

# German-Speaking Émigré Neuroscientists in North America after 1933: Critical Reflections on Emigration-Induced Scientific Change<sup>1</sup>

*Abstract:* This paper endeavors to document and analyze the impact of forced-migration of German-speaking neuroscientists to Canada and the United States during the National-Socialist era, while specifically focusing on concepts and scientific applications of *interdisciplinarity* in 20<sup>th</sup> century neuroscientific research. The objectives of this paper are firstly, to describe the general research topic; secondly, to introduce a new model for the historiography and social studies of forced-migration in the neurosciences and thirdly, to explore, in a preliminary way, the impact that particular Central-European émigré-researchers had on this emerging postwar biomedical field in North America.

*Key Words:* forced-migration, neuroscientists, Canada, USA, scientific change

## 1. Introduction

The general question of health care in the National Socialist Era,<sup>2</sup> and specifically that of the expulsion and fortunate (re-) integration of a significant number of German-speaking neuroscientists<sup>3</sup> into the scientific spheres of Canada and the United States are of particular relevance to international discussions of *brain drain* in modern biomedical science.<sup>4</sup> Following this perception, the group of neuroscientists has been chosen in this article, seeing that they were at the forefront of interdisciplinary advances in an emerging scientific and clinical field that encompassed neurology, psy-

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chiatry, neurosurgery, neuropathology and also psychoanalysis. However, of equal importance is the historiographical consideration of the neurosciences and their defining role in the development of NS medicine, since the mentally ill and the neurologically handicapped had been among the prime targets of racial hygienists and eugenic activists.<sup>5</sup> Furthermore, various clinical areas of psychiatry and neurology were rejected because they were seen as representing instances of a *Jewish Science*.<sup>6</sup> On the one hand, a large number of doctors had what the Nazis considered “Jewish family backgrounds”. On the other hand, many Nazi physicians, with their materialistic views, were suspicious of the floating boundaries between neurology, psychiatry, and psychoanalysis which were typical in the field of *Nervenheilkunde* in German-speaking countries.<sup>7</sup> The attacks of Nazi party officials and doctors on many of the progressive neuroscientists eventually led to the expulsion from Central Europe of up to a third of the field’s leading physicians and researchers in this field.<sup>8</sup>

In fact, it is precisely because of these scientific conflicts that the case of *forced migration*<sup>9</sup> begs the in-depth study of the involvement of science in society, the interaction of professional networks and the establishment of international relations which evolved during the first half of the 20<sup>th</sup> century. The grossly artificial situation of the exodus of laboratory scientists and medical doctors from German-speaking countries allows for developing an approach that goes far beyond the provision of access to a plentitude of individual biographies and clinical accounts.<sup>10</sup> The institutional histories in this research field,<sup>11</sup> the historical analysis of the experiences, the providence and the individual legacy of the German-speaking émigré-neuroscientists<sup>12</sup> gives extremely important insights into the manifold contingencies, the interrelated contexts and the particular structures of the *knowledge transfer*,<sup>13</sup> which occurred due to the (re-) integration of differing communities of neuroscientists across the Atlantic. With these basic considerations in mind, the focus of this paper is to study emigration-induced scientific change from new historiographical perspectives: In the past, a number of historians of medicine and science have considered the expulsion of Central European scientists to be purely a linear equation of the subtraction and addition of intellect.<sup>14</sup> In this manner, they supported a simplistic brain-gain theory to the exodus of academics, intellectuals and researchers during the Nazi Period<sup>15</sup> when the United States and Great Britain<sup>16</sup> were remarkably enriched by the process of forced migration.

This perception is of special concern in regard to the generally restrictive Canadian immigration policies towards refugee physicians from Central Europe – in building the main focus of this article. Despite these restrictions, there was an increasing hope that the refugee physicians would help to augment the health care work force and improve obvious shortfalls in the medical provision for the dominions and territories.<sup>17</sup> Canada needs to be regarded as very progressive and inno-

vative since the pioneering work of outstanding individuals like Sir William Osler (1849–1919), the enthusiastic interactions of researchers with Britain, Germany and France, the introduction of a graduate school system and the inclusion of McGill and Toronto Universities in the Association of American Universities.<sup>18</sup> Yet, notwithstanding, those innovative moves that helped elevate Canadian research to international standards proved to be highly restrictive when it came to refugee doctors in the medical community. In her autobiographical play *Judaism Lost and Found: The Frannie Sheridan Story*, Sheridan for example, depicts the experiences of her father, an émigré student from Vienna, who fled Central Europe, became incarcerated in a London prison, and later was deported to Canada. First, he tried to settle in rural Saskatchewan like many families of refugees, who had been put on prairie trains upon arrival in Halifax. Hostility with the local physicians and violent attacks in his rural community led Sheridan's father to move his family of seven children to Ottawa, the Capital city.<sup>19</sup>

While the outbreak of the war led to some relaxations in the Canadian immigration policies, many of the under-supplied territories had their own schemes under British administration as far back as 1948. Sometimes this worked in favor for the most-sought for physicians but sometimes they were opposed as mere “competitors” by the local medical doctors.<sup>20</sup> The three neuroscientists discussed here provide interesting case studies of different personal and professional experiences before and after their forced-migration. Given the scarcity of scholarly work on this particular subject group, it is nevertheless important to form some initial hypotheses and attempt a preliminary typology of refugees in the neuroscientists thus enabling future research to move forward.

## 2. From the Nazi *Machtergreifung* to the Forced Migration of Psychiatrists, Neurologists, and Basic Neuroscientists<sup>21</sup>

The history of forced migration is still largely under-explored with respect to the area of “normal science”<sup>22</sup>, particularly in chemistry, biology and engineering – though it has been widely investigated in preeminent areas of “big science”<sup>23</sup> (such as atomic physics, computer science, or rocket engineering) and in particular disciplines bordering on medicine such as pharmacology or experimental life science. Research literature on the exodus of German-speaking neurologists, psychiatrists and brain researchers has remained very scarce, while the historical accounts tend to follow two dominant scholarly perspectives of 20<sup>th</sup> century historiography. First and foremost, research on the forced-migration of German-speaking scientists has shown major transitions reflected in a change of topics and investigative approaches. From

the study of singular historical events in terms of *Ereignisgeschichte*<sup>24</sup>, individual perspectives from politics and cultural issues such as the advent of German nationalism, anti-Semitism in the European academy as well as racial policies were taken into account.<sup>25</sup> In addition, the personal legacies of postwar medical institutions happened to be extensively addressed in traditional historiography.<sup>26</sup> Indeed, German universities gave continuing work opportunities to a large number of ex-Nazi professors and doctors. Consequently, in post-war years, there was a taboo regarding historiographical research on medicine and science in the 1930s and 1940s.<sup>27</sup> On April 7<sup>th</sup>, 1933, the *Law for the Reestablishment of a Professional Civil Service* (*Gesetz zur Wiederherstellung des Berufsbeamtentums*) came into being shortly after the Nazis had seized power.<sup>28</sup> Following this law, the government of the *Reich* added more articles aiming at the expulsion of Jewish scientists and doctors at universities and other state-funded medical institutions:

“[...] for the reestablishment of a national professional civil service and for the simplification of administration, officials may be discharged from office according to the following regulations (the detailed criteria of exclusion), even when the necessary conditions according to the appropriate law do not exist.”<sup>29</sup>

Article III went one step further in stating that “Officials, who are of non-Aryan descent, are to be retired.”<sup>30</sup> The *Law for the Reestablishment of a Professional Civil Service* effectively maimed the highly developed research culture in Weimar Germany and shook the international standing of German medicine.<sup>31</sup> It made sure that all state officials “of non-Aryan descent” or associated with oppositional political groups were released from office because Nazi ideology regarded it as unacceptable if so-called Aryans were taught by Jews. In a government administrative list published regularly from 1934 onwards,<sup>32</sup> the number of university teachers dismissed was already recorded as 614. It is interesting to note that conspicuously three German universities – Berlin, Frankfurt am Main, and Breslau – accounted for forty percent of the total number of academic staff released.<sup>33</sup>

Taking a brief look at the general numbers of the émigré-neuroscientists reveals that approximately 2,000 scientists and professors were expelled from Germany before 1938.<sup>34</sup> Amongst them, were nearly 600 medical researchers and physicians, according to a survey from the Leo Baeck Institute, with half of the researchers being fully trained neurologists and psychiatrists.<sup>35</sup> This sample represents a highly significant group with respect to Germany as well as in comparison to the new host countries. The registers of the Royal College of Physicians, for example, show the presence of around 200 neurologists and psychiatrists in the UK in 1940 and the files of the American Academy of Neurology list approximately 500 specialists in 1948.

### 3. Situating a Cultural View in the Historiography of Forced Migration

Though most core facts about the exodus of medical researchers during German Nazism are already known,<sup>36</sup> a major incentive to revise some standard methodological tools for the current project came from new approaches to the historiography of the cultural context<sup>37</sup> and transfer of knowledge.<sup>38</sup> In applying those innovative interpretations to the research networks and the communication structures of émigré-neuroscientists, this project shall provide additional perspectives regarding the investigation of the social background and superior cultural context of forced migration.<sup>39</sup> An earlier process-oriented perspective developed in the 1990s by a group at the *Berliner Wissenschaftskolleg* has opened promising paths for the study “of [the] intellectual and cultural change” occurring through the forced migration of European scientific émigrés.<sup>40</sup> Mitchell Ash, Alfons Söllner, and Klaus Fischer have provided useful models in their scholarship on emigration-induced scientific change, which began to include the relevant social accounts of the historical developments, cultural reception, and (re-) integration of German-speaking émigré-scientists.<sup>41</sup> As such, refugee-neuroscientists like all their compatriots in exile found themselves in the foreign environment of North America where they had to continue their daily life, become re-licensed, obtain professional acceptance and learn the cultural and communication codes, etc.<sup>42</sup> Many of the émigré-neuroscientists, e.g. Carl Stern (1906–1975) and his colleagues from the group around Kurt Goldstein (1878–1965), Adhémar Gelb (1887–1936), Victor Franz (1883–1950) and Walter Riese (1890–1976), were heavily influenced by holistic neurology and the experimental culture of the Weimar Period and sought to continue these traditions during their American exile.<sup>43</sup> The historical problem of emigration-induced change has been researched from multiple perspectives including the humanities and social sciences. Not only did they draw on individual biographies and collective biographies, they also measured the “hard impact parameters” like bibliometric methods, memberships in academic associations and statistics on the leading positions in scholarly societies.<sup>44</sup>

This article is specifically concerned with neurologist and psychiatrist physicians as this field is still a large desideratum in the scholarship. The expulsion of Jews and non-conformist researchers and medical doctors from the academic community and the health care system had significant consequences for the science and culture of German-speaking populations, as well as bilaterally in North America. Of the 52,000 doctors in 1933 Germany, about sixteen percent were of Jewish ancestry or what the Nazis defined as being Jewish. This made approximately 8,000 to 9,000 physicians when Hitler came into power.<sup>45</sup> Nearly thirty percent of all those expelled physicians and faculty members were residents and consultants in neurology and

psychiatry or at least had considerable training in *Nervenheilkunde*, before they continued their work in internal medicine, neuroanatomy, neurosurgery, pathology, public health, or neighboring disciplines.<sup>46</sup> This paper, however, concentrates on some lesser known émigré-neuroscientists, their emigration process, support-networks and the cultural difficulties they encountered when establishing a new life in Canada and the US. The first case is of the Czech psychiatrist Robert Weil (1909–2002), a normal scientist, nonetheless a founding member of the Canadian Psychiatric Association (CPA). He is presented as an official of the mental health service. Secondly, the case of Karl Stern, a pupil of Walther Spielmeier (1879–1935) in Munich and colleague of Goldstein in Frankfurt, is introduced as an example of changing from a neuropathologist in Europe to being a clinical psychiatrist and ardent university teacher in Canada. Finally, Berlin neurologist Friedrich Heinrich Levy (1885–1950) is discussed. He had been an established neuropathologist, rising to the top of the German institutional hierarchy, and then lost his academic position and even his private neurological clinic before obtaining his successful emigration to the US. The effects of the process of forced-migration on modern brain research and the transplantation of European concepts and methods into the North American neuroscience are evident in all of their cases.

#### 4. Robert Weil at Dalhousie University in Halifax, Nova Scotia

Robert Weil belongs to a group of German-educated psychiatrists and neuroscientists from the fringe provinces of the former Austro-Hungarian Empire. He was born into a Jewish family in rural Bohemia, but, in his adolescence converted to Lutheranism. Weil is one of the many clinical psychiatrists of the 1930s who, in his research, displayed a profound interest in a great variety of psychiatric and related areas ranging from clinical nosology and psychoanalysis to the neuropathology and histology of the brain. He graduated with a *Dr. med.* from the German Charles University of Prague in 1933 – under the supervision of Ladislav Haškovec (1866–1944). After post-graduate studies at the Vienna Medical School, he began work as a psychiatrist for the army from 1935 to 1938, first in Prague and then in a small town in Bohemia. Following the annexation of parts of Czechoslovakia by Germany, he and his family fled to London,<sup>47</sup> and after his successful passage to Canada, Weil shared the fate of many other émigré-medical scientists. He was transported to one of the remote areas of Saskatchewan, where fortunately he was allowed to practice medicine as a Family Physician between the war years of 1939 and 1942. During this time many of his fellow émigré-neuroscientists were barred from practicing medicine in both Canada and the US.<sup>48</sup> To demonstrate this, let us turn to a letter written

by Weil in which he underlined how exceptional it was for him to intern in neurosurgery at Saskatoon City Hospital until 1944 under the supervision of the respective Canadian chief of the department.<sup>49</sup> In the last two years of the war he managed to work in free practice with the Saskatchewan Mental Health Service:

“In 1942 I joined the Mental Health Services of Saskatchewan, my first position [in Canada] being a junior psychiatrist in the Sask[at]chewan]. Mental Hospital in Battleford. The medical superintendent at that time was Dr. J[ack]. J. McNeil [b. 1918] – a native of Summerside, P.E.I. Dr. McNeil was a great friend of Dr. Clarence [M.] Hincks [1885–1965] who visited our hospital almost yearly. On one of these visits he was accompanied by Dr. J. Griffin. Both sat in on our conferences and also gave us the opportunity to meet and get to know them in personal conversations. Both Clarence and Jack were always welcomed [!] visitors who brought us all kind of informations [!] about the psychiatric activities, developments etc from all the provinces.”<sup>50</sup>

In a remarkable way, Weil had managed to integrate into a regional network of public health workers in the western prairie province of Saskatchewan. This was most certainly due to the extraordinary situation of this province at that time, before it became reshaped under the leadership of its Premier. T.C. (Tommy) Douglas (1904–1986) strove to reconstruct the health care system that had suffered so heavily in the years after the Great Depression. During this time the émigrés were often accepted more readily than in many of the other neighboring provinces as replacements for those physicians who had left.<sup>51</sup>

However, the policy and practice regarding refugees, in general, was aggressive and the reception accorded to émigré physicians and medical scientists by the various Canadian provinces, professional and academic communities often proved to be somewhat hostile. There were a number of reasons for these types of approaches: Firstly, the early 20<sup>th</sup> century witnessed an increasing influence of the state in many areas of public health and particularly in the prevention of contagious diseases. In both Canada and the US, government programs were steered to go against new immigrants as “potential sources” for infectious diseases thus leading to quarantine measures to prevent disease spreading to the local communities. Moreover, mental impairment and physical disability were conceived as justificatory factors to constrain the immigration of certain groups, including Jewish refugees.<sup>52</sup> Particularly after the Immigration Act of 1906, Canadian immigration policies became highly selective including, for example, medical and psychological markers as criteria for non-admission of the immigrants. These changes had immediate consequences for the refugee physicians as well. As ordinary immigrants, they were subjected to the same restrictive measures that had recently been introduced. Later on they became a target for professional regulation policies, mainly through the provin-

cial Colleges of Physicians and Surgeons. These immigration policies developed into definite discrimination throughout the 1930s and 1940s.<sup>53</sup>

Thus, the Jewish and oppositional neuroscientists who fled Nazi Germany and sought to continue their professional careers encountered some major obstacles. It is quite remarkable that although German medicine enjoyed a high international reputation and German universities and Kaiser Wilhelm Institutes had served as primary venues for American and Canadian researchers, émigré physicians often found themselves to be overly discriminated against by unyielding re-licensing procedures. Although we do not have exact numbers on re-licensing in Canada, the preliminary findings from the case studies suggest that the procedures were as restrictive as in the US. Between 1933 and 1938, the overall number of foreign-trained physicians allowed to practice there, remained scarcely the same as the one before Adolf Hitler (1889–1945) had come into power.<sup>54</sup> This is remarkable since many US states and Canadian provinces still had the most poorly served districts in the Western world. For example, there were only six trained psychiatrists in the province of Nova Scotia (roughly the same size as Ireland with about half a million inhabitants on the eve of WWII).<sup>55</sup> It was a disturbing experience for many of the refugee physicians and researchers who had managed to flee from the oppressive laws of the Nazi regime and who now found themselves again, as victims of discrimination by the professional selection policies.

Secondly, there are only a few preliminary insights into doctors' immigration to Canada prior to 1935. One document describes the assessment of possible placements of German émigrés in the territory of Newfoundland.<sup>56</sup> In the fall of 1933, the British *Academic Assistance Council* (AAC), which the London physiologist Archibald Vivian Hill (1886–1977) had co-founded shortly after the Nazi *Machtergreifung*, was contacted to help with the selection of a pathologist and a surgeon for a Canadian hospital.<sup>57</sup> Although it is unclear how this transfer unfolded, the AAC was informed that a number of Canadian academics completely rejected the idea of helping their German colleagues. In a letter from 1935, the physiologist Frederick Miller (1881–1967) from the University of Western Ontario (UWO) replied to another of Hill's requests and although Miller was sympathetic to the idea, he would not have had adequate space in his department and had only a limited support staff. In addition, he stated there was another difficulty since the UWO Medical School was "a very Scotch, conservative community and there might be a good deal of criticism of German Jews".<sup>58</sup> What was meant by the notion of "a good deal of criticism" can be inferred from the correspondence between the AAC and Ardrey W. Downs (1913–1966), the Head of the Department of Physiology and Pharmacology in Edmonton. Although the UofA had only been founded in 1909 with a great demand for experienced educators, Downs told the AAC executive that he did not want to receive

a refugee because of the controversy that might follow such a placement. After all, there was “the question of character” of such strangers in the academy and there may have been “certain reasons” why the émigré individuals had actually lost their positions. In his ensuing letter to the historian, Sir Walter Adams (1906–1975), Hill confessed his great disappointment about the Canadian colleagues and expressed that “this is exactly the kind of thing I fear might be common”.<sup>59</sup> At best, Canadian researchers and university administrators were indifferent to the shocking experiences of their European colleagues.

A major influence, however, was exerted by the *Carnegie Foundation for the Advancement of Teaching*. It had been founded in 1906 and was one of the major American organizations to react to the refugee crisis after 1933 both in the US and in Canada.<sup>60</sup> In fact, a number of Canadian universities were actively invited to apply for financial assistance through fellowship grants that helped in placing the refugee scholars. Dalhousie was one of the first universities to use this opportunity and in 1934 appointed two “research assistants”. The political scientist Lothar Richter (1894–1948) was from Berlin and the neurohistologist, Martin Silberberg (1895–1969), was asked to give student courses in general pathology.<sup>61</sup> In the spring of 1935, the Carnegie Foundation then had to tell the university administrators that they had to cut the grant funding to two years because of the great demand of fellowships for refugee academics. Although this certainly decreased the attractiveness of external funding support for the Canadian institutions, overall, none of the philanthropically supported refugee scholars were ever barred from entering the country and starting new careers. Later on, many decided that the lack of support in the Canadian system and the attraction to work in places with larger Jewish communities was worth the move south of the boarder. Silberberg was one of this group who left Halifax for a pathology position at Washington University in St. Louis.<sup>62</sup>

Thirdly, while the reception in Canadian institutions of higher learning was already problematic for many German-speaking refugees in the 1930s, settling as an independent specialist or family doctor was nearly impossible until after the war had ended.<sup>63</sup> When researching the archives of the College of Physicians and Surgeons of Nova Scotia, it became evident that between 1910 and 1952 neither foreign doctors with non-Canadian passports nor any Jewish physicians had become active officers in the Medical Society of Nova Scotia.<sup>64</sup> Thus, it appears that world politics had completely “bypassed” the Atlantic province, and even more astonishing is the fact that about one million people had passed through the province’s major port of entry during the whole Hitler period.<sup>65</sup> Looking at all of these impediments, it is all the more elucidating that still many émigré individuals managed to adapt to the Canadian health care system over the years leaving a major imprint on its research landscape.<sup>66</sup> To quote Weil from his letter to Dr. Charles Roberts (1918–1996), while

looking back at his North American career, he was absolutely convinced that his own success had only been possible due to his friendship with many leading physicians and administrators in the field:

“Many of mine [!] professional activities brought me in close contact with Jack, the CPA [Canadian Psychiatric Association] executive function, the Tyhurst committee, the American Council, or common travel from N.S. [Nova Scotia] to Lima, Peru are all highlights in my psychiatric career.”<sup>67</sup>

The particular experience in the current differences of mental health care on both sides of the Atlantic can also be inferred from the Hincks-Report that brought the *Canadian National Committee for Mental Hygiene* into being. Ten years later, this body was granted a Federal Charter with Clarence Hincks (1885–1965) as its first General Director and, in 1950, the body was named the *Canadian Mental Health Association* with the goal of promoting provincial bodies that would address and improve local needs.<sup>68</sup> Consequently, Weil had entered the Mental Health Service at a time when psychiatric care was, as he described, “predominantly practiced under poor conditions in mental Hospitals” and the teaching of psychiatry was “uncommon as a subject of study in Canadian universities”.<sup>69</sup> By comparison, the disciplines of neurology and psychiatry at the Charles University of Prague had risen to international recognition under Arnold Pick (1851–1924) and Ladislav Haškovec, who had made training in neuropsychiatry, psychopathology and areas of social psychiatry compulsory for all medical students.

Weil’s broad Central European training in the neurosciences and his experience as a psychiatrist in the medical service of the Czech army fostered his quick adaptation to the Canadian mental health system. His colleagues at Battleford soon realized that he was capable of making a substantial contribution to psychiatric research in the Saskatchewan Mental Hospital. At this critical juncture of his career, Weil’s broad knowledge in clinical psychiatry and basic neuroscience, his involvement in setting up a mental health system in the provinces, and his social contacts with leading members of the Saskatchewan Health Service and the Canadian psychiatric community, earned him great recognition.<sup>70</sup> Eventually, he was hired as a permanent faculty and first Assistant Professor of Psychiatry and stayed at Dalhousie from 1950 until his retirement in 1975.

Because he was part of the core faculty of the Medical School, Weil could influence its hiring policies and particularly, the restructuring of its services in psychiatry, neurology, and neuropathology, wherein he promoted a Germanic approach to education in psychiatric training. Thus he required a broad base of knowledge in psychiatry and all of its related fields.<sup>71</sup> This attitude materialized in Weil’s activities as a founding member and president of the CPA, in his promotion of social psychiatry and

an interdisciplinary variety in teaching and research.<sup>72</sup> Weil's involvement in mental health issues is an example of great individual adaptation. Back in Europe his main interest lay first in somatic neurology and then in neuropathology. However, neither in the Czech army nor in Canadian psychiatry could his post-university interest in morphological research of the brain be fully met.<sup>73</sup> However, this particular example shows that he was able to attend to changing his demands successfully and it is quite likely that through his pro-active participation and his manifold activities as a scientific referee, he began to move at a different pace in both Saskatoon and Halifax.<sup>74</sup> Not only did this highly intellectual psychiatrist reflect on the cultural background of the neurosciences in numerous sociological and philosophical articles, but he also reshaped the environment of research of various areas of clinical psychiatry and laboratory neuroscience at his university. Even novices and lower rank neuroscientists became highly productive and began to challenge the traditional power houses of McGill and UofT on the East Coast.<sup>75</sup> Although it is hard to find experiences and probable "culture shock" in Weil's case, given that he mostly reflects on the easiness of adapting to Canada in his letters or on the good relationships with his patients and his family life in Atlantic Canada, concerns arose with what he perceived to be the underdeveloped status of psychiatry that was to underscore the broad, holistic picture of psychiatry and neurology that he himself envisaged:

"From discussions with a number of colleagues I gained the impression that psychotherapy [does not occupy] the same role in the education nor in the practice of psychiatrists as it did in the past. As important psychopharmacology and many of the new discoveries in the neurosciences are, they should not displace totally or particularly the mainfunction-psychotherapy-which [!] makes a psychiatrist a psychiatrist. [...] a plea for greater emphasis on psychotherapy should be conveyed to the CPA and through the CPA to the psychiatric departments of all medical faculties."<sup>76</sup>

In terms of Weil's relation with Central Europe and particularly Germany during the Postwar Period, along with frequent letters to old colleagues in Prague and Munich and his extensive correspondence with the surviving members of his family, particularly his niece in the Ruhr region, there are no documented lecture tours to German-speaking psychiatric departments. Only one lengthy visit to the "Old World" can be verified in the archival material that seemed to have been of a simply private nature:

"Last Fall we [Robert and Stella Weil] undertook an extensive tour through the Nort-and Baltic Sea [!], visiting Rotterdam, Oslo, Copenhagen, Helsinki and disembarked from the russian [!] boat 'Mikhael Lermontov' [...] at Leningrad. Over Moscow, Zurich we eventually reached Munic [!] in the vicinity of which we visited with old friends."<sup>77</sup>

## 5. Karl Stern at McGill University in Montreal, Quebec

At first glance, the conditions for a transfer of concepts and methods were ideal in the second example of Karl Stern (1906–1975),<sup>78</sup> born in a small town in Bavaria near the Czech border. After he completed most of his education at the Charité Medical School in Berlin, Stern graduated with a *Dr. med.* from the University of Frankfurt in 1930. Between the years 1930 and 1931, he worked with Goldstein as a resident physician in psychiatry at the Frankfurt Neurological Institute, at which time the latter had been given the directorship of the Frankfurt Institute for Research into the Effects of Brain Injuries (*Institut für die Erforschung der Folgeerscheinungen von Hirnverletzungen*).<sup>79</sup> Between 1932 and 1933, he used a Rockefeller Fellowship to fund a research project at the Department of Neuropathology in the German Research Institute for Psychiatry in Munich, where he collaborated with the neuro-histologist Walther Spielmeyer.<sup>80</sup> In Munich, Stern had obtained a position, in which he primarily became Spielmeyer's teaching assistant. However, in this position he required enormous effort to live up to the high standards of Spielmeyer's expertise in neurodiagnostics. Accordingly, graduate students and visiting research fellows expected the very same from Stern. They were given a thorough introduction to the methods of brain histology and the vast array of laboratory applications used.<sup>81</sup> Essentially, in Munich, Stern worked at the highest possible level of medical education and training.

In the meantime, things had not developed well for his mentor Goldstein, who did not receive the promised financial support when he succeeded Edinger in his chair. As a result, Goldstein was not allowed to open a psychiatric ward as planned.<sup>82</sup> Therefore, later in 1930, Goldstein decided to leave Frankfurt for Berlin, where he was offered the directorship of the Department for Neurology at the academic hospital of Berlin-Moabit. During the move to the German capital, he asked Stern to join him once again as a consultant in one of his psychiatry wards and to perform the brain autopsies for the hospital.<sup>83</sup> At that time, Goldstein was about to develop the research facilities of Moabit into one of the most renowned city hospitals in the country: he hired Moritz Borchardt (1868–1949) a multi-talented neurosurgeon, Adhémar Gelb as experimental psychologist came with him from Frankfurt, and, shortly thereafter Ludwig Pick (1868–1944) acted as an adjunct neuropathologist.<sup>84</sup> The *Moabiter Krankenhaus* was then one of the few academic hospitals with alternative services in neurology, psychiatry, and pathology, which were related to each other in a similar way as had been in the interdisciplinary Neurological Institute that Goldstein had formerly directed in Frankfurt. However, once everything for Goldstein's clinic was in place with the prospect of becoming one of the major centers of German neurology, political catastrophe ensued.<sup>85</sup> The hospital director,

the renowned internist Georg Klemperer (1865–1946) (brother of the novelist Victor Klemperer (1881–1960) and a personal physician to the soviet leader Wladimir Iljitsch Lenin (1870–1929), reacted to an article in the *Völkischer Beobachter*, March 21<sup>st</sup>, 1933, which attacked Goldstein for being “a Jewish physician and a psychoanalyst”, and warned him.<sup>86</sup>

Unfortunately for both, Klemperer’s clairvoyance was correct. As soon as the Nazis seized power, Goldstein became incarcerated (April 1<sup>st</sup>, 1933) and was only released after signing a document saying that he must leave Germany forever. Through Switzerland, where Goldstein co-founded the Emergency Society for German Scholars in Exile (Notgemeinschaft Deutscher Wissenschaftler im Ausland) with the Budapest pathologist Philip Schwarz (1894–1962) and Carl Zuckmayer (1896–1977), the well-known novelist from Mainz,<sup>87</sup> he first found refuge in Amsterdam, where he finished his seminal publication *The Organism*.<sup>88</sup> Stern stayed in Germany until 1935 before he decided that he needed to flee to London, and here a tight network of contemporary international scientists came into play: Stern’s mentor from previous Munich days, Walther Spielmeier, had already familiarized Wilder Penfield (1891–1976) with Stern’s work when both men met in 1931 during Spielmeier’s lecture tour to North and South America.<sup>89</sup> Stern’s new acquaintance with a Canadian neurophysiologist at Queen Square – supposedly Herbert H. Hyland (1900–1977) – helped him to leave for Montreal,<sup>90</sup> where he immediately began working at the Hôpital de Nôtre Dame.

Penfield recommended Stern to D. Ewan Cameron (1901–1967), the designated director of the department of psychiatry, which recommendation became a most important point in Stern’s career as a mental health expert.<sup>91</sup> Soon after the Allan Memorial Institute (AMI) opened in 1943, Stern began to work explicitly at the Geriatric Unit (the first one in Canada) and taught courses as a research assistant and later as an assistant professor of psychiatry.<sup>92</sup> However, Stern’s educational background had centered around a more encompassing approach to psychiatry and neurology, proving to be quite different to Cameron’s views that were staunchly empirical and had a mere biological orientation towards patient care in his service. Stern always referred back to his classic humanist education in the German Gymnasium and the wide-spread culture of learning during his medical studies, the immersion in Goldstein’s “holist neurology” – as his mentor described the program in his book *Der Aufbau des Organismus*<sup>93</sup> – meaning a direct extension to his philosophical and anthropological leanings. This holistic view of Stern’s would also transcend the work in the hospital and encompass social life in general: Quite frequently the Sterns organized *soirées* at their home, inviting groups of colleagues, academic friends, students and interns to listen to Carl’s recitals of Schumann’s piano pieces or to read psychoanalytic or philosophic works together. The neurochemist Marion K. Birmingham

(b. 1921), who later became his assistant, describes her admiration and astonishment for Stern's accomplishments in the following passage:

“[...] eminent neurologist, psychoanalyst, author, and, oh, what an ‘amateur’ musician! The year is 1948, the place is Karl [Stern’s] livingroom. His musical evenings are forever engraved in my mind, as are the violent altercations I had with him concerning his views on the [Carl Gustav] Jungian [1875–1961] female ‘anima.’”<sup>94</sup>

As Stern admits in his autobiographical novel *The Pillar of Fire*<sup>95</sup>, his interests in neuro-oncology and the cognitive defects in clinical psychiatry went far beyond the constricted narrow program and the routine work at the Montreal Neurological Institute (MNI). With the establishment of two separate centers, the close academic links between the fields of neurology and psychiatry would now be disrupted, institutionally, at McGill for a long time. The departments of epileptology, neurosurgery, neurology, neuropathology acted as service units for Penfield's research program on the mapping of the human cortex, with the Montreal “Neuro” mainly fulfilling the neurosurgeon's needs. By contrast, the AMI developed into the leading Canadian center on biological psychiatry during this period. Due to the challenging relationship between the renowned Cameron and the émigré-psychiatrist on his staff, Stern left Montreal in the 1950s and to become a clinical professor of psychiatry at the University of Ottawa.<sup>96</sup>

This change to the UofO, which had sprung from the Roman Catholic College of Bytown, must be attributed to a number of factors: Most certainly, the restrictive concept of psychiatry in Cameron's service which varied differently to Stern's prior experiences and which Stern sorely missed during his working years in Montreal. Stern's conversion from Judaism to Catholicism played another important role in his rejection of the biological psychiatric service at the AMI with Cameron's anti-intellectual and anti-religious leanings. This was revealed in an episode from the Montreal visit of the Christian philosopher Josef Pieper (1904–1997) in 1952. While he had participated in a double-conference on *The Mission of the University* in Toronto and Montreal, one of the participants made him acquainted with Stern, whose autobiographical novel Pieper had already read some time before. It is remarkable that Stern himself had read Pieper's *On Hope and Faith (Über die Hoffnung)* in 1935, while sitting on a park bench in London during his exile. In the *Pillar of Fire* he even quoted the book and emphasized how much comfort it had given him during this difficult time. At the end of their first Montreal meeting, Stern's wife had brought out the small tattered book and given it to Professor Pieper for his signature. Afterwards, while Stern drove him to the next bus stop they engaged in a long conversation about his plans to leave Montreal:

“[Stern] told me during the short drive about his decision, to leave his current position at the world-renowned McGill University and to move to the relatively unimportant Catholic University of Ottawa. I [Pieper] could not understand this decision and asked about his motives. And then he began to tell the story in greater detail and it seemed he had not been firm about his own decision at that point [...]. He told me that it was no longer possible for him to continue to work in an atmosphere of a completely secularized Psychiatry that would be solely guided by the conviction that all of the sources of mental illnesses had to be found in Religion which needed to be eliminated as a psychiatric ‘complex’. Even at night, he was haunted by the perception that a radically nihilistic revolution was about to take its origin from the North American continent. This revolution had the sole promise of the socio-psychoanalytic-therapeutic creation of absolute happiness.”<sup>97</sup>

This overtly differing approach to psychiatry can also be traced in Stern’s clinical and research program later in Ottawa. At McGill, he had already cultivated contacts in the francophone community of Quebec and a number of residents and interns joined his Geriatric Unit for individual study periods. Many of these psychiatrists also practiced psychotherapy or were trained as classic psychoanalysts. When Stern assumed his professorship at the UofO, one of the French-trained psychiatrists, Victorain Voyer (1917–1975) even followed him to his new department and helped to transform it into an important psychiatric educational center for psychoanalysis and psychopathology, which would be closely associated with the Ottawa Mental Health Centre after 1961.<sup>98</sup> In the same way that Stern had included basic psychoanalytic training into psychosocial research projects he also introduced these modules into the psychoanalytic *Pavilion Albert Prêhost* associated with the *Université de Montréal* where he frequently visited over the years when giving his lectures and seminars.<sup>99</sup>

Although the conditions for the transfer of ideas and methods had been ideal in Stern’s case, his biography cannot really be regarded as a “success story” in terms of major theory-changes in the neurosciences: On the one hand, Goldstein’s group had almost turned the city hospital of Moabit into one of Germany’s major centers for neuroscientific research, but the Nazi *Machtergreifung* foiled their plans. Regarding the cultural picture of the neurosciences, Goldstein’s holist neurology almost ceased to exist even when the former members continued their work in North American clinical psychiatry and experimental psychology. When Stern entered the neurosciences in Montreal, like other émigré physicians, he had to deal with the local research cultures; and for the most part, did not manage to introduce his own holistic ideas of neurology.<sup>100</sup>

However, this case is far from complete if only personal achievements and institutional changes are considered. There are numerous local accounts highlighting Stern’s ability as an academic teacher: he seemed to have interested a whole new

generation of medical students in Montreal and later in Ottawa in the histological study of the brain, psychopathology, and the anthropological perspective of psychiatry.<sup>101</sup> These accounts attest to the value of a broad training which is often forgotten in the tunnel vision that lauds scientific excellence in a specific discipline, disregarding a solid education as the deep source of future innovations. In Stern's setting, there still survived traces of holism, which impressed many of the students.<sup>102</sup> Stern was also influential in his relationships with the younger faculty members at the AMI, who like the later eminent psychiatrist Dr. Edrita Fried (b. 1934) emphasized his "difference" as a psychiatrist:

"Dean [David Landsborough] Thomson [b. 1901] had an original cartoon by Thurber above his desk: The psychiatrist with a large rabbit head and floppy rabbit ears is asking his patient: 'You said a moment ago that people look like rabbits to you. Now what do you mean by that, Mrs. Sprague?' It was my unrestrained laughter at this marvelous cartoon that got me my first job at the newly founded Allan Memorial Institute of Psychiatry (associated with McGill). Dr. Karl Stern had come to interview prospective biochemistry graduates. He was a musician, a scholar, a psychiatrist, and a most witty person."<sup>103</sup>

There are comparatively minor instances of change in neuroscience and psychiatric knowledge that can be extracted from the second historical case. The reconstruction of different styles of neuroscientific research ("holistic neurology" versus biological psychiatry and neurosurgery) shows an impact on the educational, organizational and practical-clinical level, which conventional perspectives from the history of ideas or the institutional historiography do not bring out. Instead, the practice of the Goldstein group, the teaching networks at McGill and the interaction of the individual milieus between Ottawa and Montreal emerge as a substrate for considerable changes in the local neuroscientific cultures.

## 6. Frederic Henry Lew(e)y at Cushing Hospital in Framingham, Pennsylvania

The neurologist Friedrich Heinrich Levy was born in Berlin, the son of a Jewish physician, and studied medicine in his hometown and in Zurich. By now, with his M.D. in 1912, he gained a certain degree of fame with his description of the *Lewy Inclusion Bodies* in the brain when in the condition of Parkinson's Disease. This discovery marked only the beginning of a brilliant career as an innovative clinician and neurohistologist, who had trained with many of the greatest European neuroscientists at the time.<sup>104</sup> His pedigree includes such greats as the neuroanatomist Constantin von Monakow (1853–1930) in Zurich; the clinical neurologist Hermann Oppenheim

(1858–1919) in Berlin; the psychiatrist Emil Kraepelin (1856–1926); the neuropathologists Franz Nissl (1816–1919) and Alois Alzheimer (1864–1915) in Munich. Levy even did much scientific field work, then uncommon in experimental neurology, which brought him to the famous Marine Station of Anton Dohrn (1840–1909) in Naples to conduct physiological experiments. He also went on extended journeys to Palestine and India, where he conducted research on primate brains.<sup>105</sup> As was the case with many Jewish-born *Privatdozenten* in Berlin, like himself or Alfred Goldscheider (1858–1935), they developed their own neuroscientific agenda at the cutting-edge of research and ran innovative private clinics to sustain themselves in an increasingly anti-Semitic environment.<sup>106</sup>

After he was made director of an interdisciplinary neuropathological laboratory at the Neurological Clinic of Breslau, Levy assumed the Directorship of the Neurological Department at the 2nd Medical University Clinic of the Charité Hospital in Berlin. However, with the *Machtergreifung* came his dismissal from his official university position. He also lost his private clinic and laboratory in the Charlottenburg District of Berlin and decided to leave Germany in late 1933. Levy first went to London, England where the aid of William Henry Beveridge's (1879–1963) British AAC helped him to sustain himself and his family. While on a research leave in Vienna during the year of the Nazi *Machtergreifung*, the sociologist Beveridge, then Director of the London School of Economics received information that the German government wanted to release all Jewish academics and scientists from their positions in the universities, high schools and city hospitals. Appalled by these political developments, Beveridge had returned to London and developed plans to help the displaced academics. Being a social scientist himself, he sought help from eminent Cambridge physicist Ernest Rutherford (1871–1937) in supporting the natural scientists and London physiologist A.V. Hill, who in turn coordinated the assistance program for the displaced physicians and researchers.<sup>107</sup>

Levy was one of those individuals, who received a grant-in-aid to work at the neurological hospital of Queen Square. This grant from the AAC was in support of applied research in work-related diseases while investigating brain alterations due to lead poisoning mainly using animal experiments. As this grant involved only the support of his salary, Levy even dared to go back to Germany again “to get my apparatus and teaching material” and to bring it to London.<sup>108</sup> He continued his research for about three months and then visited some of the lead workers in their factories in Manchester and London. He also took blood samples with him to Queen Square for further laboratory analyses. Yet, as many other Jewish refugee physicians, such as Carl Stern or in the case of the famous neurosurgeon, Ludwig Guttmann (1899–1980), Levy was not allowed to practice as a clinical neurologist, even though he had been a world-renowned head of the Berlin neurology department. Frustrated that he

found himself reduced to being a postgraduate researcher at the age of 48, he wrote a letter on June 5<sup>th</sup>, 1934 to the Secretary of the American *Emergency Committee in Aid for Displaced Foreign Physicians* inquiring if he could

“visit some of his friends in the United States, to discuss with them what possibilities there are of his obtaining scientific work because he does not possess a British medical qualification which would allow him to engage in clinical practice.”<sup>109</sup>

The acquisition of letters of reference from a number of leading British neuroscientists – Sir Charles Sherrington (1857–1952), Samuel Alexander Kinnier Wilson (1878–1937), and Gordon Holmes (1876–1966) – facilitated his emigration. Looking at the example of Levy, we realize that although he had seriously considered coming to Canada, he eventually migrated to the US after being dissuaded from going to its northern neighbor by officials from the RF. In fact, they had warned him about the restrictive immigration policies towards refugee physicians from Nazi Germany, building upon the non-permissive legislation the Canadian government had in place since the Quota Act of 1921 and the Immigration Act of 1924, whose reverberations were felt in the medical and scientific spheres as well.<sup>110</sup> Likewise this is reflected in the fact that no provision for aid existed or was planned for. Some scholars have even viewed the historic situation as a complete “failure of Canadian academics to aide their colleagues in Germany during the 1930s” in comparison to the strong contrast of the scholarly aid associations in the UK (esp. the AAC), the US (esp. the ECAEDS), Switzerland (the *Notgemeinschaft Deutscher Wissenschaftler im Ausland*), and elsewhere. Those countries had already responded in the year of the Nazi *Machtergreifung*, while in Canada an organized support body appeared only in 1939 with the foundation of the Canadian Society for the Protection of Science and Learning (CSPSL) organized by Canadian academics and faculty associations. With the outbreak of WWII the same year, this concerted endeavor was almost too late to make a difference to help the last scholars in escaping Nazi-controlled Europe.<sup>111</sup>

The RF officers with whom Levy had been corresponding with, were also right about their addressing of the problem of anti-Semitism at Canadian Medical Schools and the Colleges of Physicians. Even the contemporary government of William Lyon Mackenzie King (1874–1950) and the Canadian society at large had been influenced. The acceptance of large numbers of Jewish immigrants was perceived as a threat to society, and Jews were often thought to be “inassimilable” to the Canadian way of life.<sup>112</sup> Regarding the actual human resources policies, Jewish physicians were marginalized in a system that barely received foreign and non-British researchers among faculty ranks.<sup>113</sup> In the US, 15 states continued to permit foreigners to practice medicine after re-licensure. They also offered university positions but the tight numerous

clausus for Jewish medical students, for example at McGill, made it difficult to find a position in Canada equal in academic level, remuneration and influence similar to the one Levy had held before.

In careful consideration of the Canadian situation, Levy then changed his mind and readily accepted a fellowship offer from Pennsburg, PA in 1934, where he emigrated with both his wife and his mother. Although it is hard to find direct evidence about Lewy's personal situation and feelings about living in the United States, a letter of response, which Max Bielschowsky's wife Else wrote back from their London exile to Lewy's spouse in Philadelphia on the 27<sup>th</sup> February, 1935 gives some insight into their adaptation to North-American life:

“What you are writing to me gives me the impression that on the other side of the pond, one is much more supportive and helpful to the refugees than they are here. We personally cannot complain, but we are really in an exceptionally good situation. In general, they are very opposed to the strangers here and because these often do not possess enough money to make a decent living, they are even sent back to Europe without any scruples. [...] It absolutely lacerates ones heart if one thinks about what has happened to our beloved fatherland.”<sup>114</sup>

After he and his family had quickly settled in Pennsylvania, Lewy's initial position became that of a RF Fellow in the Neurosurgery Department at Penn, and between 1943 and 1946 he received consultant status with the Surgeon General of the U.S. Army where he reviewed particularly severe cases of neurological injuries in former service men. During that time he continued his correspondence with Esther (Tess) Simpson (1903–1996), secretary to the SPLS (as the British AAC had been called after 1936),<sup>115</sup> who followed up with many of the refugee scholars informing the SPLS board about their fate and whereabouts:

“I [Lewy] am happily settled – as you correctly presume – in an Army Barrack, together with 19 Medical Officers, certainly in a congenial surrounding since most of us are professors from various Medical Schools or from the Rockefeller Institute. I am for quite a while on leave of absence from my Medical School which is spent, anyway, most of the last three years on research in Aviation Medicine for the National Research Council and the Aircorps, aside from my teaching obligations. At present, the situation is reversed, I am primarily Chief of a large neurological service with only 8 hours teaching a week but have still to run investigations for the Aircorps. [...] Mrs. Lewey has returned to Math and computes range tables for ordinance [...].”<sup>116</sup>

Upon his arrival in Pennsylvania, Lev(e)y changed his name to Frederic Henry Lew(e)y;<sup>117</sup> but even though he had been integrated into so many local research projects and clinical groups, it took another twelve years before Lewy became a full

member of a medical faculty again.<sup>118</sup> In 1946 the Graduate School of Medicine of the University of Pennsylvania, PA, appointed him as professor of neuroanatomy and at the same time he continued his work as a neurology consultant at the Cushing General Hospital in Framingham. Lewy's career also benefited from his close friendship with the neurosurgeon William P. van Wagenen (1897–1961) – the first president of the elitist American neurosurgery association (the Harvey Cushing Society) –, with whom he developed a mutual interdisciplinary counseling service.<sup>119</sup> This positive development is further reflected in a letter dated September 13, 1947, written to his friend Martha Ursell (1879–1947) in Cambridge:

“I am now Professor of Neuroanatomy in the Graduate School of Medicine and Associate Professor of Neuropathology in the Medical School of the University of Pennsylvania, and Consultant to the Surgeon General of the Army. A group of our friends over here talked over the scholars we know and who have come to this country since 1933. The general impression is that everyone has found his nook. During the wartime, even older people were gainfully employed. [...] Still, I believe that practically everyone makes a living, as small as it may be. This country has been very good to us [...].”<sup>120</sup>

Lewy was quickly integrated into the American neurological community through his acquaintance with some of its core individuals such as the neurological surgeons William P. van Wagenen at Penn and Percival Bailey (1892–1973) in Chicago as well as another refugee neurologist from Danzig, Robert Wartenberg (1886–1956) at UCSF, who likewise assumed a leading role in US-American neurology after his emigration. The membership list of the *American Academy of Neurology* (AAN) founded as an elitist neurological society presents Lewy as a founding member in 1948. Later, he also became a Fellow of the Academy and together with Wartenberg they were the only émigré neurologists among its thirteen associates in the board of trustees.<sup>121</sup> Since his early involvement with the neurologists' specialist group in the USAF and his work as a consultant with the influential Veterans Association (VA), which ran most of the American neurological departments, the integration into these networks involving some of the major movers and shakers of American neurology fostered his adaptation and integration into the neurological landscape overseas. Lewy became an accomplished American neurologist and was invited to serve on the AAN's board exam committee. This board's mandate was to formally acknowledge the certified neurological specialists and decide on Fellowship applications for the Academy. Compared to the typically restrictive re-licensing policies towards foreign physicians, Lewy's work on this board showed that he had moved up to the “holy grail” of American neurology: the certification of the future neurologists of the country.<sup>122</sup>

On a personal level, Lewy's example first illustrates the free-floating culture of ideas, practical experience, and organizational skills, which was typical of the younger Jewish neuroscientists, associate professors and *Privatdozenten* from German medical faculties. Like many former academic teachers, who reached North America, Lewy was an extremely well trained physician and acquainted with a wide variety of neuroscientific problems, clinical approaches, and methods. As an example of networking, it is striking to see how Lewy's early participation in international conferences, such as the meetings of the international Brain Commission inaugurated by Heinrich Obersteiner (1847–1922), Auguste Forel (1848–1931) and Constantin von Monakow, brought him into close contact with many of the leading neuroscientists of his time; his future peers.<sup>123</sup> These early contacts later grew into manifest networks of international colleagues with whom Lewy corresponded and on which he could build upon after his arrival in the UK and later in the US. Although his local interactions have already been reflected upon, he also frequently met at major medical meetings – such as the AAN or the American Medical Association (AMA) with Robert Wartenberg from San Francisco and the Berlin psychiatrist Erwin W. M. Strauss (1891–1975), who had become the Director of a major VA hospital and Adjunct Professor at the University of Kentucky.<sup>124</sup>

Lewy had died already in 1950, five years after the war, but he was definitely one of the fewer émigrés who managed to assimilate, and even pursue his original work on degenerative diseases of the brain without major interruptions in Germany, England, or the US.<sup>125</sup> But the transition and the transfer of knowledge from Berlin to Pennsylvania would not have been possible without the friendship of many peers and the scientific network that had already been in place. Lewy is certainly a very interesting example, not because his life would have been a linear success story, but, because he managed the major stages in his career with composure and serenity. He witnessed the downfall of all his scientific and clinical accomplishments in Berlin. Throughout his life he created four separate research and clinical programs in Breslau, Berlin, London and Philadelphia while continuing the histological investigations of the basal ganglia from the time of his dissertation until his death. Despite the fact that he did not have an official position in academic research in the US for nearly a decade, he created numerous laboratories, working groups, and collaborative exchanges (even while consulting to hospitals of the USAF and VA).

Moreover, Lewy is a good example of the multiple cultural factors which shaped and altered the research and professional practice of modern neuroscience. The division of labor in the neuroscientific departments, the multi-institutional, and the non-human factors had an increasing dependence on new technologies to serve this end (in neurohistology, brain physiology, and radiology). These all necessitated an increasing amount of group work. The analysis of his case shows that the lives and

works of the well-renowned émigré-scientists and those of the unsuccessful émigrés are in many respects really on a par, in that they all provide an equally adequate picture of *medical cultures* in the field of brain research despite their difference in accomplishments.<sup>126</sup> Yet it is also clear that in the three cases presented, the differences in the cultural codes of their scientific, professional, and research practices were as integral to the transfer of neuroscientific knowledge as they were to its shortcomings.<sup>127</sup> The first case presented in this paper (R. Weil) emphasizes particularly the importance of individual factors, additional methodology, and innovative concepts introduced while the reshaping of the pre-existing mental health care system took place. The second example (K. Stern) is somewhat ambiguous in that it lays bare the cohesion and inertia of contemporary North American neuroscientific institutions and research programs. They enabled the modification of individual patterns, when they served streamlined existing processes in greater clinical and basic research trends, but they excluded émigré-neuroscientists from participation if their contribution was seen as too incompatible with the current views and practices. The third example (F. H. Lewy) supports the thesis that well-rounded and highly active émigré-neuroscientists could find their way back into a profound research and teaching career and develop leadership in the professional societies in Canada and the US.<sup>128</sup>

## 7. Conclusion

The massive exodus of neurologists, psychiatrists, and brain researchers from the German-speaking countries after 1933 provides enticing historiographical material which allows us to study *emigration-induced scientific change* through a multitude of individual biographies, institutional, and clinical histories. The individual narratives and historiographical material consist of much more than a simple alignment of events and the effects of what occurred in the academic settings on both sides of the Atlantic.<sup>129</sup> There were both revolutionary and modifying types of change-processes.<sup>130</sup> The modifying type is considered to be the usual situation and in the discussion here, priority was given to the case of Robert Weil. With regard to the impact of émigré-researchers and -physicians on North American culture, it has been possible to show how the émigré-neuroscientists mobilized many practical and methodological factors. In so doing, they consolidated the mental health care system and its basic educational needs.<sup>131</sup> In the case of Weil, this translated into the widespread use of the statistical methods used in mental health research, how psychiatric care was distributed, the broad clinical training of medical students, and the diagnostic testing of psychopathological conditions as a preventative measure in the rural provinces of Nova Scotia and Saskatchewan.<sup>132</sup>

As the case studies of this paper show, the processes of acculturation of the émigré-neuroscientists cannot be discussed simply in terms of their submission to academic norms then prevalent in their host cultures. Instead, the historical examples have laid bare how traditional categories of adaptation used in scholarly investigations of forced migration lack the cultural contextualization of the living conditions of exiles in North America and elsewhere.<sup>133</sup> All of the three neuroscientists, who are discussed as the case examples of this paper, became migrants to North America because of their Jewish background. This realization came when the Nazi administrators released the German race laws after 1933 and 1935. At that time, Levy only really thought of himself as a “cultural” Jew which meant that he kept the traditions of the major Jewish religious holidays and sporadically attended services in one of the Berlin synagogues. Weil had already converted to Protestantism in his early adolescence, including all of his family, at the will of his father who was a local merchant and thought that the family could assimilate better into German society and culture if they could accept the Christian faith. As for Stern, he was born in a small Bavarian town near the Czech border, which did not have a rabbi or a synagogue. Even though frequent religious services were held by a local cantor, Stern did not receive a deep religious education. At one point he tried to return to his Jewish faith and although he attended an orthodox synagogue in Munich, the impression of philosophical literature from his early university studies compelled him to become an atheist and Zionist.<sup>134</sup> If one looks closer at the individual case examples, it becomes clear that before the onset of the persecution of the Jews and then the experience of the Holocaust, the Jewish heritage figured only as an “external factor” to these neurologists and psychiatrists. Their first thought of themselves was as doctors, humanists and in some cases maybe also philosophers.<sup>135</sup> It was actually the aggressiveness of the Nazi propaganda and harassment that forced them to reflect on themselves not just as private citizens but also as practicing neurologists, whose profession and art became persecuted as being “Jewish Science”, “too liberal” or even “degenerated”.<sup>136</sup> As a result of these problems and also as a reflection of their own fate during the political turmoil of the 1930s and 40s, the individual cases show that:

- (1) Some of the neuroscientists still practiced their religion for personal and general cultural reasons. F. H. Lewy was an example of one whose religious faith became reinforced because of his personal experience of escaping from Nazi Germany and who felt gratitude for the support he had received while in exile. Further research needs to be conducted to corroborate this hypothesis, although this segment appears to be small.
- (2) The second and larger group is comprised of individuals who were culturally socialized within a Jewish milieu but actually thought of themselves as being

atheists. For example, Robert Weil spoke of himself as a “medical idealist” in religious terms.

- (3) The third group represented those neuroscientists who converted to Catholicism or Protestantism and for whom Christian eschatology offered a strong source of hope during the horrific experiences they endured as well as the practical help they had received from Christian colleagues and friends while seeking refuge outside of Europe.

Finally, it appears as an *esprit d'escalier* that for many neuroscientists and psychiatrists the human catastrophe brought about by National Socialist rule in Germany created unanticipated career opportunities and the prospect to work in new scientific settings; areas that Nazi officials had sought to destroy forever.<sup>137</sup> The scientific changes following the forced-migration after 1933 were processes with results which few could have predicted at the outset and which would transform North American medicine and neuroscience. Many of the North American institutions, with which émigré physicians and researchers became associated, developed into major centers in the neurosciences – such as the AMI and the MNI (Stern) as the premier psychiatric and neuroscience centers in Canada,<sup>138</sup> Penn Comprehensive Neuroscience Center (Lewy) was recently ranked the number two neuroscience institution at American medical schools,<sup>139</sup> or the Neuroscience Institute at Dalhousie University (Weil) which rose to be the most prominent neuroscience center in Atlantic Canada.<sup>140</sup> The postwar fate of the original institutions with which Weil, Stern and Lewy had been associated with in Germany is manifold. Both of the institutions in which Stern worked in the 1920s and 1930s, Edinger’s Neurological Institute in Frankfurt and the Department of Neurology at the Hospital of Berlin-Moabit, continued as research institutions after the war. Most of the former Neurological Institute became relocated to a new building at the University of Frankfurt’s Centre for Neurology and Neurosurgery. Only the neuropsychological part of the hospital was destroyed after the war making room for an apartment building complex. The neuroanatomist Wilhelm Krücke (1911–1988) became its first director in the Postwar Period of 1947. No correspondence with Stern could be found, but, Krücke co-initiated the plan of bestowing a *Doctor honoris causa* in 1959 upon Stern’s mentor Goldstein,<sup>141</sup> and after Stern’s own death in 1975, a street was named in his honor in his Bavarian hometown of Cham.<sup>142</sup> The Academic Hospital of Moabit continued with a veritable Department of Neurology, first as a teaching hospital of the *Freie Universität Berlin* and after 1989 as an academic institution of the Charité Medical School before this renowned hospital became closed 2001 due to Berlin’s budget cuts in the health sector.<sup>143</sup>

In the case of Lewy, the major clinical and research institutions he built and headed in the 1920s and 1930s, were almost completely destroyed by the air raids

on Berlin, as these institutions lay in close proximity to the Capital's political center. From his three-story institute, the former workers' clinic of the electromechanical company AEG, at the Hansa Place in Berlin Charlottenburg, only the outer walls remained after 1945 and most parts were torn down in the year after Lewy's death.<sup>144</sup> While he had continued his correspondence with fellow émigré neuroscientists in North America, France, Holland and England and with British colleagues since the 1940's,<sup>145</sup> no postwar letters have yet been found that were exchanged between him and German colleagues, indicating that a reconciliation had not occurred between this great neurologist and the German neurological community, in particular the *Deutsche Gesellschaft für Nervenheilkunde* (DGN). The Department of Psychiatry and Neurology at the German University of Prague, where Weil received his medical training, ceased to exist with the dissolution of the German-speaking university – 600 years after the latter's inauguration and 63 years after the split into a Czech and a German institution of higher learning on the 18<sup>th</sup>, October 1945.<sup>146</sup> While researching Weil's papers in the Dalhousie Archives, it could not be confirmed that he ever returned to Czechoslovakia after the war, even though he maintained contact with a number of colleagues there, some of the fellow émigrés physicians in Canada and the German-Bohemian Heritage Society in New Ulm, Mn.<sup>147</sup>

At the end of this article, a brief look at the remigration of Jewish physicians and medical researchers to the Federal Republic of Germany (West Germany) or the German Democratic Republic (East Germany) shall be stated. The process of remigration is a highly complex one and it is unknown as to the exact number of Jewish doctors who returned after the war. There were no statistics by Immigration Canada or by the German *Einwohnermeldebehörde* (Central Immigration Registry) or the *Ärztekammern* (Colleges of Physicians) as to the number of North-American refugees who returned to their home country. Immediately after the war had ended not more than five percent of all refugee physicians are estimated as having considered returning to Europe.<sup>148</sup> Those physicians who eventually re-migrated were a handful of exceptions. Most émigrés had already developed new careers and adapted to the social life of their "host" countries. Other than in the case of the well-known philosophy professors, political scientists and laboratory researchers, it presented a major obstacle to doctors to establish a new clinical career or a practice back in Germany, Austria or Czechoslovakia, from where they had been expelled only a few years ago and where many institutions still lay in ruins.<sup>149</sup>

An extraordinary woman-pathologist Ruth Silberberg (1906–1997), a Breslau-trained developmental brain scientist, who fled with her husband, the neurohistologist Martin Silberberg (1895–1969), first to Halifax and eventually settled in St. Louis, although changing to general pathology during that time. Ruth accepted invitations through the German Pathological Society and individual university insti-

tutes to give guest lectures and seminars in Germany during the late 1950's and early 1960's. It was only at the time of Martin's death that she decided to accept an Adjunct Professorship at the University of Zurich where she frequently taught during the summer break.<sup>150</sup> Ruth Silberberg represents an émigré-researcher who had an important voice in both medical communities – one that was strongly heard in her own field of pathology as well as in clinical education. However, she was constantly torn between the “new” and the “old world”.

## Notes

- 1 I wish to thank Allan Young (SSOM, McGill University), Theodore I. Sourkes (AMI, McGill University) and Cornelius Borck (Institute for the History of Medicine and Science Studies, University of Lübeck) for continuous discussions of the historical theme and their help in finding materials related to this paper. Furthermore, I am grateful to three anonymous referees from OeZG, who provided intriguing and supportive comments, and to Beth Cusitar for her editorial hand with the English language. Alexander von Humboldt Foundation and the Gerda Henkel Foundation are to be thanked for their financial support, making the research and production of this article possible.
- 2 Cf. Michael H. Kater, *Doctors under Hitler*, Chapel Hill, London 1989, 177–221; Francis R. Nicosia and Jonathan Huener, eds., *Medicine and Medical Ethics in Nazi Germany. Origins, Practices, Legacies*, New York, Oxford 2002; Paul Weindling, *Health, Race and German Politics between National Unification and Nazism, 1870 to 1945*, Cambridge 1993.
- 3 I use the term ‘neuroscientist’ *avant la lettre*, i.e. before the notion was coined in 1962 by the American biophysicist Francis O. Schmitt (1903–1995). It is taken to represent a broad interdisciplinary field of basic and clinical investigations regarding the Central and Peripheral Nervous System. Cf. Lothar Pickenhain, *Die Neurowissenschaft – ein interdisziplinäres und integratives Wissensgebiet*, in: *Schriftenreihe der Deutschen Gesellschaft für Geschichte der Nervenheilkunde* 8 (2002), 241–246.
- 4 Anonymous editorial, *In praise of the ‘brain drain’*, in: *Nature* 446 (2007), 231.
- 5 On the persecution of psychiatric and neurological patients in the Nazi ‘euthanasia program’ see: Goetz Aly, ed., *Aktion T4 1939–1945. Die „Euthanasie-Zentrale“ in der Tiergartenstraße 4*, Berlin, 1987, 1989<sup>2</sup>; Michael I. Shevell, *Neurosciences in the Third Reich: From Ivory Tower to Death Camps*, in: *The Canadian Journal of Neurological Sciences* 26 (1999), 132–138; Georg Lilienthal, *Patientinnen und Patienten aus brandenburgischen Heil- und Pflegeanstalten als Opfer der NS-„Euthanasie“-Verbrechen in Hadamar*, in: Kristina Hübener, ed., *Brandenburgische Heil- und Pflegeanstalten in der NS-Zeit*, Berlin 2002, 303–318.
- 6 On the Nazis’ interpretation of “Jewish Science<sup>o</sup>”: Kater, *Doctors under Hitler*, 111–125; Michael Hubenstorf, *Vertreibung und Verfolgung. Zur Geschichte der österreichischen Medizin im 20. Jahrhundert*, in: *Das Jüdische Echo* 50 (2001), 277–288.
- 7 On the heterogenous field of *Nervenheilkunde* in the late 19<sup>th</sup> and early 20<sup>th</sup> century see: Heinrich H. Eulner, *Psychiatrie und Neurologie*, in: Heinrich H. Eulner, ed., *Die Entwicklung der medizinischen Spezialfächer an den Universitäten des deutschen Sprachgebietes*, Stuttgart 1970, 257–282; Heinz-Peter Schmiedebach, Robert Remak (1815–1865): *Ein jüdischer Arzt im Spannungsfeld von Wissenschaft und Politik*, Stuttgart 1995.
- 8 Uwe Henrik Peters, *Emigration deutscher Psychiater nach England. (Teil 1:) England als Exilland für Psychiater*, in: *Fortschritte der Neurologie, Psychiatrie und ihrer Grenzgebiete* 64 (1996), 161–167; David Pyke, *Contributions by German émigrés to British medical science*, in: *Quarterly Journal of Medicine* 93 (2000), 2755–2760.
- 9 The somewhat euphemistic notions of *émigré-scientists*, *Central-European émigrés* or the wave of *forced migrants* transport neutral meanings, which may not be at all adequate for the description of the processes of persecution and struggle for survival in many of those individuals expelled from

the German-speaking countries. However, the aforementioned notions are fairly established in the research literature, so I continue to use these terms as neutral language.

- 10 Looking at the vast exodus of German-speaking émigré-neuroscientists opens up for a quasi “laboratory-like situation”, i.e. a dimension which goes nearly unanticipated in the history of science. For more details consult John Salt, A Comparative Overview of International Trends and Types 1950-80, in: *International Migration Review* 3 (1989), 431–456; Barbara Rhode, *East-West Migration/Brain Drain*, Brussels 1991; Walter Gratzler, *Review of Jean Medawar and David Pyke, Hitler's Gift: Scientists Who Fled Nazi Germany*, in: *Nature* 408 (2000), 907 f.; and the general research journal on forced-migration: *Exilforschung. Ein internationales Jahrbuch*, Munich (1983–).
- 11 Newer publications that have particularly focused on the forced-migration of German-speaking physicians from the viewpoint of institutional history, are: Susanne Zimmermann, *Die Medizinische Fakultät der Universität Jena während der Zeit des Nationalsozialismus*, Berlin 2000, 82–83; Gerhard Aumüller et al., eds., *Die Marburger Medizinische Fakultät im Dritten Reich*, Marburg, 2001, 210–212; Hans Georg Hofer, Bernd Grün and Karl-Heinz Leven, eds., *Medizin und Nationalsozialismus: Die Freiburger Medizinische Fakultät und das Klinikum in der Weimarer Republik und im „Dritten Reich“*, Frankfurt am Main 2002, 161–188; Ralf Forsbach, *Die Medizinische Fakultät der Universität Bonn im ‚Dritten Reich‘*, Munich 2006, 333–393.
- 12 Jürgen Peiffer, *The persecution of German neuropathologists. 1933–1939*, in: *Nervenarzt* 69 (1998), 99–109; Jürgen Peiffer, *Neuropathology in the Third Reich*, in: *Epidemiologia e prevenzione* 22 (1998), 184–190; Volker Rölcke, *Wissenschaften zwischen Innovation und Entgrenzung: Biomedizinische Forschung an den Kaiser-Wilhelm-Instituten, 1911–1945*, in: Martin Brüne and Theo R. Payk, eds., *Sozialdarwinismus, Genetik und Euthanasie. Menschenbilder in der Psychiatrie*, Stuttgart 2004, 92–109.
- 13 For recent applications and methodological discussions of the concept of *knowledge transfer* see: Mitchell G. Ash, *Von Vielschichtigkeiten und Verschränkungen. ‘Kulturen der Wissenschaft – Wissenschaften in der Kultur’*, in: *Berichte zur Wissenschaftsgeschichte* 30 (2007), 91–105.
- 14 Cf. Donald Fleming and Bernard Bailyn, eds., *The Intellectual Migration: Germany and America, 1930–1960*, Cambridge, MA 1969; Lewis A. Coser, *Refugee Scholars in America: Their Impact and Their Experiences*, New Haven, Conn. 1984, 45–47.
- 15 Diego Angulo Iniguez, Dr. Walter Cook, Art Expert, Dies; Retired Professor at N.Y.U., in: *New York Times* (Sept. 22, 1962), 25.
- 16 Cf. Jean Medawar and David Pyke, *Hitler's Gift. The True Story of the Scientists Expelled by the Nazi Regime*, New York 2001, 231–240; Linda Hunt, *L’Affaire Paperclip. La récupération des scientifiques Nazis par les Américains 1945–1990*, Paris 1995<sup>2</sup>; Engl. 1991, 217–239.
- 17 David Zimmerman, ‘Narrow Minded People’: Canadian Universities and the Academic Refugee Crises, 1933–1941, in: *Canadian Historical Review* 88 (2007), 291–315.
- 18 Most of these trends are described in: Michael Bliss, William Osler – *A Life in Medicine*, Oxford 1999.
- 19 Cf. Beth M. Gilbert, *Spotlight. Judaism Lost and Found: The Frannie Sheridan Story*, in: *Reform Judaism* 26 (1998), 58–59.
- 20 Paul Weindling, *Medical Refugees in Britain and the Wider World, 1930–1960: Introduction*, in: *Social History of Medicine* 22 (2009), 451–459.
- 21 For identification of this particular group of émigré-researchers and doctors, I include neurologists, psychiatrists, neuroanatomists and neurophysiologists with a medical background and clinical psychologists who graduated in medicine. For comparative purposes with the post-war development of this group, I follow the modern consensus on the subdisciplines contributing synthetically to the field of neuroscience, building on earlier valuable studies such as: Mitchell G. Ash, *Gestalt Psychology in German culture, 1890–1967. Holism and the quest for objectivity*, Cambridge, New York, Melbourne 1995, 326–412; Ute Deichmann, *Biologists under Hitler*, Cambridge 1995<sup>2</sup>, Germ. 1992; Thomas Müller, *Von Charlottenburg zum Central Park West. Henry Lowenfeld und die Psychoanalyse in Berlin, Prag und New York*, Frankfurt am Main 2000.
- 22 Thomas S. Kuhn, *The Structure of Scientific Revolutions*, Chicago 1962, 148–168.
- 23 Derek De Solla Price, *Little Science, Big Science ... and beyond*, New York, London 1963.

- 24 Cf. Hiltrud Häntzschel, *Der Exodus von Wissenschaftlerinnen. ‚Jüdische‘ Studentinnen und was aus ihnen wurde*, in: *Exil* 12 (1992), 43–53; or Albert Somit and Joseph Tanenhaus, *The Development of American Political Science. From Burgess to Behaviorism*, Boston 1967. For process history: Dale H. Porter, *History as Process*, in: *History and Theory* 14 (1975), 297–313.
- 25 Johanna Bleker, *‘Der Erfolg der Gleichhaltungsaktion kann als durchschlagend bezeichnet werden.’ Der Bund Deutscher Ärztinnen 1933–1936*, in: Johanna Bleker and Norbert Jachertz, eds., *Medizin im “Dritten Reich”*, Köln 1989, 2003<sup>2</sup>, 87–96; Michael H. Kater, *Hitler’s Early Doctors. Nazi Physicians in Pre–Depression Germany*, in: *Journal of Modern History* 95 (1987): 25–52; Michael Hubensdorf, *Ende einer Tradition und Fortsetzung als Provinz. Die Medizinischen Fakultäten der Universitäten Berlin und Wien 1925–1950*, in: Christoph Meinel and Peter Voswinkel, eds., *Medizin, Naturwissenschaft, Technik und Nationalsozialismus*, Stuttgart 1994, 33–53.
- 26 Especially the works of Gerhard Baader and Werner Friedrich Kümmel must be mentioned in this respect: Gerhard Baader, *Politisch motivierte Emigration deutscher Ärzte*, in: *Berichte zur Wissenschaftsgeschichte* 7 (1984), 67–84; Werner Friedrich Kümmel, *Die Ausschaltung rassisch und politisch missliebiger Ärzte*, in: Friedrich Kudlien, ed., *Ärzte im Nationalsozialismus*, Köln, 1985, 56–81.
- 27 See the belated interest reflected in the series *Geschichte der Kaiser–Wilhelm–Gesellschaft im Dritten Reich*, ed. by Reinhard Rürup and Wolfgang Schieder, Göttingen 2000–, 28 vols.
- 28 Transl.: *United States Chief Counsel for the Prosecution of Axis Criminality*, ed., *Nazi Conspiracy and Aggression*, Washington, DC, 1946, Document 1397–PS, vol. III), 981–986.
- 29 *Ibid.*
- 30 The peculiar constitution of the German university and public health system led to the dismissal of so many doctors, as they were employed as civil servants (*Berufsbeamte*). Kater, *Hitler’s Early Doctors*, 25–52.
- 31 Weindling, *Health, Race and German Politics*, 305–398.
- 32 Michael Hepp, ed., *Die Ausbürgerung deutscher Staatsangehöriger 1933–1945 nach den im Reichsanzeiger veröffentlichten Listen*, München, New York, London 1985–1988, 3 vols.
- 33 Michael Grüttner and Sven Kinas, *Die Vertreibung von Wissenschaftlern aus den deutschen Universitäten 1933–1945*, in: *Vierteljahrshefte für Zeitgeschichte* 55 (2007), 123–186.
- 34 Klaus Fischer, *Identification of Emigration-Induced Scientific Change*, in: Mitchell G. Ash and Alfons Söllner, eds., *Forced Migration and Scientific Change. Emigré German-speaking scientists and scholars after 1933*, Washington, D.C., Cambridge 1996, 23–47.
- 35 Krohn, *Handbuch der deutschsprachigen Emigration 1933–1945*; Doron Niederland, *Jewish Emigration from Germany in the First Years of Nazi Rule*, 285–300.
- 36 Cf. William Seidelman, *The legacy of academic medicine and human exploitation in the Third Reich*, in: *Perspectives in Biology and Medicine* 43 (2000), 325–334; Giorgio Israel, *Science and the Jewish Question in the Twentieth Century: The Case of Italy and what it Shows*, in: *Aleph. Historical Studies in Science and Judaism* 2 (2004), 191–261.
- 37 See, for example, D. Heward Brock and Ann Harward, eds., *The Culture of Biomedicine*, Newark, London 1984; Peter Galison, Stephen R. Graubard, and Everett Mendelsohn, eds., *Science in Culture*, New Brunswick, NJ, London 2001; Henning Schmidgen et al., eds., *Kultur im Experiment*, Berlin 2004; Mark Erickson, *Science, Culture and Society: understanding science in the twenty-first century*, Cambridge 2005.
- 38 Linda Argote, *Organizational learning: creating, retaining, and transferring knowledge*, Boston 1999; Kay-Peter Jankrift and Florian Steger, eds., *Gesundheit – Krankheit. Kulturtransfer medizinischen Wissens von der Spätantike bis in die Frühe Neuzeit*, Köln 2004; Mitchell G. Ash, *Wissens- und Wissenschaftstransfer – Einführende Bemerkungen*, in: *Berichte zur Wissenschaftsgeschichte* 29 (2006), 181–189.
- 39 This study likewise aims at scrutinizing the complex space of scientific exchanges and interdisciplinary work in which new forms of research practice emerged. Cf. Peiffer, *The persecution of German neuropathologists*, 99–109; Peiffer, *Neuropathology in the Third Reich*, 184–190; or Rölcke, *Wissenschaften zwischen Innovation und Entgrenzung*, 92–109.
- 40 Mitchell G. Ash and Alfons Söllner, *Introduction: Forced Migration and Scientific Change after 1933*, in: Mitchell G. Ash and Alfons Söllner, eds., *Forced Migration and Scientific Change. Emigré German-speaking scientists and scholars after 1933*, Washington, DC, Cambridge, 1996, 1–19, esp. 3.

- 41 See, for example, Ash and Söllner, *Forced Migration and Scientific Change*.
- 42 Hans-Jörg Rheinberger, *Reassessing the historical epistemology of Georges Canguilhem*, in: Gary Gutting, ed., *Continental Philosophy of Science*, Malden, MA 2005, 187–197.
- 43 Gerald Kreft, *Deutsch-Jüdische Geschichte und Hirnforschung*. Ludwig Edingers Neurologisches Institut in Frankfurt am Main, Frankfurt am Main 2005.
- 44 Robert Jütte, *Die Emigration der deutschsprachigen 'Wissenschaft des Judentums'*. Die Auswanderung jüdischer Historiker nach Palestina 1933–1945, Stuttgart 1990; or Alfons Söllner, *Deutsche Politikwissenschaftler in der Emigration. Ihre Akkulturation und Wirkungsgeschichte, samt einer Bibliographie*, Opladen 1996.
- 45 According to Hans-Peter Kröner, *Die Emigration deutschsprachiger Mediziner im Nationalsozialismus*, in: *Berichte zur Wissenschaftsgeschichte* 12 (1989), 1–35.
- 46 Another strongly affected group should be mentioned here: non-medical biology with ca. thirteen per cent (45 of 337 scientists) being released; cf. Deichmann, *Biologists under Hitler*, 251–276.
- 47 Tanya Baglole, *Nos disparus—Le Dr Robert Weil, un fondateur de l'APC, est décédé*, in: *Canadian Psychiatric Association Bulletin* 34 (2002), 64.
- 48 See, for example Maurice R. Davie and Samuel Koenig, *Adjustment of refugees to American Life*, in: *Annals of the American Academy of Political and Social Science* 262 (1949), 159–165.
- 49 Weil's letter, Halifax, NS, to Dr. Charles A. Roberts (1918–1996) in Ottawa, dating June-7, 1986; Weil Correspondence (Ms 2-750, Call # 2003-47, Box 8, File 15; 1) in the Dalhousie University Archives & Special Collections, Killam Memorial Library, Halifax, NS, 64.
- 50 *Ibid.*
- 51 Jacalyn Duffin, *The Guru and the Godfather: Henry Sigerist, Hugh MacLean, and the Politics of Health Care Reform in 1940s Canada*, in: *Canadian Bulletin of Medical History* 9 (1992), 191–218.
- 52 William Seidelman, *Medical Selection: Auschwitz Antecedents and Effluent*, in: *Holocaust and Genocide Studies* 4 (1989), 437 f.
- 53 Geoffrey Bilson, "Muscles and Health": Health and the Canadian Immigrant, in: Charles G. Roland, ed., *Health, Disease and Medicine*, Toronto 1984, 398–411.
- 54 Milton Friedman, *Capitalism and Freedom*, Chicago 1962, 154.
- 55 Report of the Department of Public Health "On the survey of health facilities in Nova Scotia under the federal health survey grant 1949–1950"; Nova Scotia Archives and Records Management, Halifax, NS, (V/F V. 324 #1, 1, Articles 4, 8; 6, Articles 1, 2, 3; 10, Articles 1,3; V/RA983 A4 N935 1951, Medical Archives).
- 56 Malcolm Macleod, *Migrant, Intern, Doctor – Spy? Dr. Eric Wermuth in Second World War Newfoundland*, in: *Newfoundland Studies* 13 (1997), 79–89.
- 57 Zimmerman, *Narrow Minded People*, 298.
- 58 Miller qtd. after Zimmerman, *ibid.*, 300 f.
- 59 Hill qtd. after Zimmerman, *ibid.*, 301 f.
- 60 Lawrence D. Stokes, *Canada and an Academic Refugee from Nazi Germany: The Case of Gerhard Herzberg*, in: *Canadian Historical Review* 75 (1976), 160–162.
- 61 *Ibid.*
- 62 Letters of Martin Silberberg (Halifax, St. Louis, and NYC) to Leo Loeb (1869–1959; St. Louis); Archives and Rare Books Collection of the Becker Library, Washington University School of Medicine (FC0002, Leo Loeb, Correspondence R-S, Box 5, folder: Silberberg, Martin and Ruth).
- 63 Cf. Carmela Patrias, *Socialists, Jews, and the 1947 Saskatchewan Bill of Rights*, in: *The Canadian Historical Review* 87 (2006), 265–292.
- 64 Public Archives of Nova Scotia, Halifax, NS (MS 13, MacKenzie Special Collection on History of Medicine of Nova Scotia, Folder: C2 a–i). Morty M. Lazar and Medjuc Sheva, *In the beginning: A brief history of Jews in Atlantic Canada*, in: *Canadian Jewish Historical Society Journal* 5 (1981), 91–108.
- 65 Penelope Johnston, *Canada's Ellis Island*, in: *The Beaver* (February–March 2009), 52–53.
- 66 Coser, *Refugee Scholars in America*, 45–47.
- 67 Weil's letter, Halifax, NS, to Dr. Charles A. Roberts in Ottawa, dating June-7, 1986; Weil Correspondence (Ms 2-750, Call # 2003-47, Box 8, File 15, 1) in the Dalhousie University Archives & Special Collections, Killam Memorial Library, Halifax, NS, 64.

- 68 Advancement of Psychiatry. Reports; Notes & Articles on 'Interdisciplinary Research'; Weil Collection (Ms 2-750, Call # 2003-47, Accession Report, Box 2, File 5; Box 5, File 3) in the Dalhousie University Archives & Special Collections, Killam Memorial Library, Halifax, NS.
- 69 Ibid.
- 70 It marked a time when the German-trained émigré-historian of medicine and health systems specialist Henry Sigerist (1891-1957) conducted an overview study of the health services in Saskatchewan for Tommy C. Douglas; see Duffin, *The Guru and the Godfather*, 191-218.
- 71 See, for example, Weil's address to the CPA in 1953; qtd. from his manuscript-Typography from the folders on the Weil Correspondence (Ms 2-750, Call # 2003-47, Box 6, File 15) in the Dalhousie University Archives & Special Collections, Killam Memorial Library, Halifax, NS.
- 72 Cf. Ian Robert Dowbiggin, *Keeping America Sane: Psychiatry and Eugenics in North America and Canada, 1880-1940*, New York 2003. For Weil's own address of the Canadian health care situation see, for example, Joseph W. Easton and Robert Weil, *Culture and mental disorders. A comparative study of the Hutterites and other populations*, Glencoe, Ill. 1955.
- 73 Anonymous, In Memoriam Robert Weil, in: *Dalhousie News* (May 15, 2002), 1.
- 74 Robert Weil's own publications in psychiatry and its related fields extended to a whole range of themes: Robert J. Weil and M. Demay, *Thiamine Chloride Intrathecally*, in: *Canadian Medical Association Journal* 56 (1947), 545-456; anonymous, Robert Weil, in: *Alumni Bulletin of the Menninger School of Psychiatry* 17 (1966), 1-8; idem., *Mental Health and Disasters*, in: George W. Baker and John H. Rohrer, eds., *Symposium in Human Problems in The Utilization of Fallout Shelters*, Washington, D.C. 1960; idem., *Research Article*, in: *Bulletin of the Maritime Psychological Association* 4 (1955); idem., *Letter*, in: *The Decline of the History of Surgery*, *Archives of Surgery* 127 (1992), 239.
- 75 Anonymous, In Memoriam Robert Weil, 1; materials from the Weil Collection (Ms 2-750, Call # 2003-47, Accession Report, 1<sup>st</sup> p., Box 5, File 3; Box 6, File 11) in the Dalhousie University Archives & Special Collections, Killam Memorial Library, Halifax, NS.
- 76 Weil's letter, Halifax, NS, to Charles A. Roberts in Ottawa, dating June-7, 1986; Weil Correspondence (Ms 2-750, Call # 2003-47, Box 8, File 15, 1) in the Dalhousie University Archives & Special Collections, Killam Memorial Library, Halifax, NS, 64
- 77 Ibid.
- 78 D[aniel] Goldblatt, *Star: Karl Stern (1906-1975)*, in: *Seminars in Neurology* 12 (1992), 279-282.
- 79 See also in: Frank W. Stahnisch, *Ludwig Edinger (1855-1918) - Pioneer in Neurology*, in: *Journal of Neurology* 255 (2008), 147-148.
- 80 One article resulting from the collaboration with Spielmeyer was: *Severe dementia associated with bilateral symmetrical degeneration of the thalamus*, in: *Brain* 62 (1939), 157-167.
- 81 Carl Stern, *The Pillar of Fire*, New York 1951, 116.
- 82 Kreft, *Zwischen Goldstein und Kleist*, 131-144.
- 83 Stern, *The Pillar of Fire*, 85 f.
- 84 Pick could never decide to leave his beloved home country and was later deported to the Concentration Camp of Theresienstadt near Prague, where he was murdered in 1944. Hans Simmer, *Der Berliner Pathologe Ludwig Pick (1868-1944). Leben und Werk eines jüdischen Deutschen*, Husum 2006, 217-230.
- 85 Marianne L. Simmel, Kurt Goldstein 1878-1965, in: Marianne L. Simmel, ed., *The Reach of Mind. Essays in Memory of Kurt Goldstein*, New York 1968, 3-11.
- 86 Harrington, *Reenchanted Science*, 299-304.
- 87 See also Regine Erichsen, *Vom Nationalsozialismus vertriebene Wissenschaftler auf dem Markt. Die Arbeitsvermittlung des Englischen Academic Assistance Council (SPSL) am Beispiel von Türkeiemigranten*, in: *Berichte zur Wissenschaftsgeschichte* 19 (2006), 219-234.
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- 90 Spielmeyer got in contact with Penfield, through letter communication with Otfried Förster (1873-1941). He was later invited by the Montreal neurosurgeon to visit the Neurological Institute of McGill University on his lecture tour to North-America.

- 91 R[ichard] Clinghorn, The emergence of psychiatry at McGill, in: *Canadian Journal of Psychiatry* 29 (1984), 551–556.
- 92 Mary K. Birmingham, Some thoughts on the fiftieth anniversary, in: Theodore L. Sourkes and Gilbert Pinard, eds., *Building on a Proud Past. 50 Years of Psychiatry at McGill*, Montreal 1995, 151–155.
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- 94 Marion K. Birmingham, Some thoughts on the fiftieth anniversary, in: Theodore I. Sourkes and Georges Pinard, eds., *Building on a Proud Past. 50 Years of Psychiatry at McGill*, Montreal 1995, 151–155, esp. 151.
- 95 Stern, *The Pillar of Fire*.
- 96 University Archives of Ottawa, ON (Fonds 43 NB–3056, Karl Stern, Human Resources Files).
- 97 Josef Pieper, *Autobiographische Schriften. Ergebnisband 2*, Hamburg 2003, 338 f.
- 98 See in: University Archives of the University of Ottawa, ON (Fonds 43 NB–3056, Karl Stern, Human Resources Files; Fonds 6 NB–9656.8).
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- 100 William Feindel, The Montreal Neurological Institute, in: *Journal of Neurosurgery* 75 (1991), 821–822.
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- 102 Birmingham, Some thoughts on the fiftieth anniversary, 151.
- 103 See in Brigitte A. Askonas, From protein synthesis to antibody formation and cellular immunity: a personal view, in: *Annual Reviews of Immunology* (1990), 1–21, esp. 3 f.
- 104 Francis Schiller, Fritz Lewy and his Bodies, in: *Journal of the History of the Neurosciences* 9 (2000), 148–151.
- 105 Bernd Holdorff, Friedrich Heinrich Lewey (1885–1950) and his work, in: *Journal of the History of the Neurosciences* 11 (2002), 19–28.
- 106 Holdorff, *Zwischen Hirnforschung, Neuropsychiatrie und Emanzipation*, 157–174.
- 107 Paul Weindling, The Impact of German Medical Scientists on British Medicine: A Case Study of Oxford, 1933–45, in: Ash and Söllner, *Introduction: Forced Migration and Scientific Change after 1933*, 86–114.
- 108 Letter by F. H. Lewy to the AAC on the 24<sup>th</sup> July, 1933 in the box on Lewy from the Collection on the “Society for the Protection of Learning and Science” in the Bodlean Library in Oxford; qtd. after Holdorff, *Friedrich Heinrich Lewey and his Work*, 23.
- 109 Letter by F. H. Lewy to the ECADFP on the 5<sup>th</sup> June, 1934; *ibid*.
- 110 Cf. Eric D. Kohler, Relicensing Central European Refugee Physicians in the United States, 1933–1945, in: *Simon Wiesenthal Center Annual* 6 (1989), 17 pp. (The Simon Wiesenthal Center, The Museum of Tolerance. Multi Media Learning Center. Los Angeles, <http://motlc.wiesenthal.com/site/pp.asp?c=gvKVLcMVUg&b=395145>; <online access April-14, 2010>); Seidelman, *Medical Selection*, 435–448; or: Ninette Kelly and Michael Trebilcock, *The Making of a Mosaic: A History of Canadian Immigration Policy*, Toronto 1998, 334–339.
- 111 Claus-Dieter Krohn et al., ed., *Handbuch der deutschsprachigen Emigration 1933–1945*, Darmstadt 1998, vol. 3, 904–1048, lists nevertheless 42 physicians and biomedical researchers who emigrated to Canada. Although this might appear a small number in comparison with the US, it is still a quite impressive group, given the restrictions that they also faced in comparison with a number of South-American countries such as Chile, Uruguay or Paraguay that barely received more refugee doctors from German-speaking countries. The general numbers of Jewish refugees in Canada where a few hundred annually between 1933 and 1939. An impressive number of 2,700 “enemy aliens” arrived on British ships from detention camps in the UK in 1940, and ca. 500 stranded refugees in Spain and Portugal were taken in 1941. See: Cilly Kugelmann and Jürgen Reiche, *Nordamerika*, in: *Stiftung Jüdisches Museum Berlin und Stiftung Haus der Geschichte der Bundesrepublik Deutschland*,

- Heimat und Exil. Emigration der deutschen Juden nach 1933, Frankfurt am Main. 2006, 178–180. Among those stranded on the Iberia Peninsula were a number of neuroscientists such as Paul Schuster (1867–1940) from Berlin or Ludwig Guttmann from Breslau, as Else Bielschowsky, the wife of Max Bielschowsky (1869–1940) informed Lewy's wife in a letter on 29<sup>th</sup> August, 1935; qtd. after Jürgen Peiffer, *Hirnforschung in Deutschland, 1849 bis 1974. Briefe zur Entwicklung von Psychiatrie und Neurowissenschaften sowie zum Einfluss des politischen Umfeldes auf Wissenschaftler*, Heidelberg 2004, 528.
- 112 Irving Abella and Harold Troper, *None is Too Many: Canada and the Jews of Europe: 1933–1948*, Toronto 1982, 36.
- 113 See, for example, in: David Zimmerman, *The Society for the Protection of Science and Learning and the Politicization of British Science in the 1930s*, in: *Minerva* 44 (2006), 25–45.
- 114 Letter of Else Bielschowsky to Mrs. Lewy on 27<sup>th</sup> February, 1935, qtd. after Peiffer, *Hirnforschung in Deutschland, 1849 bis 1974*, 519; author transl.
- 115 Jean Medawar and David Pyke, *Obituary: Esther Simpson*, in: *The Independent* (Dec. 24<sup>th</sup>, 1996), 1.
- 116 Lewy to Ms. Simpson on 10<sup>th</sup> October, 1943 in the box on Lewy from the SPLS Collection in the Bodleian Library, Oxford; qtd. after Holdorff, *Friedrich Heinrich Lewy and his Work*, 23
- 117 Holdorff, *Friedrich Heinrich Lewy (1885–1950)*, 19–28.
- 118 Immediately after the war – and following on from his earlier research funding through the USAF and the VA – Lewy received further grants from the “National Institute of Mental Health” (NIMH) and its subsequent following institution “National Institute for Nervous Diseases and Stroke” (NINDS 50), both at Bethesda, MD. As an innovative clinician and consultant to the VA, he had even become a member of the “National Research Council in Aviation Medicine”; Ingrid G. Farreras and Caroline Hannaway, and Victoria A. Harden, eds., *Mind, Brain, Body, and Behavior. Foundations of Neuroscience and Behavioral. Research at the National Institutes of Health*, Amsterdam, Berlin, Oxford 2004, 312 f.
- 119 Patrick J. Sweeney, Marc F. Lloyd, and Robert B. Daroff, *What's in a name? Dr. Lewy and the Lewy body*, in: *Neurology* 49 (1997), 629–630; anonymous, *Lewy, F. H.*, in: Webb Haymaker and Francis Schiller, eds., *The Founders of Neurology*, Illinois 1953, 315–318.
- 120 Cit. after Holdorff, *Friedrich Heinrich Lewy (1885–1950)*, 25.
- 121 Archives and Rare Books Collection of the Becker Library, Washington University School of Medicine (PC053, Records of the American Academy of Neurology, Series 8, Membership Committee Files, Box 2).
- 122 Archives and Rare Books Collection of the Becker Library, Washington University School of Medicine (PC053, Records of the American Academy of Neurology, Series 7, History Committee Files, Box 3, Folder: Historical Materials, 1948–1953, lists of the AAN-committees).
- 123 On the international “Brain Commission” see Jochen Richter, *The Brain Commission of the International Association of Academies: The first international society of neurosciences*, in: *Brain Research Bulletin* 52 (2000), 445–457.
- 124 Johannes Noth, Robert Wartenberg. (1887–1956), in: *Der Nervenarzt* 73 (2002), 575; Howard J. Faulkner and Karl A. Menninger, *The Selected Correspondence of Karl A. Menninger, 1919–1945*, New Haven, NJ, 1989, *passim*.
- 125 Frederic Henry Lewy, *Historical Introduction: The basal ganglia and their diseases*, in: *Research Publication of the Association for Research in Nervous and Mental Disease*, ed., *The diseases of the basal ganglia*, Baltimore, MD 1942, 1–20.
- 126 For a methodological discussion of medical cultures, see: Rölcke, *Medikale Kultur*, 45–68.
- 127 Ash, *Von Vielschichtigkeiten und Verschränkungen*, 91–105.
- 128 This question has not figured prominently on the agenda of medical historians. For an important step in this direction see Hans Jakob Ritter and Volker Rölcke, *Psychiatric Genetics in Munich and Basel between 1925 and 1945: Programs-Practices-Cooperative Arrangements*, in: Carola Sachse and Mark Walker, eds., *Politics and Science in Wartime: Comparative International Perspectives on the Kaiser Wilhelm Institute*, Chicago 2005, 263–288.
- 129 Proctor, *Racial Hygiene*, 3.
- 130 Kuhn, *The Structure of Scientific Revolutions*, 148–168.

- 131 For the development of the American psychiatric context see especially Wade E. Pickwren, *Psychology and The National Institute of Mental Health: Historical Analysis of Science, Practice, and Policy*, Washington, DC 2004, 3–16.
- 132 Department of Public Health Report (Sept. 25, 1951); Nova Scotia Archives and Records Management, Halifax, NS, ([V/F V. 324 #1, 1, Articles 4, 8; 6, Articles 1, 2, 3; 10, Articles 1, 3; V/RA983 A4 N935 1951, Medical Archives).
- 133 Cf. Ash and Söllner, *Introduction: Forced Migration and Scientific Change after 1933*, 1–19.
- 134 David M. Neuhaus, *Jewish Conversion to the Catholic Church*, in: *Pastoral Psychology* 37 (1988), 38–52.
- 135 See also: Sulamit Volkov, *Jewish Scientists in Imperial Germany (Parts I and II)*, in: *Aleph. Historical Studies in Science and Judaism* 1 (2001), 1–36, esp. 4.
- 136 Kater, *Doctors Under Hitler*, 111–125.
- 137 Cf. Waltraud Strickhausen, Kanada, and Claus-Dieter Krohn, *Vereinigte Staaten von Amerika*, 284–297 and 446–466 in Claus-Dieter Krohn, Patrick von zur Mühlen, Gerhard Paul, and Lutz Winckler, eds., *Handbuch der deutschsprachigen Emigration 1933–1945*, Darmstadt 1998.
- 138 Terry Neville, *The Royal Vic: The Story of Montreal's Royal Victoria Hospital*, Montreal 1994, 103–127.
- 139 Bernhard Lüscher, *Neuroscience at Penn State*, in: *Science Journal* 24 (2006), 4–6.
- 140 Cf. Patrick Flynn, *Dalhousie's Department of Psychiatry – a Historical Perspective*, Halifax 1999.
- 141 Anne Harrington, *Reenchanted Science: Holism in German Culture from Wilhelm II to Hitler*, Princeton 1996, 166.
- 142 Timo Bullemer, “Die hiesigen Juden sind in Cham alteingesessen...” – Aus der Geschichte der jüdischen Gemeinde von Mittelalter bis zur Gegenwart, Cham 2003.
- 143 Manfred Stürzbecher, *125 Jahre Krankenhaus Moabit. 1872–1997*, Berlin 1997. As far as the author is aware, no plaque in honour of Kurt Goldstein had been attached to the hospital walls remembering his forced expulsion from Germany.
- 144 Holdorff, *Friedrich Heinrich Lewey (1885–1950) and his work*, 24 f.
- 145 See, for example, the letter exchanges between Else Bielschowsky and Lewy's wife in: Peiffer, *Hirnforschung in Deutschland, 1849 bis 1974*, 528.
- 146 Zbyněk Zeman and Antonín Klímek: *The Life of Edvard Benes 1884–1948: Czechoslovakia in Peace and War*, Oxford 1997, 92–100.
- 147 German-Bohemian Heritage Society, *Newsletter* 8 (1997), 6.
- 148 Katharina Lepsien and Wolfgang Lange, *Verfolgung, Emigration und Ermordung jüdischer Ärzte*, in: Hannes Friedrich and Wolfgang Matzow, eds., *Dienstbare Medizin: Ärzte betrachten ihr Fach im Nationalsozialismus*, Göttingen 1992, 42.
- 149 Michael H. Kater, *Unresolved Questions of German Medicine and Medical History in the Past and Present*, in: *Central European History* 25 (1992), 407–423.
- 150 See in: Archives and Rare Books Collection of the Becker Library, Washington University School of Medicine (FC0002, Leo Löb, Correspondence R-S, Box 5, folder: Silberberg, Martin and Ruth), n. pag.