described in a 1992 lecture as the "tens of thousands who lived unglossy [!] and ordinary lives, perhaps happy, perhaps dominated by illness, poverty and loneliness" (p. 5). From David Zimmerman's chapter we learn that the crucial contribution by émigré medical historian Charles Singer (1876–1960), a trainee of Sir William Osler (1849–1919) and professor at University College London, had been considerably downplayed by Beveridge and others running the AAC in the

early 1930s. They thought it problematic to represented the society's activities in public, since Singer was of Jewish origin, which might have hampered social and financial support for AAC/SPSL at the time. Hence, Singer's written communications, networking, and funding contributions——literally writing "3,000 letters for distribution to company directors" (p. 40)–—were not adequately recognized and his role in the society rather forgotten. Likewise, long-term SPSL secretary Esther Simpson (1903–1996) was quite put back by the circumstance that Beveridge cut out the contribution of Hungarian-Jewish émigré Leo Szilard (1898–1964) to the founding of the AAC in the 1930s. One rather learns from William Lanuette's (Washington, D.C.) chpt. two on "Leo Szilard in the Founding Days of CARA" that "Beveridge [had] never visited the AAC's offices in Burlington House, where Szilard spent so many days and nights in the spring and summer of 1933" (p. 56).

Another area of new insights provided through the volume relates to the profound challenges that émigré scientists and physicians had to face, in order to adjust to the living and working conditions of their new host countries, when arriving from Germany, Austria, or the occupied countries of Central Europe. London-based medical researcher Gustav Born (b. 1921), the son of the Nobel laureate in physics Max Born (1882–1970) for instance conveys in his chpt. four on "Refugee Scientists in a New Environment" important social differences, which his father had identified: "everything in another country is basically the same but astonishingly different, from the bread you eat and the door handles, to the way you meet people. So it was [in] England" (p. 78). With respect to the status of physics and scientific research work on the other side of the Channel, Gustav Born quotes his father in the following way: "I had to run the department according to a syllabus printed in the annual University Calendar, prescribing lectures on elementary statics and dynamics and a little electromagnetic theory. It at no point reached the level of modern knowledge and research. The students were trained in solving problems of a type which was a residue of an ancient——an in my opinion——quite outmoded tradition. In Goettingen we used to make fun of this kind of problem when we found them in English textbooks" (p. 82). Similar observations are further presented in chpt. five on "Max Perutz and the SPSL" by Georgina Ferry (Oxford). Not only does she describe the 1938 escape of Max Perutz (1914–2002) after the *Anschluss* of Austria to the *Third Reich* in a prolific way, yet likewise mentions the hardship that this Nobel laureate endured during the year 1940, when he became interned in a camp with Nazi perpetrators in Britain, before being transported on board of the British steam trawler "HMS Phyllisia," just one day before the "Arandora Star" steam liner was torpedoed off the Irish coast and sank to the bottom of the Atlantic. For half a year, Perutz was interned in Camp L at Cove Fields, Quebec, in Canada together with a

considerable number of Prisoners of War (POW). Notwithstanding that he had sought refuge as a Jewish scientist in Britain, he was also treated as a POW himself, his letters carefully censored and stamped as POW mail, so that only communication with Esther Simpson could help in relaying appropriate information to his family back home in Austria. Despite such personal misery, however, following to his return after the "Battle of Britain," Perutz managed to translate his scientific and administrative know-how into founding an innovative Laboratory of Molecular Biology in Cambridge, with important funding support from the Medical Research Council (MRC). Consequently, he helped to establish scientific crystallography, laboratory chemo-haematology, and genetics research, which all aligned well with his discovery of the physical haemoglobin structure, leading to a modernization of biomedical research and scientific innovation in Britain.

The Plight, Persecution, and Placement of Academic Refugees, 1933–1980 fills a central place in recent scholarship on the forced migration of scientists and intellectuals in the twentieth century. It does so by drawing attention to several under-reflected aspects of the AAC/SPSL in supporting, arranging, and streamlining the vast forced migration wave since the 1930s; and it is also not sparing the critical role which this society played on a global scale during the second half of the twentieth century. That the Royal Society and British Academy supported this endeavour must be highly praised, since this underscores the critical importance of the topic for the development of science and learning in the politically tumultuous phases in the Near East, Africa, and Latin America, which continue to pose a threat to science and education in democratic societies these days. As Paul Weindling works out in his chpt. three "From Refugee Assistance to Freedom of Learning," the strategic vision, which British physiologist Archibald Vivian Hill (1886–1977) brought to the circle of collaborators at SPSL, can be seen as an quintessence of its *raison d'être*, "acting through the channels of parliamentary democracy and civil society, as opposed to seeing science as detached from society. He was a staunch advocate if scientific internationalism and tolerance, and showed this by his commitment to academic refugees. Hill demonstrated how the scientist should act according to values which are compassionate, democratic and humane" (p. 76). The insights from all seventeen chapters of the book visibly demonstrate that nongovernmental institutions such as SPSL (or now: CARA) are all but obsolete, even after its/their eighty-fourth year of existence.

Notes

[1] Beveridge, William. 1953. *Power and Influence*. London, Eng.: Beechhurst Press, 1953.

[2] Beveridge, William. 1959. *A Defence of Free Learning*. London, Eng.: Beechhurst Press, 1959.

Christian Fleck, *Etablierung in der Fremde. Vertriebene Wissenschaftler in den USA nach 1933*. Frankfurt am Main, New York City: Campus Verlag, 2015. Pp. 475, € 39,90/CAD$ (carton). ISBN: 978-3-593-50173-4.

Reviewed by Paul J. Weindling

Oxford Brookes University

This is a finely written and insightful overview of German-speaking émigré social scientists in the 1930s and 1940s. The two countries of reception are the United Kingdom and the United States. The book falls into two halves——the first is an overview and then come three in depth case studies of social scientists. Christian Fleck gives a careful account of the founding of the Academic Assistance Council in London, England, in 1933, including the preliminary informal meetings in Vienna. The issue of whether the British social scientist and Director of the London School of Economics, William Beveridge (1879–1963) or the mercurial Hungarian-American physicist Leo Szilard (1898–1964) first conceived the scheme is treated in parallel accounts. Other ingenious ventures are considered in some detail such as the scheme for a university in exile, which centered round the New School of Social Research in New York City.

A comparison of the Academic Assistance Council/Society for the Protection of Science and Learning and the Emergency Committee in the United States would have been of interest. Beveridge was profoundly and rightly disappointed by the limited support from United States' philanthropic foundations and their contributions to aid émigré scientists and scholars. Fleck considers the practice of the Emergency Committee in Aid of Displaced Foreign Scholars in the 1930s and 1940s, and the difficulties of dealing with elite and lingeringly racist universities such as Harvard in Cambridge, Massachusetts.

This is a well-documented account. Although much use is rightly made of the Rockefeller Foundation archives in Sleepy Hollow, New York, the various Rockefeller Foundation officers might have been investigated in greater detail to bring out differences between their personal views and the limited Rockefeller Foundation policies as regards refugees. The analysis of networks, as based on foundations, sponsors, and academics, is great interest. Comparison of social science support to the Rockefeller Foundation funding of the physical sciences and molecular biology might have been illuminating as well.

The case studies involve the tragic case of the Austrian-American historian and philosopher of science Edgar Zilsel (1891–1944), whose publications had ceased in 1935 although he clung to the dream of a great book. Zilsel unfortunately committed suicide in 1944.

The second figure is the barely known Austrian psychologist Gustav Ichheiser (1897–1969), who was rescued by the extensive engagement on the part of the Society for the Protection of Science and Learning, but then encountered a much narrower-minded stance of the Americans with quotas and rejections of guarantors. When Ichheiser arrived in the United States, he remained rootless and unable to fit in with the requirements of American social scientists. The final case study is of the more adaptable and successful Paul Lazarsfeld (1901–1976), who achieved immense academic success with his sociological studies of modern media types and channels.

Migrants were not necessarily refugees as shown by the illustrious economist Joseph Schumpeter (1883–1950), who initially had a positive view of National Socialism. He treated many pleading letters as no more than scrap notepaper to be scribbled on and cut up; and yet he sporadically hunted for openings for those dismissed and distressed colleagues, whom he valued, especially the Austrians. Some approaches came out of extreme distress such as from socialist politician Otto Leichter (1897–1973), whose wife Kaethe (1895–1942), an economist in her own right, was imprisoned (and murdered) in Ravensbrück.

The book concludes with reflections on what it has meant to become established in a receiving academic and scientific culture. Fleck looks at chance structures, scientific capital, earlier predisposing factors such as previous visits, language skills, culture, personality and identity, and finally traumatisation through persecution. These are deftly and insightfully sketched out as factors, rather than offered as a systematically based definitive theory of the refugee's efforts to transfer skills and adapt to a new and dynamic culture. Overall, this is an impeccably researched study rich in original and insightful analysis.

Karin Orth, Die NS-Vertreibung der jüdischen Gelehrten. Die Politik der Deutschen Forschungsgemeinschaft und die Reaktionen der Betroffenen. Goettingen: Wallstein Verlag, 2016. Pp. 480. € 44.00 (cloth). ISBN 978-3-8353-1863-2.

Reviewed by Jessica Tannenbaum

University of Calgary

Karin Orth made herself first known when she published on the organization and mode of operation of the German concentration camps during the Nazi Period, 1933–1945. This was quickly followed by a study on the social structure of SS ("Protection Squadron") personnel.[1] Today, these works are considered seminal studies for the historiography on concentration camps. Since then, Orth has published two monographs on the German Research Council (*Deutsche Forschungsgemeinschaft*, DFG).[2] Now, in her latest book on the role of the DFG regarding the forced migration of its Jewish members, published in German, we can see a successful approach to merging the history of an institution with individual biographical histories. *Die Deutsche Forschungsgemeinschaft 1920—1970* is the published version of her habilitation thesis at University Freiburg, Germany.

Orth poses and answers two major questions in this new volume: How many members were excluded from the DFG and the scientific community after 1933? And after the research council's reconstruction in 1949, did the DFG try to reintegrate those émigré scholars who were still alive and how did they react? She divides her study in three parts. The first part gives an overview about the institutional history of the DFG between 1920 and 1933. The second part is dedicated to individual responses, personal escapes, and biographical tragedies of the targeted German scientists. In the third part, Orth returns to institutional history, when she analyzes the postwar reaction of the newly founded DFG to the suffering it had previously brought about during the National Socialist period, yet she also keeps the reactions of the forcibly excluded members in focus.

As is especially necessary in historical studies of National Socialism, Orth clearly defines her analytic terminology: "*Vertreibung*" (persecution) is seen as forced retirement from a position as well as forced migration from the German state and could occur due to racist and to political reasons. Political motives are however hard to prove based on the documents assessed, she has focused on those people who were targeted because the regime had considered them as "Jewish" or "non-Aryan" (p. 19). The latter group was categorized as Jews because of the many

racist National Socialist blood laws, which were now based on ancestry and not on lived identity. She has adopted the opinion that science became a constitutive part of National Socialism and could not be separated out as an apolitical sphere (p. 17). Orth further uses the term "*Reichspogromnacht*" (night of broken glass) instead of the euphemistic "Kristallnacht" (crystal night) underlining the horrible nature of the events that took place on 9 November, 1938 (p. 190).

In her research, Orth has relied heavily on the database developed by her and historian Soeren Flachovsky (p. 21). This has allowed her to give the precise numbers and explain her methodological approach well. She could show how the DFG transformed from a relatively open——even tolerant——and internationally renowned institution in the 1920s, into a racist, anti-Semitic, and ostracizing one in the 1930s. The new National Socialist German state could hence rely on the complicity of the DFG in terms of its forced retirement of many scholarly members or the denial of funding of unwanted applicants.

Chapter 1 traces how chemist Fritz Haber (1868–1934), whose institute had developed the infamous poisonous gases during World War 1 and science administrator Friedrich Schmitt-Ott (1860–1956) fought for the establishment of a self-regulatory scientific organization. It was founded in 1920 and called "*Notgemeinschaft der deutschen Wissenschaft*" (emergency association of German science). It is of note that science was understood particularly in its natural and technological meanings (p. 36) and as a last remaining pillar of defeated Germany after the war (p. 31). DFG president Schmitt-Ott led the association in an autocratic way (p. 42), 95% of the members of a scientific DFG committee were tenured professors and until 1945 all were men.

Chapter 2 focuses of latent or open anti-Semitism within the confines of the DFG. Schmitt-Ott, for example, ignored the funding of anti-Semitic researchers in 1929, which was heavily criticized by Julius Moses (1868–1942), an outspoken social democrat, who later became a DFG committee member, but was eventually murdered in the concentration camp Theresienstadt in 1942. After a first short phase of insecurity, in spring 1933, as to how to proceed with its Jewish members, of whom a considerable part had just been elected into the council's committees, DFG took particular active stances. Earlier than state laws had requested, actions against Jewish members and applicants were taken in a spirit of premature obedience ("*vorauseilender Gehorsam*"). The majority of members were excluded through forced retirement and some members were retired 'voluntarily', which in some cases meant that they committed suicide.

Chapter 3 focuses on those individuals who were excluded from the DFG during the first years of the Nazi regime. Orth has examined 66 persons——20 members of a DFG committee and 46 men who had applied for funding before 1933. For many, this exclusion meant the destruction of their academic careers. 30 went on to emigrate and became dependent on the policies of the respective host countries. Success in exile, for them, depended on many factors: emigration taxes applied by Nazi Germany and diminishing financial means: the ability of the scientists to find a job in their discipline; in learning the language; and re-integrating into a new society and scientific culture (p. 104). For some scientists, emigration was now seen as a form of resistance against the Nazi state. Some tried to show their fundamental rejection of the new political order by resigning 'voluntarily,' before receiving DFG's official dismissal letters (p. 111). In other cases, the loss of the job and recognition proved so disastrous that the ousted scientists and scholars died shortly after their dismissal (pp. 107–109). And for some, the forced dismissal was even so devastating that they rather chose to commit suicide (pp. 129–132). The strength of this chapter is particularly its biographical character that importantly elicits the story of exclusion and expulsion of DFG members.

Chapter 4 analyzes those who were able to emigrate early, that is before November 1938. Here, the Zurich "*Notgemeinschaft*" (emergency committee), founded by Hungarian-Jewish pathologist Philipp Schwartz (1894–1977) after having been expulsed from Frankfurt University himself became crucial in helping more than 200 scientists to find refuge at the University of Istanbul. The Zurich *Notgemeinschaft* existed until 1936 and its successor later merged in 1940 with the Society for the Protection of Science and Learning (SPSL) in London, England.[3] Turkey was an ambivalent place of exile, and Orth gives an historiographically useful overview over current research.

Chapter 5 focuses on the years 1938 and 1939, which witnessed another level of radicalization and violence. Orth has characterized this time period as an insidious behaviour of German officials and non-Jewish civilians, which oscillated unpredictably between radicalization and temperance (p. 187). Until 1938, 41 of the 66 men in Orth's sample had remained in Germany because they either did not see the need to emigrate nor possessed the financial means to do so. After the "*Reichspogromnacht*" and the "*Anschluss*" (annexation) of Austria, many scientists and scholars became increasingly afraid about their lives in the Nazi state. Out of Orth's sample, only one of those, who managed to emigrate went to Palestine, none went to Turkey in this second phase of emigration after 1938. The others went to the Netherlands, Switzerland, Sweden, Great Britain, France, and the United States (pp. 212–221).

Chapter 6 analyses the fate of those who were deported and killed. It is probably the most important one of the whole book for its commemorative character. Orth starts with a summary of those measures that led up to the so-called "final solution." It becomes clear that with the beginning of World War 2 the possibilities to emigrate declined sharply for the 27 remaining men and became non-existent after October 1941 (at the same time the mass deportations began). Apart from the provision of these commemorative biographical sketches, Orth uses this chapter to offer the biography of the geographer Alfred Philipson (1864–1953), who could survive because of the help from colleagues, who were well aware of his deportation. She uses Philipson's story to allude to the role of writing as a means of survival and self-assurance.

Chapter 7 analyzes the life stories of those who managed to stay in Germany. 14 of the dismissed scientists in Orth's sample form art of this group: They were either considered "*Mischlinge*" ("mixed-bloods") by the regime, or they had a "non-Aryan" spouse. Some of them worked for private businesses, some could even participate in the war effort, as in the case of the physicist Erich Regener (1881–1955), who saw himself as loyal to his country, but also used all options to protect his "Jewish" wife (p. 308, p. 313). Again, this chapter shows that a good portion of the general population knew about the deportations (p. 297).

Chapters 8 to 10 focus on the post-war history of the DFG. Out of Orth's sample, 30 did not survive the Shoah. She has analyzed if and how the DFG thought about its own moral responsibility regarding the compensation appeals ("*Wiedergutmachung*"). The DFG was re-inaugurated in 1949 after the war in Cologne. There existed two rival organizations, the emergency association in East-Berlin ("*Notgemeinschaft in Ost-Berlin*") and the German research council ("*Deutscher Forschungsrat*," DFR) (p. 322). The contradicting opinions circled around basic questions: What was the purpose of research and could or must research be planned or managed (p. 323)?

Chapter 9 paints the rather disappointing, albeit not surprising picture of a silent association, which did not actively contact its former members (p. 328). Nonetheless, the DFG was the only scientific institution in Germany that founded a commission for responsibility in the sciences ("*Verantwortung der Wissenschaft*"), exemplifying issues that no one other than exiled physicist Lise Meitner (1878–1968) had put on the agenda (p. 342). During the 1950s and 1960s, the DFG chose an ostentatiously "neutral" standpoint by acknowledging whether a researcher was Jewish or not. It strongly tired not to repeat the same mistake of stigmatizing, yet focused on the scientific work alone. For the few ousted researchers, who did get symbolic recognition, like the lawyer Martin Wolff (1872–1953), this was highly important (p. 363).

Chapter 10 examines how those scientists, who re-migrated to Germany, perceived their return back to their former home country. It could be anything between a deep feeling of loyalty, a disconnect with German society, or ongoing struggles for recognition of their lifetime achievements (pp. 383–401).

There are a few shortcomings with this study: First, it does not provide short introductions nor conclusions at the beginning and end of each chapter. One exception is the beginning of subchapter 2.5 where Orth nicely summarizes her findings regarding Schmitt-Ott's positions (p. 95). Missing indices for names, places, and general keywords form a more substantial point of critique. As readers will likely use this book to look up specific historical actors, a more detailed register would have been helpful.

As in her previous studies, Orth displays a remarkable human warmth, when for example discussing: "The second part of the study examines the human fates behind the meager social statistical data [presented in the first part]" ("*Welche Schicksale sich hinter diesen dürren sozial-statistischen Daten verbergen, wird im zweiten Teil dieser Studie exemplarisch untersucht*.") (p. 72). She guides the reader well in this book and has used a tremendous amount of archival material. This study is very useful, important, and a substantial introduction for newcomers to the scholarship on forced migration as well as for specialists in this growing trans-Atlantic research field.[4]

Notes

[1] Orth, Karin. 2004. *Die Konzentrationslager-SS: Sozialstrukturelle Analysen und biografische Studien*. Goettingen: Wallstein Verlag; Orth, Karin. 2002. *Das System der nationalsozialistischen Konzentrationslager*. Berlin: Pendo Verlag.

[2] Orth, Karin. 2010. *Die Deutsche Forschungsgemeinschaft 1920–1970. Forschungs-foerderung im Spannungsfeld von Wissenschaft und Politik*. Stuttgart: Franz Steiner Verlag; Orth, Karin. 2011. *Autonomie und Planung der Forschung: Foerderpolitische Strategien der Deutschen Forschungsgemeinschaft*. Stuttgart: Franz Steiner Verlag.

[3] Loewenau, Aleksandra. 2016. Between Resentment and Aid: German and Austrian psychiatrist and neurologist refugees in Great Britain since 1933. *Journal of the History of the Neurosciences* 25: 348–362.

[4] See for example the ongoing research project at the University of Calgary *Great minds in despair – the forced migration of German-speaking neuroscientists to North America, 1933–1963*. Vincent von Hoeckendorf and Paula Larsson, The History of the Forced-Migration of German-Speaking Neuroscientists and Biomedical Researchers. http://emigreucalgary.blogspot.ca. Accessed 3 December 2017.

Andreas W. Daum, Hartmut Lehmann, James J. Sheehan, The Second Generation: Émigrés from Nazi Germany as Historians. New York City, NY, Oxford, UK: Berghahn Books, 2016. Pp. xiii + 473. USD 120,00/€ 128,90 (cloth). ISBN 978-1-78238-985-9.

Reviewed by David Zimmerman

University of Victoria

This collection of twenty-three essays, personal accounts, and biographical studies reveals the extraordinary contribution of "second generation" refugees to the historical discipline. Added to these essays are brief biographical outlines of the key "second generation" historians, as well as a detailed bibliography of their major historical writings. This is the third major study of refugee historians, but the first to explore the contributions of those who as children witnessed Nazi persecution and then later became historians. These individuals were not refugee academics, but some were their offspring. The list of these "second generation" historians include Walter Laqueur (b. 1921), Peter Paret (b. 1924), Fritz Stern (1926–2016), Gerhard L. Weinberg (b. 1928), Peter Gay (1923–2015), and Gerda Lerner (1920–2013), to name just a few. What is striking is the breadth of their often-pioneering contributions made by this group. In my own field of military history, Peter Paret is well known as one of the major interpreters and translators of the Prussian general and military theorist Carl Philipp von Clausewitz (17801–1831), and Gerhard L. Weinberg's massive one volume history of the Second World War remains essential reading decades after it was first published.[1]

Not surprisingly, some of the "second generation" scholars, like George L. Mosse (1918–1999) and Walter Laqueur began the process of taking the study of the Shoah and anti-Semitism from the periphery to the centre of historical scholarship. This is the subject of Jeffrey Herf's excellent essay, and is also explored in several studies of individual scholars. No effort was made, however, to explore why the eight "second generation" historians who provided their own accounts make almost no mention of the Holocaust.

The major role played by these scholars in the historiography or Historische Wissenschaft of Germany, particularly in cultural history, is examined in-depth. Their language skills certainly gave them an advantage, as did their connection to Germany. The influence of these historians in establishing connections with their German counterparts is also explored in detail.

Many of these scholars followed a non-traditional path to the discipline. Walter Laqueur, for instance, spent more time driving a tractor on a kibbutz than he ever did as a student at a university. Yet without even a Bachelor of Arts in history, his writings and his joint editorship with George L. Mosse of The Journal of Contemporary History helped shape the discipline as we know it today.[2]

There were many other fields of history these scholars played a central role. Marjorie Laberti's study of the feminist historian Gerda Lerner (1920–2013), assesses her ground-breaking role in broadening the scope of women's history beyond the perspectives of white middle-class suffragettes. Lerner's background strongly influences her historical writings, in which she insisted that it was necessary to consider women of other classes and races who had very different experiences then these women of privilege. Lerner started life as a member of a middle-class Austrian Jewish family, was briefly a prisoner of the Gestapo (Secret State Police), then became a political refugee in the United States, and by 1950 a fully assimilated left-wing political activist during the Cold War and Civil Rights movement. Lamberti argues that Lerner was so assimilated into American culture, that she initially suppressed her experiences in Europe to such a degree that she almost completely forgot how to even speak German. Lamberti believed that applying the experiences in Europe of these "second generation" historians is, therefore, not always as direct as with first generation refugee scholars.

Certainly, this view is born out in many of the other essays. The impact on many of the male historians of their service in the American military, the extent of their cultural assimilation into the United States, and their experiences at university, all profoundly shaped the historical work and lives of these historians. The different perspectives of first- and second-generation refugee historians is another major theme that runs through many of these chapters.

While this collection is extremely valuable, it is not without its problems. One of the most difficult ones is simply the use of the term "second-generation" to describe this group. In Holocaust studies, these historians would not be called "second generation," but they were in fact members of the first-generation. While only one of these historians, Henry Friedlander (1930–2012), was an actual survivor of death camps, many of them were eyewitnesses to many of the traumatic events that proceeded the Shoah. Others, such as Peter Paret and George L. Mosse, whose family left Germany right away on 1933, mainly experienced the trauma of being uprooted at a very young age. This subject of defining generations is raised by Andreas Daum in the introductory article, but more pointedly by Volker R. Berghahn (b. 1938) in his essay, "Thinking About the Second Generation Conceptually." Berghahn mentions that Walter Laqueur dubbed people like himself as belonging to "Generation Exodus."

Perhaps the use of the term "first generation" to describe academics driven into exile by Nazi persecution is part of the problem. It is a redundant term, since only those forced out of academic positions were refugee scholars, there can be no "second generation" refugee scholars. As a group, the people being studied are refugees that later became historians.

This definition of "second generation" is a crucial weakness of this volume, as it focusses the attention of these essays into a very narrow path. There are three essays that provide accounts of "second-generation" historians in other countries, and many of the other articles link these historians to German academics. There is no consideration of a broader comparative analysis linking with other historians of the post Second World War period. Such an analysis might have better brought out the unique qualities of "Generation Exodus." For instance, how different were the experiences of these "second-generation" German-Jewish-Americans with their American Jewish counterparts. Robert Post has written several articles on Melvin Kranzberg (1917–1995), one of the pioneers in the history of technology at Georgia Tech in the United States. Kranzberg's work on technology came about because, as a Jew, he was unable to find employment at a mainstream university, but instead ended up teaching history at an engineering school. Another example that could have been considered was the experiences of earlier Jewish refugees, such as those that fled the anti-Jewish programs in the Russian Empire, 1903–1906. Did any of them become historians, and were their experiences similar to those refuges from Germany?

An issue that could have been addressed is lack of an overall summary of the careers of the 107 historians identified as being members of the "second generation." While it is understandable that even in this large collection only a handful of these historians could be explored in detail, it would have been useful to know more about the entire group. For example, what universities and colleges did the others teach? With a few exceptions, those discussed taught all or part of their career at Ivy League or other major private universities. Did any of them teach at state universities or colleges? Is the overall profile of the "second-generation" different from other groups of historians? These questions are simply left unanswered.

Despite these criticisms, the book is an invaluable addition to our understanding of the refugee experience in the post-war United States. The collection greatly adds to our understanding of historiography, particularly in the fields of the holocaust studies, social and cultural history, feminist history and German history. Many of the articles in this collection are must reads for historians interested in how these individuals transformed our discipline and our understanding of the past.

Notes

[1] Weinberg, Gerhard I. 1995. *A World at Arms: A Global History of World War II.* Cambridge, Eng.: Cambridge University Press.

[2] Laqueur Walter, and George L. Mosse, eds. 1996-ongoing. *The Journal of Contemporary History*. London, Eng.: Weidenfeld & Nicolson.

Biographies of Contributing Authors

Daniel Burston burston@duq.edu was born in Israel and educated at York University in Toronto, where he received his PhD. His interests reside primarily in the history of the mental health disciplines, with special emphasis on those areas where they dovetail with philosophy, theology, and politics. He works as an Associate Professor in McAnulty College and Graduate School of Liberal Arts & Psychology at Duquesne University in Pittsburgh, in the United States, and has recently authored: *A Forgotten Freudian: The Passion of Karl Stern* (2016).

Jim Ellis jellis@ucalgary.ca is a Full Professor of English and Director of the Calgary Institute for the Humanities (CIH) at the University of Calgary. The CIH has supported the research initiative that led to the publication of this special issue on émigré psychologists, psychiatrists, and cognitive scientists with *History of Intellectual Culture*. Like other humanities institutes, the CIH seeks to foster the most innovative interdisciplinary conversations, by bringing together scholars from different disciplines to address common issues from a variety of perspectives.

Vincent von Hoeckendorf hoeckendorfvincent@gmail.com is an honours graduate from the BSc in Cognitive Science program at Osnabrueck University, Germany. In 2015, he received a prestigious scholarship from the German Academic Exchange Service and interned as a visiting research student in Calgary's History of Medicine and Health Care Program. He has hosted the internet blog "http://emigreucalgary. blogspot.ca" and co-authored (with Frank W. Stahnisch): "Stephen William Kuffler (1913–1980) – Pioneer in Neurology," *Journal of Neurology* 263,6 (2016): 1258–60.

Christopher Kemp christopher.kemp@uw.edu is a PhD Student in Implementation Science and Global Health at the University of Washington in Seattle, United States. He previously received a BA in Social Studies of Medicine from McGill University, Montréal, where he also worked as research assistant to an Alexander-von-Humboldt-Foundation sponsored history of science program. Between 2008 and 2010, he took up an assistant research fellowship in the Social Psychiatry and Population Mental Health Research Unit at the University of Otago, New Zealand.

Erna Kurbegović ekurbego@ucalgary.ca is a PhD student (with specialization in medical history) in the History Department at the University of Calgary. As a graduate student researcher, she had been associated with the "Eugenics Archives in Western Canada" project (a SSHRC-funded community-university research-alliance) for three years. Her research focuses on the wider eugenics contexts between the Canadian provinces of Alberta and Manitoba in a comparative perspective.

Aleksandra Loewenau aleksandra.loewenau@ucalgary.ca has been a PostDoctoral Fellow at the Department of Community Health Sciences and the Calgary Institute of the Humanities, University of Calgary, Canada. She received her PhD from Oxford Brookes University in Oxford, United Kingdom, and before coming to Calgary in 2014, she has worked as a PostDoc in a research project entitled, "Victims of Nazi Medical Experiments." It was headed by Paul J. Weindling, Wellcome Trust Research Professor in the History of Medicine at Oxford Brookes University, UK.

Guel A. Russell russell@medicine.tamhsc.edu received her Dr. phil. in History and Philosophy of Science from Indiana University. She had been a long-time research fellow at the Wellcome Institute for the History of Medicine and honorary research fellow at the Center for Neuroscience of University College London, UK. Since 1990 she is a Full Professor in the Department of Humanities in Medicine at Texas A&M University in the USA. She co-edited (with Frank W. Stahnisch): *Forced Migration in the History of 20th Century Neuroscience and Psychiatry – New Perspectives* (2017).

Frank W. Stahnisch fwstahni@ucalgary.ca holds the Alberta Medical Foundation/Hannah Professorship in the History of Medicine and Health Care at the University of Calgary. His current research on the forced migration of neuro-scientists during and after the Second World War has been supported by the Social Sciences and Humanities Research Council of Canada and the Canadian Institutes of Health Research. Of particular interest to him is how the migration of scientists and physicians has affected the academic migrants and their receiving environments.

Paul J. Stortz pjstortz@ucalgary.ca is an Associate Professor in History and works as Director of the Canadian Studies Program at the University of Calgary. He is the founding editor of *History of Intellectual Culture* and a specialist historian of Canadian universities, the Professoriate, and the post-secondary learning system. Together with Frank W. Stahnisch, he has chaired the active research working group "Writing the History of German-Speaking Émigré Neuroscientists and Biomedical Researchers, 1933–1989" at the Calgary Institute for the Humanities (2015–2016).

Biographies of Review Authors

James L. Bernat bernat@dartmouth.edu is the Louis and Ruth Frank Professor of Neuroscience at Dartmouth Medical School. He earned a B.A. from the University of Massachusetts (1965–69) and an M.D. from Cornell University Medical College (1969–73). He trained in internal medicine and neurology at the Dartmouth-Hitchcock Medical Center (1973–77). He served as Assistant Dean of Clinical Education at Dartmouth Medical School and on the American Academy of Neurology Ethics, Law & and Humanities Committee, with ten years as chairman.

Paul Foley pfoley@mja.com.au has received his PhD in History of Medicine at the University of Wuerzburg in Germany in 2001, which was later published as "Beans, Roots & Leaves: The History of the Pharmacological Therapy of Parkinsonism," Marburg: Tectum, receiving the prize of the best book publication in neurohistory from the International Society for the History of Neuroscience in 2004. He is a Scientific Editor of The Medical Journal of Australia, a Senior Research Fellow at Neuroscience Research Australia, and a Conjoint Lecturer in the Faculty of Medicine at the University of New South Wales.

Paula Larsson paula.larsson@new.ox.ac.uk is a PhD Student at the Wellcome Unit for the History of Medicine, Oxford University, United Kingdom. Her research focuses on the history of vaccines in Canada and public health policy in the nineteenth and early twentieth century. These areas of medical intervention were highly diverse in Canada's history, as federal and provincial governments applied health policy differently amongst different minority populations.

Jessica Tannenbaum jessica.tannenbaum@ucalgary.ca is an MA student in the History and Philosophy of Science in the History Department of the University of Calgary. She also holds a Dr. med. degree in History of Medicine from the Friedrich-Alexander University of Erlangen-Nuernberg and has published her medical dissertation with Peter Lang Publishers in Frankfurt am Main, Germany. While researching the medical history of concentration camp Flossenbuerg she also worked as a docent in the Flossenbuerg Memorial.

Anna von Villiez nsraubgut@sub.uni-hamburg.de received her Dr. phil. in History from the University of Hamburg. She currently works in the Department of Provenance Research in the State Library of Hamburg and is research associate in the department for global history at the University of Hamburg, Germany. Among her research interests are: the history of medicine in colonial times and Nazism, history of science, provenance research, and the history of the development of anatomic, ethnological, and anthropological collections.

Paul J. Weindling pjweindling@brookes.ac.uk is a Wellcome Trust Research Professor in the History of Medicine at Oxford Brookes University. From 1978 until 1998 he was at the Wellcome Unit for the History of Medicine at the University of Oxford. He was from 1999–2004 a member of the Max-Planck-Gesellschaft President's Committee for the History of the Kaiser-Wilhelm-Gesellschaft under National Socialism. He is also a Trustee of the Council for Assisting Refugee Academics (CARA).

David Zimmerman dzimmerm@uvic.ca is a Professor of Military History at the University of Victoria. He was educated at the University of Toronto and the University of New Brunswick, and has been a member of the faculty of the University of Victoria since 1988. He is an expert in the history of the Royal Canadian Navy, anti-submarine warfare, science, technology and war, and the rescue of refugee academics from Germany in the 1930s.

Contact editor:
Dr. Frank W. Stahnisch, M.Sc. (Edin.),
AMF/Hannah Professor in the
History of Medicine and Health Care,
Department of Community Health Sciences
& Department of History,
TRW Building, Room 3E41,
Universität von Calgary,
3280 Hospital Drive N.W.,
Calgary, AB, Kanada T2N 4Z6
fwstahni@ucalgary.ca

MAX-PLANCK-INSTITUT FÜR WISSENSCHAFTSGESCHICHTE

Max Planck Institute for the History of Science

Preprints since 2013 (a full list can be found at our website)

442 William G. Boltz and Matthias Schemmel **The Language of 'Knowledge' and 'Space' in the Later Mohist Canon** (TOPOI fi Towards a Historical Epistemology of Space)

443 Stefano Bordoni **Looking for a Rational Thermodynamics in the late XIX century**

444 Sonja Brentjes and Jürgen Renn **The Arabic Transmission of Knowledge on the Balance**

445 Horst Nowacki **Archimedes and Ship Design**

446 Matthias Schemmel **Elements of a Historical Epistemology of Space** (TOPOI fi Towards a Historical Epistemology of Space)

447 Martin Thiering and Wulf Schiefenhövel **Spatial Concepts in Non-Literate Societies: Language and Practice in Eipo and Dene Chipewyan** (TOPOI fi Towards a Historical Epistemology of Space)

448 Jürgen Renn **Einstein as a Missionary of Science**

449 Hubert Laitko **Der Ambivalenzbegriff in Carl Friedrich von Weizsäckers Starnberger Institutskonzept**

450 Stefano Bordoni **When Historiography met Epistemology.** Duhem„s early philosophy of science in context

451 Renate Wahsner **Tausch – Allgemeines – Ontologie** oder **Das Auseinanderlegen des Konkreten und seine Aufhebung**

452 Jens Høyrup **Algebra in Cuneiform.** Introduction to an Old Babylonian Geometrical Technique

453 Horst Nowacki **Zur Vorgeschichte des Schiffbauversuchswesens**

454 Klaus Geus and Mark Geller (eds.) **Esoteric Knowledge in Antiquity** (TOPOI fi Dahlem Seminar for the History of Ancient Sciences Vol. II)

455 Carola Sachse **Grundlagenforschung. Zur Historisierung eines wissenschaftspolitischen Ordnungsprinzips am Beispiel der Max-Planck-Gesellschaft (1945–1970)**

456 David E. Rowe and Robert Schulmann **General Relativity in the Context of Weimar Culture**

457 F. Jamil Ragep **From Tūn to Turun: The Twists and Turns of the Ṭūsī-Couple**

458 Pietro Daniel Omodeo **Efemeridi e critica all'astrologia tra filosofia naturale ed etica: La contesa tra Benedetti e Altavilla nel tardo Rinascimento torinese**

459 Simone Mammola **Il problema della grandezza della terra e dell'acqua negli scritti di Alessandro Piccolomini, Antonio Berga e G. B. Benedetti e la progressiva dissoluzione della cosmologia delle sfere elementari nel secondo '500**

460 Stefano Bordoni **Unexpected Convergence between Science and Philosophy: A debate on determinism in France around 1880**

461 Angelo Baracca ***Subalternity vs. Hegemony* – Cuba's Unique Way of Overcoming Subalternity through the Development of Science**

462 Eric Hounshell & Daniel Midena **"Historicizing Big Data" Conference, MPIWG, October 31 – November 2, 2013** Report

463 Dieter Suisky **Emilie Du Châtelet und Leonhard Euler über die Rolle von Hypothesen.** Zur nach-Newtonschen Entwicklung der Methodologie

464 Irina Tupikova **Ptolemy's Circumference of the Earth** (TOPOI fi Towards a Historical Epistemology of Space)

465 Irina Tupikova, Matthias Schemmel, Klaus Geus **Travelling along the Silk Road: A new interpretation of Ptolemy's coordinates**

466 Fernando Vidal and Nélia Dias **The Endangerment Sensibility**

467 Carl H. Meyer & Günter Schwarz **The Theory of Nuclear Explosives That Heisenberg Did not Present to the German Military**

468 William G. Boltz and Matthias Schemmel **Theoretical Reflections on Elementary Actions and Instrumental Practices: The Example of the *Mohist Canon*** (TOPOI fi Towards a Historical Epistemology of Space)

469 Dominic Olariu **The Misfortune of Philippus de Lignamine's Herbal or New Research Perspectives in Herbal Illustrations From an Iconological Point of View**

470 Fidel Castro Díaz-Balart **On the Development of Nuclear Physics in Cuba**

471 Manfred D. Laubichler and Jürgen Renn **Extended Evolution**

472 John R. R. Christie **Chemistry through the 'Two Revolutions': Chemical Glasgow and its Chemical Entrepreneurs, 1760-1860**

473 Christoph Lehner, Helge Wendt **Mechanik in der Querelle des Anciens et des Modernes**

474 N. Bulatovic, B. Saquet, M. Schlender, D. Wintergrün, F. Sander **Digital Scrapbook – can we enable interlinked and recursive knowledge equilibrium?**

475 Dirk Wintergrün, Jürgen Renn, Roberto Lalli, Manfred Laubichler, Matteo Valleriani **Netzwerke als Wissensspeicher**

476 Wolfgang Lefèvre **„Das Ende der Naturgeschichte" neu verhandelt**

477 Martin Fechner **Kommunikation von Wissenschaft in der Neuzeit: Vom Labor in die Öffentlichkeit**

478 Alexander Blum, Jürgen Renn, Matthias Schemmel **Experience and Representation in Modern Physics: The Reshaping of Space** (TOPOI fi Towards a Historical Epistemology of Space)

479 Carola Sachse **Die Max-Planck-Gesellschaft und die Pugwash Conferences on Science and World Affairs (1955–1984)**

480 Yvonne Fourès-Bruhat **Existence theorem for certain systems of nonlinear partial differential equations**

481 Thomas Morel, Giuditta Parolini, Cesare Pastorino (eds.) **The Making of Useful Knowledge**

482 Wolfgang Gebhardt **Erich Kretschmann. The Life of a Theoretical Physicist in Difficult Times**

483 Elena Serrano **Spreading the Revolution: Guyton's Fumigating Machine in Spain. Politics, Technology, and Material Culture (1796–1808)**

484 Jenny Bangham, Judith Kaplan (eds.) **Invisibility and Labour in the Human Sciences**

485 Dieter Hoffman, Ingo Peschel (eds.) **Man möchte ja zu seinem Fach etwas beitragen**

486 Elisabeth Hsu, Chee Han Lim **Enskilment into the Environment: the *Yijin jing* Worlds of *Jin* and *Qi***

487 Jens Høyrup **Archimedes: Knowledge and Lore from Latin Antiquity to the Outgoing European Renaissance**

488 Jens Høyrup **Otto Neugebauer and the Exploration of Ancient Near Eastern Mathematics**

489 Matteo Valleriani, Yifat-Sara Pearl, Liron Ben Arzi (eds.) **Images Don't Lie(?)**

490 Frank W. Stahnisch (ed.) **Émigré Psychiatrists, Psychologists, and Cognitive Scientists in North America since the Second World War**