

LIFE AS THE PROBLEM: KARL DUNCKER'S CONTEXT

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Among the people who left their mark on cognitive psychology, Karl Duncker's intellectual legacy is certainly outstanding (Newell, 1985; Zimmer, 1989). Some of the tasks on problem solving that he designed as part of his MA thesis when he was a 23-year-old graduate student at Clark University in 1926 are still discussed now—more than 70 years later—in basic psychology textbooks. Most students of introductory psychology are probably quite familiar with the “candle problem”, or the “radiation problem”, but probably most of them (and most of us) only know very little about the background of the extraordinarily promising scholar, Karl Duncker, whose life took such a tragic course and ended in suicide when he was only 37 years old. In this paper I will focus on the context in which Karl Duncker's life and work were situated, ranging from the context of Berlin in the 1920s and 1930s, to Clark University in 1925-1926, as well as his depression and forced emigration from Germany.

Karl Duncker's Life

Karl Duncker was born on February 2, 1903, the son of Hermann and Käthe Duncker, in Leipzig. Both his parents were active Marxists, a fact that would become central to Karl Duncker's life later on. From 1923 to 1928, Duncker was a student at the Friedrich-Wilhelms-University in Berlin, where he worked with Wolfgang Köhler and Max Wertheimer, among others. When Köhler was appointed to spend a year as visiting professor at Clark University in Worcester, Massachusetts, in 1925-1926, he selected Karl Duncker to join him there and Duncker was awarded a Clark University Fellowship. Duncker received an M.A. from Clark in 1926 with his thesis on “An Experimental and Theoretical Study of Productive Thinking (Solving of Comprehensible Problems)” which was published the same year under a slightly modified title in *Pedagogical Seminary* (Duncker, 1926).

In spring 1927, Köhler selected his “best student” (Wendelborn, 1996) to temporarily replace his University Assistant Kurt Gottschaldt. Both Köhler and Wertheimer were very impressed with Duncker's exceptional abilities, as can be gathered from an undated letter of recommendation in which Wertheimer described Karl Duncker as his and Köhler's favorite student, and one of the best younger psychologists (Wertheimer, n.d.,

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cited in King, Cox & Wertheimer, 1998). Köhler predicted a splendid university career for him (Wendelborn, 1996), and a former fellow student of his recalled that he was undoubtedly the brightest and most versatile of the students (Metzger, 1976).

After completing his dissertation on induced motion in 1929, Duncker became University Assistant in 1930, a position that he held until he was dismissed from the university for political reasons in 1935.

In 1933, the year of the “Machtergreifung” of the National Socialists, Duncker had applied to the university for his “Habilitation”. In Germany, the Habilitation is a substantial thesis which is required to apply for professorship and to be allowed to teach at a university, after having completed a doctoral dissertation. Duncker’s application for his habilitation thesis on problem solving [Zur Psychologie des Denkens beim Lösen von Problemen] was not accepted. A look into his personal file reveals that the reason for this decision was Duncker’s communist connections, and the fact that he had been married to a Jewish woman, although, by that time, he had already gotten a divorce (Wendelborn, 1996). A re-application for his habilitation in 1935 was rejected as well, making it impossible for him to move up on the ladder of academia in Germany. Furthermore, by September 1935, his contract as Assistant was terminated.

However, during that year, building on his Master’s thesis, Duncker published his seminal book *Zur Psychologie des produktiven Denkens* [Psychology of productive thinking] (Duncker, 1935a), which later would be listed among one of the “key events in one hundred years of the study of cognition” (Newell, 1985, p. 394). The same year, he published an article on learning and insight in the service of goal attainment [Lernen und Einsicht im Dienst der Zielerreichung] (Duncker, 1935b).

After being expelled from the university, Duncker left for England, and started doing work on pain with Sir Frederick Bartlett in Cambridge in 1936. Duncker’s mental health had

been bad, probably for at least a decade (King et al., 1998) and was deteriorating, and by 1937, Duncker was treated for endogenous depression by the psychiatrist Ludwig Binswanger in Kreuzlingen, Switzerland, where he stayed for two months (King et al., 1998). Wertheimer and Köhler, who both had academic appointments in the US by that time, were very concerned about Duncker’s state, and tried to find work for him. In 1938, Köhler arranged for Duncker to follow him to Swarthmore College, where he himself had been a professor from 1935 onwards. Duncker spent two years as instructor at Swarthmore. While there, he published an article together with Isadore Krechevsky “On solution-achievement” (Duncker & Krechevsky, 1939), as well as a paper on taste perception (Duncker, 1939a) and a paper on ethical relativity (Duncker, 1939b). Apparently, Duncker’s mental health was getting worse, and following several “nervous breakdowns”, the Köhlers tried to take care of Duncker, but alas, in vain (King et al., 1998). He took his own life shortly after his 37th birthday.

The Berlin Institute

What could it have been like for somebody like Karl Duncker to be a graduate student at the Berlin Institute in the 1920s and 1930s?

In order to better understand the circumstances of his life, consider the historical and political context of the time. After the painful defeat in World War I, the first democratic German republic, the “Weimar Republic” had been proclaimed by Social Democrat Philipp Scheidemann in November of 1918. The war had left the country with high debts, an extremely high inflation, unemployment and a shortage of food and goods. Because of the dissatisfaction with the concessions made in the Versailles treaty, the government stood on shaky grounds, with upheavals from both rightist and leftist extremists threatening the young democracy. The fact that the government had changed 21 times by the time Hitler came into power in 1933 serves as a good indicator of how unstable the general political situation was.

Things promised to get better with the introduction a new currency in 1923, and indeed, the economic situation consolidated and the living conditions for the majority of the German population improved considerably thereafter. The "Golden Twenties" swept the country, with technical and cultural innovations, such as mass production of cars and "Rundfunk für alle" [radio for everybody]. A new form of mass entertainment was born with the rise of the film industry, and movies became popular all over the country, and especially in the city, Berlin (Kracauer, 1995). By the end of the decade, the standard of living had reached its level from before the war (Thieme, 1994).

In the mid-twenties, according to Gay (1969), Berlin was the center of cultural, technological and scientific life not only of Germany, but of Europe.

To go to Berlin was the aspiration of the composer, the journalist, the actor: with its superb orchestras, its hundred and twenty newspapers, its forty theaters, Berlin was the place for the ambitious, the energetic, the talented (Gay, 1969, p. 83).

Among "the talented", to name only a few, were Berthold Brecht, Erich Kästner, Alfred Döblin and Robert Musil (who had in fact received a Ph.D. from the Berlin Psychology Institute) in literature, and Max Pechstein, as well as Max Liebermann in the visual arts. The Dada movement had its first international fair in Berlin in 1920, exhibiting works by Otto Dix, Max Ernst, George Grosz and others (Ferrier, 1988). In addition, many distinguished scientists and Nobel prize laureates lived in Berlin, and Wolfgang Köhler himself maintained friendly relationships with the physicists Max Planck and Otto Hahn (Jaeger, 1992; Ash, 1995), as did Max Wertheimer with Albert Einstein (King & Wertheimer, 1995).

Gay (1969) captures the cultural atmosphere of Germany during the time of the Weimar Republic in the following way:

The excitement that characterized Weimar culture stemmed in part from exuberant creativity and experimentation; but much of it was anxiety, fear, a rising sense of doom. ... [I]t was a precarious glory, a dance on the edge of a volcano. Weimar culture was the creation of outsiders, propelled by history into the inside, for a short, dizzying, fragile moment (Gay, 1969, p. 12).

Stumpf's Institute

During the Weimar period, the Berlin Institute was certainly the most influential psychology institution in Germany (Ash, 1985a). Carl Stumpf (1848-1936) had been appointed as chair of psychology within the three chairs of philosophy of the Friedrich-Wilhelms-University in Berlin in 1893. He had studied philosophy with Franz Brentano (1838-1917) and with Hermann Lotze (1817-1881), and had also attended lectures in physiology with Georg Meißner (1829-1905), and physics with Wilhelm Weber (1904-1891) (Sprung & Sprung, 1995).

At the time, working in psychology with a strong background in philosophy was not only common, but in fact mandatory. Although the foundation of Wilhelm Wundt's laboratory in Leipzig in 1879 is often mentioned in the context of the emergence of psychology as an empirical, "new" science, psychology as a discipline was by no means independent from other disciplines. On the contrary, at most German universities, psychology was approached as providing an innovative methodological tool for solving the problems of one more traditional science, namely philosophy (Ash, 1985a; Geuter, 1984a).

For instance, Carl Stumpf in Berlin, as well as Wundt in Leipzig, hoped to find answers to questions of epistemology by using experimental psychological methods (Ash, 1984b). Thus, in contrast to the US where independent psychology departments already existed before World War I., in Germany, psychology was more of a sub-discipline, or "*Propädeutik*" (Ash, 1985a) to philosophy. In fact, the competition between philosophy and psychology was considerable, and professors of philosophy feared that experimental methods would contaminate the pursuit of "pure"

philosophy, or, at the least, not contribute to any new insights. The conflict between members of the two science reached its peak in 1912 in a declaration of more than two thirds of the academics in philosophy who protested against hiring any more psychologists within any of the philosophy departments (Ash, 1984b; 1985b; 1995; Geuter, 1984a). Thus, psychology as a discipline was relatively weak, and had yet to free itself from philosophy, as well as to demonstrate the value of its practical applicability within society (Ash, 1984b; 1985b).

Grounded in a life-long fascination with music (Stumpf, 1924), Stumpf's research centered around auditory perception, especially musicology (Stumpf, 1883; 1890), but he also studied emotion (Stumpf, 1928), and he approached questions of the relationship of psychology and philosophy, especially questions of epistemology (Stumpf, 1939; 1940). Carl Stumpf shared a deep, cordial friendship with William James (1842-1910) (Stumpf, 1924; Sprung & Sprung, 1996), and although they disagreed on the topic of pragmatism, their theoretical positions were certainly closer to each other than either was to Wundt's, and both saw themselves in opposition to Wundt's views, as a letter from James to Stumpf in 1887 documents:

He aims at being a sort of Napoleon of the intellectual world. Unfortunately he will never have a Waterloo, he is a Napoleon without genius and with no central idea ... (Perry, 1935, cited in Sprung & Sprung, 1996, p. 338).

Sprung and Sprung (1995) point out that in addition to his scientific contributions, Stumpf's accomplishments for psychology as a discipline were considerable: He was instrumental not only in the establishment but also the expansion of the Berlin Institute. There he compiled, together with Erich Moritz von Hornbostel (1877-1935), the Phonogram Archives which became an extensive collection of ethnic music recordings. In addition, he was among the founders of the "Anthropoiden-Station" on Teneriffe which

later on would become central to the work of his student Wolfgang Köhler and would make him known throughout the world.

Thanks to Stumpf's successful negotiations, in 1920 the Psychological Institute of the Friedrich-Wilhelm University of Berlin moved into the extremely spacious former Imperial Palace right in the center of the city. In addition to more than doubling its size, the budget of the institute increased by a phenomenal 600%, allowing for more staff and faculty to be hired. The structure of the institute changed as it was compartmentalized into a theoretical and an applied division. All these developments made the Institute one of the best equipped psychological laboratories of the time (Ash, 1985a; 1995). As such, of course, the Berlin Institute was in constant competition with Wilhelm Wundt's laboratory in Leipzig (Ash, 1995; King & Wertheimer, 1995).

Köhler's Institute

In 1922 Köhler was appointed to follow Stumpf's footsteps as director of the Institute. Although the number of doctoral students had increased, compared to Stumpf's time, a more stringent selection process ensured that the number of students was still low enough to provide them with marvelous resources and opportunities to do their own research as well as to collaborate with more senior faculty (Ash, 1985a; 1995; Jaeger, 1992). Many of its members recall that the atmosphere at the institute was not very hierarchical or authoritarian, and students were being treated by the faculty as being of equal status, rather than being subordinate (Ash, 1995). The ratio of women was remarkably high for the standards of the time, and some of them became quite influential as to their contribution to the field of psychology, such as Tamara Dembo, Bluma Zeigarnik and Maria Ovsiankina. (see van der Veer, 1999, for a discussion of Demo's life within the Berlin context). A large number of students and visitors from other countries, for example from the Soviet Union, Japan, and the United States, contributed to the diverse and intellectually stimulating atmosphere of the Institute (Jaeger, 1992; Ash, 1995).

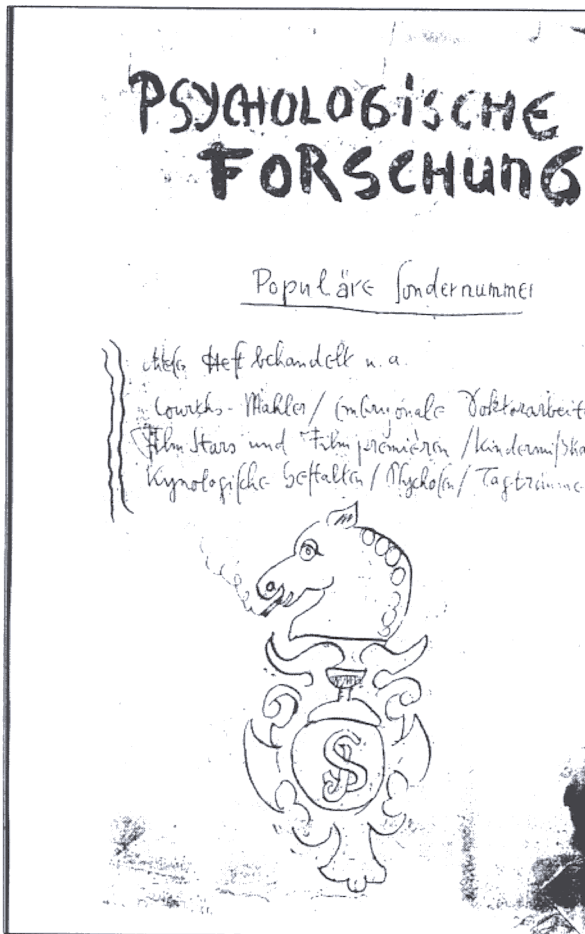


Figure 1. “Psychologische Forschung: Populäre Sondernummer”: A “Popular Special Issue” of *Psychological Research* dedicated to Wolfgang Köhler upon his return from Clark University (1926). Translation (by I. Josephs): This issue is about – among other things – Courths-Mahler / Doctoral dissertations in embryonic form / Film stars and film premiers / Child abuse / Kynological Gestalts / Psychoses / Day dreams.

Since, as Ash (1985a) notes, doing research in psychology was not a profession to make a living, but rather, was a “luxury subject”, and the only degree obtainable in the rather lengthy course of years and years of study (with an average of nine years; Ash, 1985b), was the doctorate, we can assume that the students at the Berlin Institute were really driven by a passion for the pursuit of theoretical knowledge. It was the Institute that offered them the support to do so, and it certainly also offered them a sense of belonging to an elitist scientific community.

It seems that, although an intellectual one, the atmosphere at the Institute was warm and friendly, as can be concluded from the humorous “Popular Special Issue” (*Populäre Sondernummer*) of the *Psychologische Forschung* that was jovially put together by the Institute’s members upon the return of Herrn Prof. Dr. Köhler, “aus Freude über seine Wiederkehr” from Clark University in March 1926 (Figure 1). The issue contained brief stories and vignettes that alluded to central issues of Gestalt theory. For example, in a little love story, a lover says that she had a sudden Aha!-experience, after a process of re-structuring had taken place, and thought, “Him, or nobody!”, and he replies coldly that, certainly, there had been an irresistible association between the piece of cake he ate and the taste of sweetness. Disappointedly, she asks, “But can’t you see the Gestalt?”, whereupon he leaves the field. Another vignette describes how Alfred Adler mediates as interpreter between Wertheimer and Freud, because the two have difficulties in communicating.

A short editorial at the end alludes to the fact that apparently, the standards for submission to (the real) *Psychologische Forschung* were quite high:

Manuscripts may not be submitted before the fifth revision. Further changes will be made by the editor upon special request of the author. Recognition of the manuscript cannot be guaranteed. However, the editor reserves the right to print the original manuscript.

Psychologische Forschung

In 1921 Max Wertheimer, Kurt Koffka, Wolfgang Köhler, Kurt Goldstein and Hans Gruhle founded the journal *Psychologische Forschung* [Psychological Research], which became the forum for the publications of the Gestalt psychologists. For example, Duncker’s dissertation on induced motion (Duncker, 1929) was published in the *Psychologische Forschung*, as well as dissertations and research report of other institute members. However, also high-quality work from researchers at other German universities, as well as foreign universities, for example, from Vienna, Prague, and the Soviet Union, was published and gave the *Psychologische Forschung* an internationally oriented

character and a high profile (Ash, 1985a; van der Veer, 1999).

A New School: Gestalt Theory

In addition to paving the way for the successful development and expansion of the Institute, its first director Stumpf had also paved the way for a new school of thought: Gestalt psychology. As Sprung and Sprung (1995) point out, he can justifiably be called the “grandfather of Gestalt psychology”, since many of his basic ideas were to be used and elaborated later on by his doctoral students Wertheimer, Köhler, Koffka and Lewin.

The movement of Gestalt psychology was a reaction to the elementaristic views of psychology as proposed by Ernst Heinrich Weber (1795-1878) and Gustav Theodor Fechner (1801-1887), or Wilhelm Wundt (1832-1920) who were searching for structural components and laws of mental functioning. In addition to rejecting the associationist tradition, the Gestalt school argued strongly against behaviorism (e.g. Köhler, 1947) which was very influential at the time, especially in the US. For example, Duncker’s writings reflect the critical attitude towards “the American psychology” (Duncker, 1927; 1932).

Sprung and Sprung (1993) summarize four main principles that guided the thinking of the Berlin school of Gestalt psychology. The central tenet, of course, was the holistic assumption based on Aristotle’s well known statement that “the whole is more than the sum of its parts”. Further, the unit of analysis was the phenomenon, that is, the experience, rather than stimulus-response contingencies. In terms of methodology, the Gestalt psychologist prioritized experimental methods. Duncker’s experiments on problem solving illustrate nicely how the focus of study was on how the person experienced the process of arriving at a solution. The phenomenology of the thought process was captured by instructing the person to “think aloud”, that is, to verbalize all ideas related to the problem situation, thus providing insight on how

“insight” occurs. Finally, another central principle of the “Berliner” was the principle of psychophysiological isomorphism, which stated that “*actual consciousness resembles in each case the real structural properties of the corresponding psychophysiological process* (Köhler, 1938, p. 38, italics in original).”

Psychology Course Offerings 1920-1935

Jaeger (1994) demonstrated that in the period of 1920 to 1935, a main portion of the class offerings at the Berlin institute were devoted to applied psychology (28 %), within the areas of “Psychotechnik” and “Wirtschaftspsychologie”, very closely followed by courses in philosophy (25 %), and by General Psychology (13 %). The rest of the courses covered topics such as pedagogical psychology (9 %), child psychology (8 %), characterology (5 %), thinking, (5 %) perception (3 %) and “will” (3 %). In addition to lectures, the main type of courses were experimental exercises (“experimentelle Übungen”, 37 %), with an also relatively high number of supervised research (“Leitung wissenschaftlicher Arbeit”, 31 %) and colloquia (22 %). According to Ash (1995), supervision for writing, especially on dissertation theses, was collaborative and very intense.

Only one course offered in 1925 dealt with methodology, and at that time, Duncker was probably at Clark University. Jaeger (1994) notes that a lot of the classes were taught collaboratively. Köhler taught together with Lewin, Wertheimer, or both. Of all the faculty members, Köhler had the highest number of students per semester attending his classes. Like Stumpf, Köhler tried to keep his courses to general interest, rather than lecture on topics within his specialty area. Even the term “Gestalt” occurs only in the title of one course. Lewin’s classes were also very popular, probably due to the—at the time innovative—use of film material to demonstrate developmental concepts (Jaeger, 1994).

The Turning Point: 1933

Geuter (1984c) notes that before 1933, in addition to occupying a special position in the scientific landscape, the Berlin Institute had also a spe-

cial position in political respects. At no other institute were as many leftist and antifascist researchers as at the Berlin Institute. For example, Lewin was a socialist, Gottschaldt was associated with the communist party and von Lauenstein was close to the Social Democrat Party. Duncker was thought to be associated with Marxist ideology, because his father was known to be the leader of the "Marxist Arbeiterschule", although Karl Duncker himself apparently later distanced himself from his father's ideological background (Geuter, 1984c; Wendelborn, 1996). Of all institute members, Wolfgang Köhler's political convictions would become the most problematic for the National Socialist regime.

In April of 1933, a special law, *Gesetz zur Wiederherstellung des Deutschen Berufsbeamten-tums* [Law for the Re-establishment of the Professional Civil Service], was enforced that determined that persons who were of Jewish origin or whose past gave indications that they would not be "unconditionally supportive of the new political system" would no longer be employed by states or government. This law, of course, had serious consequences for German universities. In psychology, a third of the full professors were dismissed in 1933 because they were Jewish (Geuter, 1984b, 1984c).

Köhler, who was not Jewish himself, was one of the very few university professors who publicly spoke out against the National Socialist system in a widely read newspaper article published in the *Deutschen Allgemeinen Zeitung* on April 28, 1933, which was reprinted in the *Times* and in the *New York Times*. According to Henle (1978), Köhler's courageous act of writing the article entitled *Gespräche in Deutschland* [Conversations in Germany] was so politically charged, that in anticipation of being arrested the same night, Köhler and some of the institute members spent the evening playing chamber music. It is certainly an indicator of his extraordinary recognition and international reputation that nothing happened that night. However, by the end of the year, political searches of the institute and

denunciations of its members Duncker, von Lauenstein, and Köhler took place, which were instigated by students of the university who stood close to the Nazi government (Ash, 1985a, Geuter, 1984c; Henle, 1978; Jaeger, 1992). When his assistant Otto von Lauenstein was dismissed in April 1934, Köhler was so infuriated by the intrusions on his autonomy as director of the institute that he threatened to resign from his position. Köhler's international reputation was probably the reason that von Lauenstein was re-instated in 1934 (Ash, 1985a), and a public statement by the Ministry of Science, Art and Public Education conceded that "Professor Köhler has the confidence of the Minister" (Henle, 1978). Even the denunciation of Duncker, whose father had been deported to a concentration camp because of his Marxist activities, had at first no consequences (Wendelborn, 1996). The president of the Berlin police department denied the denunciation in May, and in October of 1933 the Minister noted that he saw no reason for Duncker's dismissal (Geuter, 1984c). However, both von Lauenstein and Duncker were reportedly involved in student demonstrations against the takeover of the National Socialist regime on the campus of the university (Ash, 1979; 1985a). In addition, foreign newspapers were found on Duncker's desk (King et al., 1998). As a result, Duncker's application for the "Habilitation" was rejected twice, and he was suspended from the university starting September 30, 1935.

Köhler's decision to leave became final when it was clear that his assistants Karl Duncker, Otto von Lauenstein, and Hedwig von Restorff would not be reinstated, and he accepted a position in the US at Swarthmore College. Interestingly, as Ash's (1979) research showed, only a year later, a report from the Ministerium itself suggested that the dismissal of the assistants may have been unjustified, since it had been based on evidence from somebody who himself profited from the denunciation, namely Johann Baptist Rieffert, who became director of the Institute after Köhler resigned.

Generally, Geuter (1984c) points out that in many cases, it was not so much orders from “above” that resulted in dismissals of professors and other faculty members, but rather, opportunistic careerists who tried to get ahead were instrumental in denunciations and leave us with the impression that academic psychology was undermined from “below”.

Apparently, from 1934-1936, Duncker had actively tried to find ways to stay and work in Germany, with no success (Wendelborn, 1996). For example, in 1936, he explicitly claimed in a letter (addressee unknown) that he had become very critical of communism and had turned away from it. Also, he had rejected university positions abroad, because he didn’t want to leave Germany under any circumstances, and thought it would be possible to stay on in Germany:

(...) denn ich wollte Deutschland um keinen Preis verlassen, wollte nicht unter die Emigranten gehn, und ich glaubte zuversichtlich, man würde mich weiter in Deutschland arbeiten lassen (Wendelborn, 1996, p. 267).

[(...) because I did not want to leave Germany under any circumstances, did not want to be among the emigrants, and I was confident that I would be allowed to continue working in Germany (Wendelborn, 1996, p. 267).]

Those hopes were in vain. Duncker left Germany, along with many other eminent researchers.

Niedergang oder Neubeginn?:

Emigration of the Gestalt Psychologists

The list of psychologists who had to leave Germany after 1933 is long; names such as Wolfgang Köhler, Max Wertheimer, Kurt Lewin, Kurt Goldstein, Adhémar Gelb, Rudolf Arnheim, Ernst Cassirer, and Heinz Werner leave the impression that not much of scientific psychology was left in Germany. However, as Geuter (1984a) shows in a quantitative analysis, for most psychology departments, when considering the

number and status of professorships, the situation did not deteriorate in the time from 1932-1945. On the contrary, it was during that time that psychology managed to break free from philosophy and established itself as an independent discipline, with a degree of its own, the “Diplom”, which was introduced in 1941. Because of its expansion into applied areas, psychology as a discipline was by no means threatened by extinction, but offered even more opportunities for employment than ever.

Nevertheless, qualitatively, when looking at the consequences regarding one of its most famous schools, by 1935, Gestalt psychology was practically wiped out from Germany (Geuter, 1984c; see Stadler, 1985; Ash, 1995, chap. 20-21, for an analysis of the few Gestalt psychologists remaining in Germany). Altogether, one-third of full professors were dismissed, including almost all of the internationally renowned psychologists (Ash, 1984a).

An examination of the development of Gestalt theory after most of its representatives left Germany and its influence on psychology in Germany and in other countries, notably the in US, offers interesting insights. One view (Wellek, 1964; Metzger, 1976) claims that psychology as a discipline had been subject to the National Socialist persecution more than other disciplines, for both ideological and content reasons. Wellek (1964) and Metzger (1976) argue that psychology was viewed as a “Jewish science”, and therefore subject to antisemitism. However, contrary to Wellek’s (1964) assertion that academic psychology—as a result of being a content area that was inherently incompatible with the National Socialist system—was more affected by dismissals than other disciplines, Ash (1984a; 1991) showed that the percentage of scientists who lost their positions and emigrated after 1933 corresponds to the figure for German academics as a group.

A second thesis put forward by Metzger, and even more strongly by Wellek, is that émigré psychologists, and most of all, the Gestalt psychologists, had a fundamental impact on American psychology:

Die amerikanische Psychologie der Gegenwart wäre nicht was sie ist und könnte nicht werden, was sie zu werden verspricht, ohne den Humus der deutschen Emigration (Wellek, 1964, p. 261).

[Contemporary American psychology would not be what it is now, and would not be able to become what it promises to become, without the base provided by the German emigrants (Wellek, 1964, p. 261).]

This view is also challenged by Ash (1984a; 1996) who points out that despite adding features to the scientific landscape, Gestalt psychology did not fundamentally change it. Ash (1984a) offers an analysis of the various stages in the transfer of scientific knowledge from one country to another, consisting in reception, transfer and integration, and illustrates this process with the example of Gestalt psychology. First, a reception of the theory in the new country needs to take place, before any emigration occurs. For Gestalt psychology, in addition to maintaining written correspondence with researchers in the US, several representatives visited psychology departments in the US (e.g., Köhler at Clark, 1925-1926; Koffka at Cornell, 1924-1925, and Wisconsin, 1926-1927) and gave lectures all over the country and thus made the theory available to other researchers. Ash (1984a; 1996) argues that although the open critique of behaviorism was welcomed by many, overall, the reception of Gestalt theory was rather ambivalent, mainly because it was so strongly tied to philosophical issues which were looked upon critically by theorists with a more empirical outlook.

The second phase, the transfer phase, describes the actual emigration of the Gestalt theorists, and makes them permanent residents of a new scientific community. Although one may think that arriving at the US meant arriving at a safe haven, far away from denunciations and anti-Semitic sentiments and persecutions, anti-Semitism became increasingly explicit in the 1920s and 1930s in the US. For example, when writing letters of recommendation for a gradu-

ate student applying for an academic appointment, it was standard practice to point out whether the person was Jewish, and whether any "objectionable" traits "characteristic" for Jews were apparent in the candidate's personality (Winston, 1998).

Given the obstacles that American Jews, who had been living in the US all their lives, had to face when seeking an academic position in psychology, the situation was, of course, exponentially worse for Jewish émigré psychologists, such as Kurt Lewin or Heinz Werner.

Heinz Werner, for example, who had been internationally renown for the work in developmental psychology and who had been a full professor already in 1926 in Hamburg, had spent years with short-term appointments at various institutions, before he was appointed professor at Clark University in 1947. Others, few however, found good positions immediately. Wertheimer, for example, found a new intellectual home at the New School of Social Research in New York. Both Koffka and Köhler accepted positions at colleges which offered them optimal research conditions. Koffka, who strictly speaking cannot be counted as an emigrant because he had moved to the US already in 1927, accepted an extremely well paid position at Smith College in Northampton, Massachusetts, where he was exempt from teaching for five years, and was given the opportunity to establish a brand new laboratory with two assistants of his choice. Similarly, Köhler found optimal working conditions at Swarthmore College near Philadelphia. But the biggest downside of their appointment at undergraduate institutions was that they did not work with doctoral students, which would have been crucial in educating a new generation of Gestalt psychologists. In fact, all three of Köhler's most outstanding assistants (Karl Duncker, Otto von Lauenstein and Hedwig von Restorff) died young. Not having enough intellectual descendants was probably the reason why the legacy of Gestalt theory was not as influential as it could have been (Ash, 1995).

As a consequence, as far as the integration of Gestalt theory into psychology in the US is con-

cerned, Ash (1984a) argues that although aspects of Gestalt theory were incorporated into psychological theorizing, the approach as a whole was not adopted and advanced by the scientific community in the US. Or, as Luchins succinctly summarized:

The language, but not the assumptions nor the approach nor the spirit of Gestalt psychology, has been fully absorbed (Luchins, 1975, p. 41).

Ironically, as the example of Köhler shows, by trying to adopt different experimental methods that were prevalent in the US, Köhler opened himself up to criticism and refutation on his own terms (Ash, 1996). Thus, trying to bridge the gap between fundamentally different basic assumptions, and integrating the “imported” holistic assumption on one hand, and the analysis of relatively independent parts on the other hand, failed..

Can we therefore conclude that the war was responsible for the decline of a very influential school of thought in psychology? Prinz (1985) asks the question whether the political situation led to the “end of a beginning”, or, whether it merely facilitated the “beginning of the end”. He argues that, independently from the political development in Germany, “Gestaltpsychologie” had reached its peak already around 1930. On theoretical grounds, it was problematic for Gestalt theory to be formulated in abstract “principles” (cf. Koffka’s *Principles of Gestalt Psychology*, 1935), which were more descriptive than explanatory, and were not organized into a coherent theory. In addition, according to Prinz (1985), the strong nativist orientation of the Gestalt school left no room for learning, and assigned a privileged status to phenomena, relative to theories. Thus, phenomena did not modify theory, and theory did not address the nature of phenomena adequately. Following Prinz’s (1985) argument, it is probably justified to say that the end of the Gestalt school of thought was multifactorially caused, rather than being the consequence of the political context in Germany.

Visiting Clark University (1925-1926)

Having considered Duncker’s life within the context of the Berlin Institute, a brief flashback will illuminate the different environment that he was exposed to when he came to the US as a visiting student. Wolfgang Köhler had been invited by Carl Murchison to visit Clark University for a year, and when offered a fellowship for one of his graduate students, he selected Karl Duncker.

Of what kind was the intellectual atmosphere that Duncker encountered when he came to Clark University in 1925? Certainly, the theoretical climate at Clark was very different from what both Köhler and Duncker had been accustomed to in Berlin. While in Berlin Gestalt psychology was the leading school of thought, in the United States, research in psychology was strongly influenced by behaviorism.

Interestingly, in his sharp criticism of behaviorism (Duncker, 1927), Duncker draws a parallel between the behavioristic approach and the American way of life:

Inwiefern ist der Behaviorismus etwas typisch Amerikanisches? Er ist es zunächst insofern, als ein solch konsequentes Drauflosgehen, unbehindert von jenem oft so heimtückischen Ballast tausendfacher Überlieferung und dadurch bewirkter Kompromißerei, eigentlich nur in Amerika so erstaunliche Dimensionen annehmen konnte; wenigstens in Wissenschaften, die wie die Psychologie noch so sehr an den Rockschoßen veralteter Philosopheme hängen. Diese Respektlosigkeit ist amerikanisch, und gerade in besagter Hinsicht ist sie, wie mir scheint, herzlich zu begrüßen (Duncker, 1927, p. 699).

[In what respect is behaviorism something typical American? In the sense that such a consistent heading for the goal, regardless of the often insidious ballast of thousands of traditions and its resulting compromises, could only have happened in America to such an extent; at least in the sciences such as psychology that still cling so strongly to ancient philosophies’ coat-tails. This lack of respect is American, and in this context, it seems to me, it should be warmly welcomed (Duncker, 1927, p. 699).]

Duncker also notes that in no other country is capitalism as pervasive as in the East of America. He describes "the American" in the following way:

Und wer Geld hat, hat alles. Wie charakteristisch steht der Amerikaner z. B. zur landschaftlichen Natur. Er wandert nicht—er fährt Auto (auch sein "hiking" ist nicht wandern); er schaut nicht—er fotografiert und veranstaltet Picknicks (Duncker, 1927, p. 701).

[If you have money, you have everything. For example, how does the American characteristically relate to nature. He does not walk—he drives a car (even his "hiking" is no hiking); he does not look—he takes pictures and goes for picnics (Duncker, 1927, p. 701).]

How could one therefore be surprised that behaviorism is the school of thought in American psychology, Duncker wonders. We don't know what exactly prompted Duncker to get this impression of the United States, but given that the paper was published the year after he returned to Berlin, it was probably his stay at Clark University.

Duncker came to Clark at a time when the psychology was in the process of recovering from a serious crisis, which had culminated in the decision of the trustees to discontinue the Ph.D. program in psychology in 1923. A series of events led to this difficult situation, which almost meant the end of a program that had become one of the nation's leading institutions to produce Ph.D.s in psychology under the guidance of G. Stanley Hall (Koelsch, 1987). Clark University had changed its main commitment to graduate education and research by admitting undergraduate students, and in 1921, the Graduate School of Geography was founded, with Wallace W. Atwood, Clark's president, as director of the new program. Under Atwood's direction, the new focus of the university was shifting to geography and related fields, and away from psychology, on which the emphasis had been during Hall's presidency.

By 1922, several faculty members, such as E. G. Boring and his wife Lucy, Samuel W. Fernberger, L. R. Geissler, Karl J. Karlson and James P. Porter had either left or resigned, leaving the psychology and education departments with only three faculty members: Sanford as chair of psychology, Burnham as chair of education, and Kimball Young, a social psychologist on leave from the University of Oregon (Koelsch, 1990).

Sanford had come to Clark together with Hall, under whom he received his Ph.D. from Johns Hopkins University. According to Goodwin (1987), Sanford never managed to step out of the omnipresent shadow of his mentor, and he neither developed a systematic program of research, nor a systematic theoretical position. The impending retirement of Sanford and Burnham led to the trustees' decision to stop accepting new Ph.D. candidates in 1923.

However, a number of factors prevented the department from becoming extinct. Most importantly, Clark alumni and other psychologists protested against the trustees' decision. In addition, the discontinuation of the Ph.D. programs in physics, sociology, and chemistry freed up funds that were invested into the psychology department. Additional funds became available when G. Stanley Hall, who had already retired in 1920, died in 1924 and left an endowment, "to be strictly and solely devoted to research in genetic psychology" (Ross, 1972, p. 437). A professorship in Hall's name was established, and in 1925, Walter S. Hunter of the University of Kansas was appointed the first G. Stanley Hall Professor of Genetic Psychology.

Carl A. Murchison

Carl Murchison (1887-1961), who had earned his Ph.D. from Johns Hopkins under Knight Dunlap, was appointed to be head of the psychology undergraduate department in 1923. (Thompson, 1996). Although his colleagues considered his research methods to be dubious, and he was notorious as a bad teacher (Koelsch, 1990), he managed to raise considerably Clark's profile in the scientific community by editing numerous journals

and books and organizing lecture series. Muchison was involved in editing an impressive list of journals, namely the *Pedagogical Seminary*, which he had taken over, and renamed in *Journal of Genetic Psychology*, he founded the *Genetic Psychology Monographs*, the *Journal of General Psychology* (together with E. B. Titchener), the *Journal of Social Psychology*, as well as the *Journal of Psychology*. He was also responsible for the "Powell Lectures in Psychological Theory" held at Clark from 1924 to 1926 (named after Muchison's father-in-law, Elmer Ellsworth Powell who contributed the financial means) which featured such outstanding scholars as J. B. Watson, W. S. Hunter, W. Köhler, K. Koffka, and W. McDougall, among others.

Walter S. Hunter

Hunter (1889-1954) was one of the prominent behaviorists of the time. He was first reluctant to accept the offer because he was very concerned about the problematic administrative situation at Clark, which had even prompted an investigation of the American Association of University Professors (Koelsch, 1987). Upon consultation with Angell, Warren, Boring and Watson, he decided to accept the offer, and, in his autobiography, recalls that he was certainly happy at Clark (Hunter, 1952). In the summer of 1925, he became editor of the *Psychological Index*, he founded the *Psychological Abstracts* in 1926, and he was president of the American Psychological Association in 1931. He also lectured at Harvard, where among his students was B. F. Skinner. Hunter was a very active and productive researcher, he published 21 experimental papers, five theoretical studies, four book chapters and one textbook in the eleven years that he was at Clark (Hunter, 1952). Twenty-two more papers were published by his graduate students in the same period of time.

On a trip to Europe in 1926, when both Köhler and Duncker had already left Clark to go back to Berlin, Hunter visited Köhler and the other Gestaltists at the Berlin institute. Interestingly, Hunter considered establishing a pri-

mate behavior station at Clark, modeled after Köhler's "Antropoiden-Station" on Tenerife. However, the project did not get funded and was never carried out (Koelsch, 1990).

John Paul Nafe

Murchison's first appointment was John Paul Nafe (1888-1970) who had earned his Ph.D. at Cornell University (Thompson, 1996) and who came to Clark in 1924. Nafe was a follower of Titchener's structuralism (e.g. Nafe, 1930), and although he signed off on Duncker's M.A. thesis, it is unlikely that he influenced Duncker's thinking in any fundamental way, given that the thesis was fundamentally grounded in the Gestalt framework. Still, of the three available faculty members, Nafe's research and theoretical interest were certainly closest to Duncker's, and he was the person of choice to be the (at least formal) supervisor of Duncker's project. Nafe's research focused on sensation and perception, and according to reports of his students, he was an exceptionally good teacher (Koelsch, 1990).

Including the visiting scholar Köhler's, the mix of theoretical positions at Clark at the time Duncker was visiting represented behaviorism (Hunter), structuralism (Nafe), and Gestalt psychology (Köhler) and must have provided a quite stimulating atmosphere. In terms of the interpersonal context, on average, there were nine to twelve resident graduate students in the department each year (Koelsch, 1990). Interestingly, Duncker (1927) noted when talking about "Amerika", that the students "over there" were a bit too liberal for his taste, for example regarding "die Geschlechterfrage" [Women's rights] (Duncker, 1927, p. 702).

Problem Solving – Solving His Problems?

Although Karl Duncker was interested in a broad spectrum of research topics, ranging from induced motion (Duncker, 1929), to perception of pain (1937), taste perception (Duncker, 1939a), ethics (1939b), to motivation (1938), his main contribution to psychology, in particular to cognitive

science, certainly lies in his work on problem solving (Duncker, 1926; 1935a; 1935b; Duncker & Krechevsky, 1939) (see Newell, 1985; Simon, this issue, for an account of Duncker's impact on the information-processing paradigm).

Problem solving, or "productive thinking", as Duncker, and before him, Wertheimer (1920) called it, is often discussed in the context of creativity (e. g., Langley, Simon, Bradshaw & Zytkow, 1987; Weisberg, 1988). Most authors agree that creativity can be defined as the ability to come up with novel and appropriate solutions to a given problem (Amabile, 1983; Gardner, 1993; MacKinnon, 1978; Sternberg & Lubard, 1996). Interestingly, according to that definition, Duncker was certainly very creative himself, while laying the groundwork for creativity research. For example, he created a number of unique problem situations that he used in his experiments, such as the candle problem, the radiation problem, etc. Furthermore, his approach to thinking was quite innovative compared to other models of his time (Newell, 1985).

On a different level, it is noteworthy that one of the most controversial questions in the area of creativity is how emotional stability and mental health are related in the process of creative achievement. For example, in Maslow's humanistic view, (e.g. Maslow, 1959) self-actualizing creativeness is synonymous with health, as he sees creativity as epiphenomenon of self-acceptance and integration. In contrast to psychoanalytic views which try to explain creative achievement as a result of inner conflict, Maslow claims that only when conflicts have been resolved and a person reaches self-acceptance, time and energy is available for creative purposes. A different view suggests that extraordinary creativity might be accompanied by psychopathology: "Those who have become eminent in philosophy, politics, poetry, and the arts have all had a tendency toward melancholia." is attributed to Aristotle (Simonton, 1994, p. 284). Indeed, the list of eminent individuals with supposed affective disorders is long: C. Darwin, J. B.

Watson, W. James, J. S. Mill, Michelangelo, F. Chopin, E. Hemingway, V. van Gogh, P. Tchaikovsky, to name only a few, and the last three of the list all committed suicide (Simonton, 1994). Of course, it is impossible to make any causal statement and conclude that either exceptional abilities lead to psychological problems, or that psychopathology leads to an overcompensation through creative achievement. However, Simonton (1994) speculates that creators often tend to exhibit a "little bit" of mental disturbances, more than "normal" individuals, but less than clinically diagnosed patients, suggesting that mental problems are often the price that outstandingly creative individuals have to pay.

Certainly, Karl Duncker's life was full of complexities and problems, only one of them being his depression (King et al., 1998), in addition to the hardships that he had to endure because of his political convictions, resulting in his emigration from a country that he apparently felt very attached to. It must have been extremely hard for him to accept that he could not continue his professional career in the way that he had hoped for while still in Germany. In that sense, Karl Duncker was facing problems (in his life) and working with problems (in his research) at the same time.

Those who suffer from mental disturbances often have an abundance of psychological problems to solve, or if they are not trying to solve them through their writing or art, may gain relief from their own problems by solving problems not particularly related to their personal histories. (Ludwig, 1995, p. 193.)

Perhaps that was the case for our protagonist Karl Duncker, and his theoretical focus was motivated by the attempt to address and solve problems of his own life?

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