

## Chapter III

### Establishment of the Institute for Experimental Psychology at Leipzig, 1875-1883.

Wundt announced his intentions to establish a new branch of science already in 1862, in the introduction to his second book, Beiträge zur Theorie der Sinneswahrnehmung; in the following twenty years he carried out his plan by (1) working out the basic methodology, (2) inventing and improving applications of apparatus, (3) writing textbooks, (4) establishing a specialized institute, and (5) publishing a specialized journal for the field.

These steps were by no means always separate and distinct. Wundt arrived in Leipzig with a methodology, some apparatus, and at least one very important text, Grundzüge der physiologischen Psychologie. He refined and supplemented these tools as he created a functional role for experimental psychology in the academic environment in Leipzig. Wundt masterfully used existing financial and pedagogical imperatives to the advantage of his own intellectual pursuits. In particular, he attracted many doctoral students to help him carry out his ambitious program for scientific psychology as the basis of philosophy.

#### A. Getting a place and getting money for equipment.

##### 1. The psychological laboratory in the context of teaching and

**personal research.**

Wundt published this sketch of the founding of his famous institute at Leipzig, thirty years after its establishment:

When the present director of the Institute for Experimental Psychology joined the faculty of the University on October 1, 1875, the Royal Ministry, with the concurrence of the Academic Senate, placed at his disposal a small former lecture hall in the refectory building for the storage of his demonstration equipment for his psychological lectures and his equipment for personal experimental work.

From the fall of 1879 on, individual students began to occupy themselves with experimental projects in this room in the refectory building. In this way the first study originating from this seminar came about . . . Dr. Max Friedrich's investigation into the duration of apperception during simple and complex ideas . . . This work began in the winter of 1879 and was published as a dissertation in 1883 and in volume 1 of the "Philosophical Studies" . . . In the following semesters several students and younger instructors participated in practica and research projects which initially were not listed in the catalogue.<sup>2</sup>

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<sup>2</sup> Wundt, "Das Institut für experimentelle Psychologie," in

Wundt's simple history outlines the academic context of the new field of study: personal research, lectures in psychology, and general needs of advanced students. When he was offered the post in Leipzig, Wundt asked for a storage room for demonstration apparatus for his lectures, such as he had had in Zürich. He said nothing, however, about plans for an institute. He had to build his case for that very carefully.

In his second semester at Leipzig Wundt offered a general lecture course on psychology.<sup>3</sup> He had the storage room for instruments by March 1876, about the time the lecture course began. It was just a small unused classroom in the old refectory, or Convict, but the university furnished it with two cabinets, three tables, and six chairs--at a cost of 231.75 marks.<sup>4</sup> Although officially only a storage room, it also functioned as a small laboratory for personal research.

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Festschriften zur Feier des 500 jährigen Bestehens der Universität Leipzig (Leipzig: Rektor und Senat der Universität, 1909), vol. 4, 118-119. Translated in Wolfgang G. Bringmann and Gustav A. Ungerer, "The foundation of the Institute for Experimental Psychology at Leipzig University," Psychological Research, 42 (1980), 5-18; 11-12.

<sup>3</sup> A full list of Wundt's lecture courses is given in Eleonore Wundt, Wilhelm Wundts Werk (Munich: Beck, 1927), 69.

<sup>4</sup> Dorothea Fensch, "Zur Rolle Wilhelm Wundts bei der Institutionalisierung der Psychologie in Leipzig," in Psychologiehistorische Manuskripte (I. Herbstsymposium, 29. September bis 1. Oktober 1976, Reinhardtbrunn), ed. Georg Eckardt and Dorothea Fensch (Berlin: Gesellschaft für Psychologie der Deutschen Demokratischen Republik, Dezember, 1977), 60-66; 62. Source: Königliches Ministerium des Cultus und öffentlichen Unterrichts (hereafter, KM) to Universitätsrentamt, 13 March 1876, Staatsarchiv Dresden, Ministerium für Volksbildung, Nr. 10281/322 (Personalakte Prof. d. Philosophie Dr. med. Wilhelm Wundt 1876-1932), fol. 5.

It is significant that the storage room was located near the lecture hall where Wundt taught his course on general psychology. Lecture demonstrations, using the instruments from the nearby storeroom, became his trademark. The American psychologist G.T.W. Patrick recalled that Wundt had apparatus "on a long table on the platform in the lecture room and illustrated his lecture with it. This of course was his great innovation."<sup>5</sup> Such demonstrations were something entirely new to lectures in psychology, which was, after all, a subfield of philosophy. Wundt's psychology course made him internationally famous, and it actually became an attraction for visitors to the city.

These lectures had very large enrollments, and the high level of student interest eventually brought about another use for the instrument collection. Wundt began offering an advanced seminar on psychology [Psychologische Gesellschaft] in his fourth semester at Leipzig, and soon students and "younger instructors" wanted to get hands-on experience in experimental psychology, either informally, or formally for doctoral research and research publications. Since Wundt had already been doing his own research in the room where the teaching instruments were kept, the space conveniently took on a new role.

Personal research alone might well have been carried out at home. In Zürich Wundt had a storage room near his lecture room, but for a while he also had a small laboratory at home for his

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<sup>5</sup> Bird T. Baldwin, ed., "In memory of Wilhelm Wundt," Psychological review, 28 (1921), 153-188; 171.

personal research.<sup>6</sup> For most of their lives in Leipzig, from 1878 to 1911, the Wundts lived in E. H. Weber's former flat in the large university-owned building at Goethestrasse 6.<sup>7</sup> Many university professors lived in that building, just a block away from main classroom buildings, and several did their personal research in the ample quarters there.<sup>8</sup> But the Wundts did not have a laboratory in their apartment; personal circumstances surely prevented it. Their daughter Eleonore was born in 1876, followed by their son Max in 1879. A daughter Lilli, born in 1880, survived only until 1884. Wundt was forty-four the year his first child came. A late marriage and family was nothing unusual among his peers, but young children in the home made it a less suitable location for experimental research.

In Leipzig, moreover, Wundt had the convenience of living close to his work. It was a very concentrated cultural and intellectual setting. Most university facilities were located either within the bounds of the old city or in the new complex of medical and scientific institutes a few blocks to the south. Wundt did not have to go more than a few steps from home to the

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<sup>6</sup> Wolfgang G. Bringmann and Gustav A. Ungerer, "The establishment of Wundt's laboratory: An archival and documentary study," in Wundt studies, a centennial collection, ed. Wolfgang G. Bringmann and Ryan D. Tweney (Toronto: Hogrefe, 1980), 123-157; 124-125.

<sup>7</sup> The Personalverzeichnis of the University of Leipzig gives the addresses of the faculty. A full set of these is available at the Archive of Karl Marx University (hereafter UAL). Wundt himself tells us that he occupied Weber's former apartment. Wundt, Erlebtes und Erkanntes, (Stuttgart: Kröner, 1920), 292.

<sup>8</sup> Dorothea Fensch, op. cit., 62.

lecture hall and his storage-room-cum-laboratory.

## **2. First students in experimental psychology: mostly from mathematics and science background.**

Initially students who were eager to do advanced research in psychology came mainly from the natural sciences and particularly from mathematics. This fact is ironic in light of often-repeated stories about Wundt's lack of scientific ability. G. Stanley Hall, one of the first to participate in experiments in Wundt's laboratory, produced the major printed sources for this knowledge. After Wundt's death Hall recalled: "There was then [1878 or 1879] an impression that Wundt was not very scientific, and there were rumors that Helmholtz had found him too inexact as his assistant."<sup>9</sup> Earlier, in Founders of modern psychology, Hall's biographical essay on Wundt was even more matter-of-fact: ". . . he became for a time an assistant of Helmholtz, who later desiring a helper more accomplished in mathematics and physics, sought another in his place."<sup>10</sup>

Wundt himself protested that Hall's biography of him was "invented, from beginning to end."<sup>11</sup> In fact, it was precisely

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<sup>9</sup> Bird T. Baldwin, ed., "In memory of Wilhelm Wundt, Psychological review, 28 (1921), 153-188; 171.

<sup>10</sup> G. Stanley Hall, Founders of modern psychology (NY: D. Appleton, 1912), 311.

<sup>11</sup> Wundt, Erlebtes und Erkanntes, 155. His first reaction to the German version of Hall's book was Wundt, "Eine Berichtigung," Literarisches Zentralblatt für Deutschland, Nr. 48 (1915), column 1080.

students of mathematics and natural science who were most enthusiastic about experimental psychology in those early days, when Hall himself was in Leipzig. Perhaps their enthusiasm did not preclude occasional doubts about the scientific status of Wundt's new field and the direction of his work. Hall might have been reflecting students' insecurities with their own choice of study as much as with their teacher's abilities. Certainly Wundt had left his career in medicine and physiology behind. But as a philosopher, he had every intention of incorporating science in his work, and he apparently welcomed interaction with students of science.

Some of Wundt's following was already prepared for him when he arrived in Leipzig. The Herbartian philosophers, Drobisch and Strümpell, had "maintained a friendly relationship between philosophy and the positive sciences [die Tradition eines befreundeten Verhältnisses der Philosophie und der positiven Wissenschaften aufrecht erhielt]."<sup>12</sup> Particularly Drobisch, a mathematician-turned-philosopher with a particular interest in philosophical foundations of statistics, must have had a following among science students. And of course, the astrophysicist Zöllner had for some years been attracting mathematics and science students to his lecture courses on psychological and philosophical topics.<sup>13</sup>

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<sup>12</sup> Wundt, Erlebtes und Erkanntes, 295-296.

<sup>13</sup> Jürgen Hamel, "Karl Friedrich Zöllners Tätigkeit als Hochschullehrer an der Universität Leipzig: Ein Beitrag zur Geschichte der Institutionalizierung der Astrophysik," NTM: Schriftenreihe für Geschichte der Naturwissenschaften, Technik und Medizin, 20 (1983), 29-33. A compilation of enrollment numbers

One particular connection between Wundt and mathematics in his early years in Leipzig indicates another path by which mathematics students in particular may have come to experimental psychology. Beginning a cycle of administrative service which culminated in the university rectorship in 1889/90, Wundt became dean [Dekan] of the Philosophical Faculty in winter-semester 1881-82, and his friend Friedrich Zarncke was rector, the highest faculty officer. That same semester, Wundt's name first appeared among the listings for university institutes, as one of the curators, with Felix Klein, of the collection of mathematical instruments and materials called the Czermak'sches Spectatorium.

Wundt remained a curator of the Spectatorium, even after the Institute for Experimental Psychology was established, until Klein moved to Göttingen in 1886 and his successor Sophus Lie reorganized the collection as part of the Mathematical Institute.

The biographical and autobiographical material on Wundt never mentions the Spectatorium, but given his interest in scientific instruments, it is possible that this formal connection put Wundt in contact with some of the mathematics students who took doctorates with him in the 1880s. Wundt's connection with mathematics students in particular was complemented by a second, more compelling connection between Wundt and students of both science and mathematics at Leipzig.

By and large, university students who studied mathematics

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for Zöllner's lectures, compiled by a school group [astronomische Schüलगemeinschaft] in Leipzig and kindly made available to me by their teacher, G. Münzel, shows that a plurality of those enrolled in Zöllner's philosophical lectures were students of mathematics.



and natural sciences at that time planned to teach those subjects in the Gymnasien (the Classical high schools) and the Realgymnasien (the modern high schools which featured science and modern languages). Philosophy (with emphasis on logic, ethics and psychology) was a required field in the state teacher's exams [Staatsexamen], so many students encountered Wundt during preparation for these exams. Additionally, some saw him during the examination itself, because Wundt was one of the examiners in philosophy.

Wundt served as an examiner until 1910; however, during the 1880s he also chaired the examination commission for teacher candidates in mathematics and natural sciences.<sup>14</sup> Many were undoubtedly pleased to encounter, instead of a dry, philologically oriented philosopher, a man educated in medicine and accomplished in experimental science, a man who was developing a "scientific approach" to philosophy. It is not difficult to see how Wundt's work found an enthusiastic reception among mathematics and science students during his first years at Leipzig and why some of them chose to do doctoral work with him following their state exams.

An institute for experimental psychology was a natural, if not necessary, development. German universities were establishing and enlarging institutes in the scientific fields at a fast tempo at the time. Wundt's connections to the mathematics and science students explain some of the otherwise curious

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<sup>14</sup> Wundt's examination seats are listed in the Personalverzeichnis of Leipzig University.

statements in Wundt's applications for support for his laboratory.

### **3. Formal applications for state support for an institute.**

Such applications had to address the concerns of the administrative authority, in Wundt's case the Royal Saxon Ministry of Religion and Public Education [das Königliche Sächsische Ministerium des Kultus und öffentlichen Unterrichts] in Dresden. As in other German states, a single ministry managed both religious and educational affairs for Saxony. In Prussia medical affairs also were included under a similar ministry. Wundt first tried to get regular funding for his laboratory in 1879, when advanced students actually began working with the equipment in his storage room. The Ministry, however, had already been giving some support to his work in experimental psychology before that. Wundt began receiving an extra 600 marks annually in 1876 as a personal Gratifikation for his experimental work.<sup>15</sup> And of course he got his storage room near his lecture hall. In 1879, the 600 mark Gratifikation was apparently converted to a 900-mark raise, as his salary went from 1500 Thaler to 5400 marks.<sup>16</sup> Heartened by the raise, Wundt attempted

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<sup>15</sup> Dorothea Fensch, op. cit., 63. Source: KM to Universitätsrentamt, 17 January 1876, Staatsarchiv Dresden, ibid., fol. 2.

<sup>16</sup> Dorothea Fensch, ibid., 63. Source: KM to Universitätsrentamt, 1 January 1879, Staatsarchiv Dresden, ibid., fol. 9.

to get his laboratory into the regular budget, i. e. to have an institute with status apart from his personal research and demonstrations for his lectures. By then he had a few students ready to do advanced research.

Wundt's first applications did not actually use the word "institute." In March of 1879, he simply asked for an annual budget of 600 marks to improve his collection of demonstration apparatus and make it available for an advanced course in experimental psychology. Wundt declared that he had always intended to provide such "exercises" [Übungen] as soon as he was convinced of his teaching "effectiveness" [Wirksamkeit] in the university. The "theoretical exercises" (the reading seminar on psychology) enjoyed such "enthusiastic participation" [eifrige Beteiligung] that the instructor could not hope to meet anticipated demand for "practical exercises" solely from his own resources. He therefore needed the 600 marks "for the building and maintenance of psychological apparatus for students' exercises and as teaching aids for the lectures on psychology" [für die Herstellung und Erhaltung eines psychophysischen Apparats zu Übungen der Studierenden und als Lehrmittel zu den Vorlesungen über Psychologie].<sup>17</sup> The emphasis on instruction rather than on personal research is of course natural in such an application for funding.

The Ministry declined his request for a regular budget for

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<sup>17</sup> Dorothea Fensch, ibid., 63. Source: Wundt to KM, 24 March 1879, Staatsarchiv Dresden, ibid., fol. 11f.

instruments.<sup>18</sup> Wundt's plan for an official institute had to wait, but he proceeded with the unofficial institute, and advanced students started to work in his storage room by the fall. In spite of his stated doubts about such an arrangement, he financed the work out of his own pocket and from special laboratory fees paid by the participants.

Three years after the first attempt failed, Wundt applied again, this time not just for money for apparatus, but specifically for the establishment of a "seminar for experimental psychology." At this point Wundt had been at Leipzig for seven years. He was half-way through his one-year term as dean of the Philosophical Faculty. He also was associated with an institute, the Czermak'sches Spectatorium. Wundt had learned some of the ropes of university administration and realized that regular state support depended upon the Ministry's interest in producing people with certain types of training.

Wundt's letter to Cultusminister von Gerber, dated April 4, 1882, carefully reviewed academic achievements to date, as well as concrete plans for the future.<sup>19</sup> Wundt started out in a fashion similar to the earlier application: he had planned a "seminar for experimental psychology [Seminar für experimentelle

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<sup>18</sup> Dorothea Fensch, ibid., 64. Source: KM to Wundt, 27 March 1879, Staatsarchiv Dresden, ibid., fol. 13. Also a copy at UAL, Phil. Fak. Bl/14(raised)37 Bd III (Psychologisches Institut 1879-1917), Bl. 45.

<sup>19</sup> Dorothea Fensch, ibid., 64. Source: Wundt to KM, 4 April 1882, Staatsarchiv Dresden, ibid., fol. 14-17r. Also Wundt's draft of that letter in UAL, ibid., Bl. 46-48, typewritten transcription on Bl. 49-51.

Psychologie]" since coming to Leipzig in the fall of 1875. But he decided to delay this undertaking until he had proved his effectiveness as a teacher, "a prerequisite for establishing such a seminar [die zu einer solchen Seminarthätigkeit erforderlichen Vorbedingung]." Informal meetings for psychological experiments began in the winter-semester 1879/80 and "a seminar devoted to such laboratory exercises [eine praktische Seminarthätigkeit der gedachten Art]" was announced in the course catalogue beginning summer-semester 1880. The expenses for materials were paid by the instructor.

The application continued with supporting circumstances. It was much more detailed than the application of 1879 and very explicit on how this research was both attractive and useful to students. The number of students interested in this seminar, Wundt explained, was much larger than expected.

Not only students of philosophy in the narrow sense came (only a few of these are interested in such a subject anyway); rather, more came from physics and mathematics, attracted by the field of psychophysics. The undersigned believes that, precisely for these students of natural science and mathematics, such activity with experimental work is not simply of interest as a binding substance between the professional area and general philosophy; rather, this activity, by the training in direct observation which it involves, can be of use in their special areas.

[Nicht bloss Studierende, welche die Philosophie in engeren Sinne zu ihrem Specialstudium gemacht, und deren Zahl der Natur der Sache nach noch eine sehr beschränkte ist, sondern mehr noch Studierende der Mathematik und Physik haben sich eifrig an den psycho-physischen Arbeiten betheiligt. Auch glaubt der Unterzeichnete es wohl aussprechen zu dürfen, dass gerade für die Studierenden der Naturwissenschaften und der Mathematik die Beschäftigung mit experimentellen Arbeiten dieser Art nicht nur Bindemittel zwischen dem Berufsfach und den allgemeinen philosophischen Interessen sein kann, sondern dass diese Beschäftigung noch durch die Übung in direkter Beobachtung, die sie mit sich führt, den speziellen Fachinteressen . . . zu statten kommen dürfte.]

Products of work in this seminar were "some doctoral dissertations which were well-received by the Philosophical Faculty [einige hierher gehörende Inaugural-Dissertationen, die von der philosophischen Fakultät approbiert worden sind]" and Wundt's new journal, Philosophische Studien, which included doctoral dissertations based on the seminar's researches.

The rapid development of experimental psychology, Wundt pointed out, was straining the resources of the instructor. Moreover, the present financial arrangement limited research in a field which had much potential. In other words, Wundt made it

clear that psychology at Leipzig had outgrown his private resources--it was high time for the Ministry to give official support to an institute.

To give clinching evidence of his success, Wundt noted that his lecture aids had become inadequate. For example, he had to use tables and illustrations originally prepared for a class of 25 students, although there were now over 250 students in his lecture course on general psychology. Here Wundt casually but effectively pointed out the extent of his popularity as a teacher, that self-imposed prerequisite to establishing a seminar for experimental psychology.

Those were the grounds for the request of a 900 mark budget. If this could not enter the regular budget for 1882 and 1883, Wundt concluded, then the request was for a special grant of 900 marks for each year.

Wundt's suggestion that the work of natural scientists would benefit from training in experimental psychology echoes Zöllner's original interest in Wundt's work. There is no ready example, however, of a physical scientist who left Wundt's laboratory and applied improved understanding of perception to research in physics or chemistry, as Zöllner had envisioned. Perhaps Wundt simply mentioned that possibility because it was familiar to the educational ministry. He may also have wanted to make a subtle connection to natural sciences, in hopes of sharing the blessings of institute funding for sciences. In fact, the science and mathematics students who took doctorates in philosophy with Wundt, writing on experimental psychology, tended to teach

science and mathematics in the better Gymnasien. It is questionable whether these particular people made any use of their training in experimental psychology at all in the actual exercise of their professions. But they did help Wundt build up a sizable group of experimental studies on which to base further research.

Ministerial responses and further applications developed as follows:

April 8, 1882. The Ministry grants 900 marks for 1882, but refuses to instate a regular budget "for the seminar for experimental psychology which you founded and which is under your direction [für das von Ihnen begründete und unter Ihrer Leitung stehende Seminar für experimentelle Psychologie]."<sup>20</sup> The Ministry accepted Wundt's claim that he founded a "seminar for experimental psychology" in 1879, so we might as well accept that year, as Wundt himself did, as the birthyear of the Leipzig Institute for Experimental Psychology, even though the word "Institute" was not used until a few years later.<sup>21</sup>

December 9, 1882. Wundt asks for 900 marks for the year 1883, as well as permission to use 500 marks left over from 1882 in the

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<sup>20</sup> Dorothea Fensch, ibid., 65. Source: KM to Wundt, 8 April 1882, Staatsarchiv Dresden, ibid., fol. 18. Also a copy in UAL, ibid., Bl. 52.

<sup>21</sup> There has been some controversy on this point. The issue is reviewed, with overwhelming evidence in favor of the date 1879, by Wolfgang G. Bringmann and Gustav A. Ungerer, "The foundation of the Institute for Experimental Psychology at Leipzig University," Psychological research, 42 (1980), 5-18.



coming year.<sup>22</sup> This frugality is curious, considering that the object was to make a case for funding. Perhaps Wundt wanted to give the impression of careful spending, since he only had a half-year to use that year's budget.

December 12, 1882. The Ministry grants 900 marks for 1883 and also permission to spend in that year any money left over from 1882.<sup>23</sup>

March 17, 1883. Wundt drops the term "Seminar" and refers to "Institute" from here on. Since it is time to plan the budget for the next academic year, and since the Ministry has already supported the Institute for two years running, Wundt asks once again for establishment of a regular, annual budget of 900 marks. He refers to the grounds given in his long application of April 4, 1882, and notes that the Institute has since then produced more doctoral dissertations based on psychological research and that the Philosophische Studien are now in the fourth issue.<sup>24</sup>

March 20, 1883. The Ministry acknowledges the request and promises to give it consideration while preparing the budget. It still refers to "Seminar" rather than "Institute."<sup>25</sup>

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<sup>22</sup> Dorothea Fensch, op. cit., 66. Source: Wundt to KM, 9 December 1882, Staatsarchiv Dresden, op.cit., fol. 20-21.

<sup>23</sup> KM to Wundt, 12 December 1882, UAL, ibid., Bl. 53.

<sup>24</sup> Wundt to KM, 17 March 1883, UAL, ibid., Bl. 54, 55 (typewritten transcription, 56).

<sup>25</sup> KM to Wundt, 20 March 1883, UAL, ibid., Bl. 57.

#### 4. Wundt's Breslau Berufung clinches establishment of the Leipzig Institute.

June 6, 1883, with more justice than any other single date, marks the final, formal establishment of the Institute for Experimental Psychology at Leipzig. On that date the Ministry issued a letter detailing Wundt's rewards for turning down the offer of a professorship at Breslau.<sup>26</sup> Wundt would later carefully coach his students to take full advantage of such job offers to negotiate better terms for remaining at a university. For agreeing to stay at Leipzig Wundt received:

- (1) A raise in annual salary, as of July 1, 1883, from 5400 to 7500 marks.
- (2) A grant of 1200 marks for his seminar for the next year.
- (3) Additional space for the seminar, as well as remodelling and appropriate fixtures.
- (4) Entry of the "Seminar für experimentelle Psychologie" into the university catalogue.

In the matter of item four, there was no quibble over the precise name. Although the Ministry actually requested the Academic Senate (technically in control of courses and institutes) to list a "Seminar für experimentelle Psychologie,"<sup>27</sup>

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<sup>26</sup> KM to Wundt, 6 June 1883, UAL, ibid., Bl. 58.

<sup>27</sup> KM to Akademischen Senat der U. Leipzig, 6 June 1883, UAL, RA 979 (Universitäts-Rentamt, Psychologisches Institut 1882), Bl. 5.

it probably did so only because it was accustomed to using the term "Institute" for natural sciences and "Seminar" for other fields. The catalogue for winter-semester 1883/84 showed the name Wundt had been using for several months, "Institut für experimentelle Psychologie."

As an addendum to the second item, apparently settled in the negotiations between Wundt and Kultusminister von Gerber, the next university budget officially committed 1200 marks yearly to the Institute for Experimental Psychology, as a letter from the Ministry informed Wundt.<sup>28</sup> Wundt's raise in salary, item one, needs no comment.

#### **5. Quarters for the Institute for Experimental Psychology.**

The third item, space for the Institute, was very significant to Wundt and to experimental psychology. With this one stroke, Wundt expanded his domain from one small storage room into a real, if still modest, institute. This decision cost the university something in immediate outlay and in long-term commitment.

The Rentamt (the office combining functions of "buildings and grounds" and university bursar) prepared a detailed description of plans and costs for the Institute.<sup>29</sup> The anteroom

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<sup>28</sup> KM to Wundt, 1 April 1884, UAL, Phil Fak Bl/14(raised)37 Bd III (Psychologisches Institut 1879-1917), Bl. 59.

<sup>29</sup> Universitäts-Rentamt to KM, 31 July 1883, UAL, RA 979 (Universitäts-Rentamt, Psychologisches Institut, 1882), Bl. 7-13.

of Wundt's storage room was divided to produce a darkroom and storage space for equipment (a and b on Figure 3.1). A nearby classroom (No. 3) was divided to produce two workrooms (labelled c and d). The new Institute therefore consisted of three workrooms: Wundt's original storage space of 37 square meters (Auditorium No. 5), the two new workrooms of 17 and 37 square meters, and a much smaller darkroom and antechamber for equipment storage. Wundt's office [Sprechzimmer] and the large auditorium where he lectured (Auditorium No. 4 on the sketch) were both conveniently close to the research space.<sup>30</sup>

The Rentamt also described the redecorating of the Institute's rooms. They were provided with winter windows, jalousies, a cleaning and fresh paint, gas and electric connections, and furniture: two cabinets, five tables, and twelve chairs. Total cost: 1614 marks, detailed down to the last nail. The single most expensive entry in the list was 500 running meters of electric wire costing 150 marks. These quarters and furnishings heralded the establishment of what William James had a few years earlier called the "new prism, pendulum, and galvanometer philosophers" and what came to be known as the "Brass Age of psychology."<sup>31</sup> The Institute was ready for use by the beginning of winter-semester 1883/84.

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<sup>30</sup> Wundt himself remarked on this advantageous feature of the first Institute, Erlebtes und Erkanntes, 291.

<sup>31</sup> William James, "Review of Wundt's Principles of physiological psychology," North American review, 31 (1875), 195-201; reprinted in Wundt studies, a centennial collection, ed. Wolfgang G. Bringmann and Ryan D. Tweney (Toronto: Hogrefe, 1980), 115. Robert C. Davis, "Exhibit review: The Brass Age of psychology," Technology and culture, 11 (1970), 604-612.

Dorothea Fensch remarked that Wundt had literally to fight for every table, chair and cabinet. ["Ja, Wundt hat buchstäblich um jeden einzelnen Tisch, Stuhl oder Schrank gerungen."]<sup>32</sup> Indeed Wundt's attention to detail was uncanny to the point of pettiness. Yet that is precisely how he managed to put together a great institute--little by solid little. With the difficult battles of the beginning behind him, Wundt began to make gains more easily.

The Institute expanded in the summer of 1889 by taking over two rooms in an adjoining building (the wing of the Beguinenhaus in Figure 3.2) which were vacated when the department of pharmacology moved to the medical area in the Liebigstrasse.<sup>33</sup> This expansion gave the Institute a total of five workrooms, plus the darkroom.

There were more expansions to come. When Wundt was rector of the university in 1889-90, plans were being drawn up to rebuild a substantial part of the university. The main buildings would be enlarged, and the Convict, the first home of the Institute, had to be razed. The Institute for Experimental Psychology would move into the remodeled university, but for a few years it would need temporary quarters.

Shortly after his term as rector ended, Wundt wrote a memo

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<sup>32</sup> Dorothea Fensch, op. cit., 62.

<sup>33</sup> Wundt, "Psychophysik und experimentelle Psychologie," in Die deutsche Universitäten (für die Universitätsausstellung in Chicago 1893, unter Mitwirkung zahlreicher Universitätslehrer), ed. W. Lexis, vol. 1 (Berlin: A. Asher, 1893), 452.

describing the Institute and the space required for its work.<sup>34</sup> The number of participants, he wrote, had by summer-semester 1889 reached the desired maximum: eighteen, plus the Institute Assistant, the Famulus (student assistant) "who functions as a second assistant," and of course Wundt himself. The nature of the research permitted only one project in any room at a time, and the Institute was fully occupied from early until late each day. A research group typically consisted of three persons, so the Institute needed at least one more workroom, six in all for students. In addition, Wundt requested a workroom for the Institute Assistant and one for himself, so that his office [Sprechzimmer] could be cleared of apparatus. That would make a total of eight workrooms, plus the darkroom. The new quarters had to be free of street noise, preferably facing the inner courtyard. At least some of the rooms had to have southern exposure to allow the use of direct sunlight. Wundt recommended that the Institute be located on the third floor, as the present one was. He also reminded the administrators that the auditorium for the psychology lectures would need a storage room for demonstration apparatus. Wundt concluded his Institute's requirements by asking that the interim quarters fulfill those same specifications and so allow the work of the Institute to continue.

Suitable temporary quarters were found--an entire floor of

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<sup>34</sup> Wundt to KM (draft only), December 1890, UAL, Phil Fak B1/14(raised)37 Bd III (Psychologisches Institut 1879-1917), Bl. 27-30.

Grimmaische Steinweg 12, a building called Trierianium. Again the Institute profited by the relocation of a department (this time gynaecology) to the new medical area. The Institute remained at that address from fall 1892 to fall 1896, four of the most decisive years of Leipzig psychology. It expanded from five workrooms to eleven, more than the eight Wundt had requested; the largest room served as the library of the Institute. The move into grand quarters in the remodeled university building will be discussed in Chapter Eight. The previous chapter told how Wundt developed his technology, the present one how he acquired his capital; there remains a discussion of his acquisition of labor, i.e., the people who staffed the Institute.

## **B. Personnel**

### **1. Student helpers.**

Before Wundt had an institute or even a storage room in Leipzig, he sought out a student to aid him in his effort to promote experimental psychology. The student assistant, or Famulus, helped the professor get to lecture with any materials needed and generally assured that the lecture hall was prepared for class. Since Wundt used demonstration apparatus in his psychology lectures, his Famulus also gained familiarity with his apparatus. The role of Famulus expanded as the storage room developed into the Institute. In payment for his help with the courses, the Famulus did not have to pay the course enrollment

fees. In fact, he received a small sum from each student enrolled. Wundt's courses often had enrollments in the hundreds, so these fees could amount to a considerable wage. It appears that Wundt usually chose talented, sometimes older, students who were in need of such financial support.<sup>35</sup>

Shortly after he arrived in Leipzig, Wundt asked Dr. Hans Vaihinger, as one who was active in the Leipzig Academic Philosophical Club [Akademisch-philosophisches Verein], to recommend a student to be his Famulus.<sup>36</sup> Wundt had been involved in similar clubs in Heidelberg and Zürich, and, as it turned out, psychology was a major interest of the Academic Philosophical Club at the time. Fechner was a revered honorary member and patron, and Zöllner lavished books upon the club's library, occasionally interesting the members in spiritism, his consuming passion in those days.

This active organization gave Wundt contact with Leipzig's young philosophers during his first weeks there, but his interest in the club was short-lived.

It is possible that Wundt's impressions of philosophy students in the club made him all the more interested in students of science and mathematics. In any case, Max Heinze became the club's sponsoring professor, and according to the minutes, Wundt

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<sup>35</sup> This is based on the memory of one such Famulus: "F. Kiesow," in A history of psychology in autobiography, vol. 1, ed. Carl Murchison (Worcester, MA: Clark U. Press, 1930), 163-190; 169.

<sup>36</sup> Wundt to Hans Vaihinger, 22 October 1875, UAL, Wundt Nachlass, Nr. 904.



attended meetings only twice. Shortly after requesting Vaihinger's advice, Wundt came to hear him lecture to the club on epistemology. The minutes for that meeting list Wundt, Heinze, Richard Avenarius, and a certain Dr. Wolff as discussants.<sup>37</sup> A half-year later Wundt gave a lecture to the club on the concept of infinity in cosmology.<sup>38</sup> In 1880 he agreed to give the lecture for the club's Kant celebration, but then he cancelled, complaining of overwork. By that time his interaction with the club was limited to the donation of an occasional book to their collection. Later, around the turn of the century, some of Wundt's psychology students were very active in the club, but it was never again as preoccupied with psychology as it was when Fechner and Zöllner were still alive and Wundt had just arrived in Leipzig.

Since there is no record of Wundt's Famulus until his Institute appeared in the catalogue in 1883, it cannot be determined whether his first student assistants came to him by way of Vaihinger and the Academic Philosophical Club. It is possible that they came instead through Wundt's contact with students preparing for teacher's examinations in mathematics and natural science. When Wundt's Institute first appeared in the catalogue for winter-semester 1883/84, stud. math. Gustav Lorenz was listed as Famulus. G. Lorenz got his doctorate with Wundt in

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<sup>37</sup> Protokollbuch des Akademisch-Philosophischen Vereins zu Leipzig Universitätsbibliothek der Karl-Marx-Universität Leipzig, Abteilung für Handschriften und Inkunabeln, MS01304, entry for 1 November 1875.

<sup>38</sup> Ibid., entry for 26 June 1876.

1885. In summer-semester 1885, Carl Lorenz (a relative?) took his place. A mathematics student like the other Lorenz, he was Famulus until winter-semester 1887/88. He wrote a dissertation on musical tone intervals in 1890,<sup>39</sup> a study that precipitated a bitter controversy between Wundt and his leading competitor in German psychology, Carl Stumpf. (See Chapter 7.)

## **2. The first Institute Assistants.**

When the Institute was formally established in 1883, the Famulus had certain duties there, and the building custodian picked up extra cash by acting as "institute servant." Soon, however, activity in the Institute outgrew this informal arrangement. As Wundt remembered, his American student James McKeen Cattell good-naturedly prodded him into taking an assistant:

In the early years I did without an assistant altogether. Even though there was an institute servant, whose duties I entrusted to a university custodian, it was an inadequate arrangement. One day Cattell came up to me and proclaimed, with typical American determination: Herr Professor, you need an assistant,

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<sup>39</sup> The Personalverzeichnisse list the Institute staff for every semester. Wundt's doctoral students and the titles of their dissertations are compiled in Anneros Metge, "Doktoranden Wilhelm Wundts," Wissenschaftliche Zeitschrift der Karl-Marx-Universität Leipzig, Gesellschafts- und sprachwissenschaftliche Reihe, 29 (1980), 161-166.

and I will be your assistant!

[In den ersten Jahren entbehrte ich eines solchen [Assistenten] überhaupt, und selbst mit einem Institutsdiener, mit dessen Pflichten einer der Universitätsaufwärter betraut wurde, war es nur kümmerlich bestellt. Da trat eines Tages Cattell an mich heran und erklärte mit bekannter amerikanischer Entschlossenheit: Herr Professor, Sie bedürfen eines Assistenten, und ich werde Ihr Assistent sein!]<sup>40</sup>

Cattell was Institute Assistant for the academic year 1885/86; then he went back to the States, Wundtian doctorate in hand, to pioneer laboratory psychology there.

An administrative document gives a picture of the internal organization of the Institute at this time, as well as the flavor of the typical Wundtian attention to detail. The building custodian was replaced in September of 1886,<sup>41</sup> and Wundt and the Rentmeister had to clear the air on how some costs were to be covered.<sup>42</sup> The Institute's budget was for equipment only, as Wundt had understood from his negotiations with Cultusminister von Gerber "on the occasion of his application for approval of an

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<sup>40</sup> Wundt, Erlebtes und Erkanntes, 312.

<sup>41</sup> The Personalverzeichnis lists Hermann Hartmann as the first Aufwärter for the Institute for Experimental Psychology, and then Christian Untucht as of winter-semester 1886-87.

<sup>42</sup> Universitätsrentamt to KM, 20 September 1886, UAL, RA 797 (Universitäts-Rentamt, Psychologisches Institut, 1882), Bl. 14-15.

institute for experimental psychology at this university [bei Gelegenheit seines Antrags auf Bewilligung eines Instituts für experimentelle Psychologie an hiesiger Universität]." The outgoing custodian had rendered service beyond the call of normal duty (not just the usual maintenance and cleaning, perhaps mechanical help with instruments?), so Wundt had collected two marks from each Institute participant to give to the custodian. However, Wundt considered it to be "compensation for personal service which the custodian was often in the position to render; it should certainly not be considered even as partial payment for maintenance and cleaning work, which the Institute would in any case require [eine Vergütung für persönliche Dienste, die der Castellan leisten zu müssen sehr oft in die Lage komme, nicht aber solle dieselbe eine, wenn auch teilweise Entschädigung sein für die Aufwärterdienst und Reinigungsarbeiten, welche das Institut jedenfalls bedürfe]." So Wundt asked that the new custodian be instructed to clean and maintain the Institute as if it were any other classroom.

In the meantime the volunteer Institute Assistant, Cattell, had worked out very well. The experienced custodian was gone, so the need for an Institute Assistant was even greater. Wundt hired Ludwig Lange, who had just gotten his doctorate. Lange then was Wundt's first assistant to have that degree, a normal requirement for an institute assistant in German universities. Years later, Lange proudly recalled that he had participated in the "technical and philosophical establishment [technischer und philosophischer Begründung]" of Wundt's Institute by serving as

"the first paid assistant [erster remunerirter Institutsassistent]." <sup>43</sup>

Lange, as the next chapter will explain, intended to continue as assistant, but illness forced him to leave the position. In April 1888, the Ministry approved the salary of 900 marks for that year for Dr.ph. Oswald Külpe as Institute Assistant and an extra 225 marks for services performed in October, November, and December of 1887. <sup>44</sup> Külpe actually began as an emergency replacement for the ingenious but unhealthy Lange, but he served several years as Institute Assistant and then achieved independent fame as a philosopher and psychologist.

Wundt occasionally hired, at his personal cost, additional "private assistants," and he managed to get budgeting for an official "second assistant" in 1897. (Appendix I charts the personnel of the Institute.)

So by 1887, the Institute for Experimental Psychology was firmly established, in terms of its facilities, personnel and research program, about which more in the next chapter. Between 1887 and 1894 Külpe helped the Institute achieve international fame as a research center. His Einführungskursus, a sort of standard introduction to laboratory methods, trained a substantial proportion of the world's early experimental psychologists, as Wundt withdrew somewhat from the laboratory to

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<sup>43</sup> Lange to Sophie Mau Wundt, 1 July 1917, UAL, Wundt Nachlass, Nr. 433i. Lange recalled that he was assistant from 1885 to 1887, but that must have been a lapse of memory.

<sup>44</sup> KM to Wundt, 20 April 1888, UAL, Phil. Fak., etc., Bl. 1.

devote more time to writing philosophy. In response to increased interest in psychology in the early 1890s, the lecture course on general psychology was given every semester, alternately by Wundt and Külpe.<sup>45</sup> The yearly budget went for materials, particularly to pay for brass instruments which Wundt and his students invented and refined. Until the late 1880s the precision machinist Carl Krille built most of this apparatus. After Krille died, Emil Zimmermann's precision mechanics firm, founded 1887, began building instruments for the Institute and reproducing Leipzig equipment to market throughout the growing world of experimental psychology.<sup>46</sup>

### **C. Wundt's journal of experimental psychology, Philosophische Studien.**

#### **1. The context of a new specialized journal: doctoral dissertations.**

The social context of early experimental psychology is

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<sup>45</sup> "F. Kiesow," in A history of psychology in autobiography, vol. 1, ed. Carl Murchison (Worcester, Mass.: Clark U. Press, 1930), 163-190; 168.

<sup>46</sup> Wundt, "Das Institut für experimentelle Psychologie," in Festschriften zur Feier des 500 jährigen Bestehens der Universität Leipzig (Leipzig: Rektor u. Senat der Universität, 1909), vol. 4, 130. See also the published facsimile of the catalogue of Wundt's house mechanic: E. Zimmermann, Leipzig. XVIII. Preis-Liste über psychologische und physiologische Apparate, 1903 (Faksimilenachdruck 1983: FIM-Psychologie Modellversuch, Universität Erlangen-Nürnberg und Institut für Geschichte der Neueren Psychologie, Universität Passau, in Zusammenarbeit mit den Sondersammlungen des Deutschen Museums München).

illuminated in the founding of Wundt's journal. The Institute and the journal were nearly simultaneous efforts by Wundt. Both were designed to promote his new branch of learning by attracting doctoral students and serving their needs. The large number of Leipzig doctoral dissertations in experimental psychology took that new discipline to an important point in its establishment within the German academic system. There were others involved in the work of the Institute, but the doctoral students were always a central concern, since, as Wundt's applications for funding repeatedly indicated, they legitimized the Institute's existence in the university.

One way to see how the work of these students fit into Wundt's master plan is to describe the development of editions of his most important text. The Grundzüge der physiologischen Psychologie (first edition, 1873/74) was Wundt's masterpiece, his most influential written contribution to experimental psychology.

Each of the six editions sought to encompass all of experimental psychology. It was the indispensable handbook. Wundt's first proposal to his publisher, Rudolph Engelmann, specified five sections for the book: (1) physiological characteristics of the nervous system, (2) doctrine of sensation and apperception, (3) doctrine of organic movements, (4) criticism of psychological doctrines, and (5) a general theory of psychophysical occurrences. In the first two editions, the last two parts got the short shrift. Whereas the sections on physiology made up more than half the pages, the philosophical arguments were barely developed at all. The second and third parts were, as Wundt described

them, "the empirical material of physiological psychology proper."<sup>47</sup> To simplify, all six editions of Grundzüge had essentially three divisions: a long review of physiological bases of sensory perception, followed by psychology proper of the different senses and mental functions, and ending with general philosophical discussions. It was Wundt's style to make a very thorough survey of the literature available on each particular topic and to emphasize experiments wherever possible.

It was to enrich the middle division, with its psychological experiments, that Wundt put his advanced students to work in his storage room. They undertook very methodical and exacting tasks: determination of sensory capacities and limits, reaction-time experiments, the investigation of mental processes such as association of ideas. Much of the theoretical and methodological groundwork had already been laid by Wundt and others. But Wundt was the first to attempt a general and sustained program for experimental investigation of a wide range of sensory perception and mental processes. He was the first to attract a line of doctoral students to this enterprise.

Work by advanced students in the "pre-institute" contributed to the second edition of the Grundzüge (two volumes, 1880), which set out a framework for the organization of laboratory work much more clearly than the first edition did. In the second volume, a section on "Apperception and sequence of presentations

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<sup>47</sup> Wundt to Rudolph Engelmann, 8 December 1872, translated in S. Feldman, "Wundt's psychology," American journal of psychology, 44 (1932), 615-629; 616.



[Apperception und Verlauf der Vorstellungen]" reported on reaction-time experiments that Wundt carried out with his first group of advanced students. Wundt also announced that one student's research, that of Max Friedrich, would be published soon. He did not specify where that research would appear.<sup>48</sup> Experiments by Wundt's students and eventually those of other investigators in the growing field of experimental psychology filled the next four editions of Grundzüge (1887, 1893, 1902/03, 1908-11), and Wundt was even working on a seventh edition when he died in 1920!<sup>49</sup>

Why were advanced students interested in Wundt's work, and what did he do to attract them and keep them coming to him? Edwin G. Boring's writings on history of psychology feature the Zeitgeist, the notion that experimental psychology was an idea whose time had come. There is some truth in that simple formulation. But Wundt also took concrete measures to bring doctoral students to experimental psychology. He provided students with backgrounds in mathematics and physical science the opportunity to exercise their experimental skills in a new branch of philosophy, experimental psychology, under the direction of an experienced physiologist. The "doctorate in psychology" with Wundt was their ticket to jobs in better Gymnasien. Max Friedrich, Ernst Tischer, and Martin Trautscholdt--the earliest

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<sup>48</sup> Wundt, Grundzüge der physiologischen Psychologie, 2nd ed. (Leipzig: Engelmann, 1880), vol. 2, 247-260.

<sup>49</sup> Wilhelm Wirth to Wundt, 12 June 1920, UAL, Wundt Nachlass, Nr. 950.

doctoral students in Wundt's Leipzig laboratory--all became secondary-school teachers, and years later Wundt proudly noted their professional achievement.<sup>50</sup>

Wundt also helped his doctoral candidates publish their dissertations. Most German universities required, besides the fees for the degree, the typesetting and printing of a minimum number of copies of the dissertation, from 150-300, depending on the university.<sup>51</sup> Wundt's doctoral students could do this more easily and less expensively because their advisor published his own journal. From its inception this was the idea behind the "first journal of experimental psychology," as historians of psychology refer to Wundt's journal.

## **2. Wundt's connections to editors and publishers.**

Starting a journal was no easy thing, particularly for a professor with relatively low income. Wundt, however, had certain advantages. He was an accomplished textbook writer when he arrived in Leipzig, having published five textbooks on physiology or psychology, some already in further editions and translations.<sup>52</sup> He had already worked closely with editors of

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<sup>50</sup> Wundt, "Das Institut für experimentelle Psychologie," in Festschriften zur Feier des 500 jährigen Bestehens der Universität Leipzig (Leipzig: Rektor u. Senat der Universität, 1909), vol. 4, 119.

<sup>51</sup> See requirements for the various German universities in Minerva, Jahrbuch der gelehrten Welt, 2 (1892-1893).

<sup>52</sup> Beiträge zur Theorie der Sinneswahrnehmung (Leipzig and Heidelberg: C. F. Winter, 1862); Vorlesungen über die Menschen-und Thierseele, 2 vols. (Leipzig: L. Voss, 1863);

journals, as a reviewer of physiological and, more recently, psychological and philosophical literature. Wundt also contributed to three new philosophical journals that were specifically interested in psychology:<sup>53</sup> the British journal Mind, a quarterly review of psychology and philosophy (founded by Alexander Bain and editor J. Croom Robertson in 1876), Vierteljahrsschrift für wissenschaftliche Philosophie (founded by Richard Avenarius in 1877), and the French journal, Revue philosophique de la France et de l'étranger (founded 1876 by Théodule Ribot).<sup>54</sup>

In 1875, while Wundt was still in Zürich, he received a letter from the British philosopher J. Croom Robertson. Robertson reminisced about their acquaintance in Heidelberg a decade earlier, when he had given Wundt a copy of Alexander

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Lehrbuch der Physiologie des Menschen (Erlangen: F. Enke, 1864-65, 1868 [2nd ed.], 1872 [French trans.], 1873 [3rd ed.]); Handbuch der medicinische Physik (Erlangen: F. Enke, 1867, 1871 [French trans.]); and of course the Grundzüge shortly before coming to Leipzig. This listing does not count books that were more of the nature of a monograph.

<sup>53</sup>This omits earlier journals that published on psychology which were short-lived and very limited in scope. A significant one that lasted was Zeitschrift für Völkerpsychologie und Sprachwissenschaften, begun in 1859 by Mortiz Lazarus and Hajim Steinthal. See Donald V. Osier and Robert H. Wozniak, A century of serial publications in psychology 1850-1950, an international bibliography (Millwood, NY: Kraus, 1984).

<sup>54</sup> Wundt published in the latter only once: Wundt, "Sur la theorie des signes locaux," Revue philosophique de la France et de l'étranger, 6 (1878), 217-231. See also: Wundt, "La mesure des sensations. Réponse à propos du logarithme des sensations à Mr. Emile Alglave," Revue scientifique de la France et de l'étranger, 2. serie, 8 (1875), 1917-1918. This was part of discussions of psychophysics that involved Delboeuf and others.

Bain's Senses and intellect.<sup>55</sup> Robertson informed Wundt that he had become Professor of Philosophy of Mind and Logic at University College, London, and that he was planning to edit a "new psychological and philosophical review." Although Robertson did not say so, the journal in fact had financial backing from Bain.<sup>56</sup> Wundt's Grundzüge was scheduled for review in the first issue, and Robertson hoped that Wundt would contribute original articles and suggest other Germans who could write for the journal.<sup>57</sup> Eventually, Wundt published two articles which appeared in the first two volumes of Mind,<sup>58</sup> but the difficulties of translation and distance prevented sustained involvement with a foreign publication. Besides, a Leipzig colleague soon started up a journal with which Wundt could expect to work very closely.

Richard Avenarius was Privatdozent in Leipzig until 1877, when he took Wundt's former chair in Zürich (held in the meantime by Wilhelm Windelband). That same year Avenarius began Vierteljahrsschrift für wissenschaftliche Philosophie. Heinze

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<sup>55</sup> Diamond has pointed out the probability that Wundt benefited from his "reading of Bain's Senses and Intellect (1864), the first psychology book to open with a chapter about the nervous system." The implication is that this second edition of Bain's text is the model for Wundt's Grundzüge. Solomon Diamond, "Wundt before Leipzig," in Wilhelm Wundt and the making of a scientific psychology, ed. Robert W. Rieber (NY: Plenum, 1980), 3-70; 59.

<sup>56</sup> E.B. Titchener's note: "The 'Mind' Association," American journal of psychology, 12 (1901), 401.

<sup>57</sup> J. Croom Robertson to Wundt, 30 January 1875, UAL, Wundt Nachlass, Nr. 1403.

<sup>58</sup> Wundt, "Central innervation and consciousness," Mind, 1 (1876), 161-178; and "Philosophy in Germany," ibid., 2 (1877), 403-518.

and Wundt supported Avenarius by serving as his co-editors, and Wundt began to publish most of his articles and reviews in the journal. That was a satisfactory arrangement, until doctoral dissertations started issuing from Wundt's storage-room-cum-laboratory.

Wundt's plans for his own journal were apparently stimulated by the suggestions of the young psychiatrist, Emil Kraepelin. We will have more to say about his involvement with Leipzig psychology later on. As far as the journal is concerned, he and Wundt apparently began discussing it soon after advanced students began doing experiments in psychology. Within a year of that time, on August 4, 1880, Wundt wrote to Kraepelin:

Your comment about a journal of psychology, which you regard as desirable, has interested me very much, especially since I have had similar ideas . . . I currently have a number of studies of time sense . . . or which I do not yet have a place of publication . . .

The best physiological journals pursue other interests as a rule, and a philosophical journal . . . does not have the necessary space for such topics . . . If the project should become reality in any form, I would like to count on your collaboration.

Wundt gave more thought to the idea (October 14, 1880):

The plan of a psychological journal, which you

suggested, has come closer to realization. After due deliberation, I think it would be best to extend the scope of the journal to the whole field of psychology and related areas . . . I also think it would be best if the journal would initially print only original research.

Soon there were discussions with a publisher (December 17, 1880):

The individual issues are due to appear in an informal order and the [frequency of] publication is to depend on available material. The publisher has declared himself willing to provide an honorarium of 40 marks and 40 reprints of each article. I would like to bring out articles in the first issue which represent the different fields which the journal is to cover.<sup>59</sup>

Wundt was still investigating the possibilities. He discussed the project with Avenarius, editor of the Vierteljahrsschrift. Writing on December 19, 1880, Avenarius responded favorably to Wundt's suggestion that Vierteljahrsschrift publish doctoral dissertations from the Leipzig psychology laboratory, although he saw a good side and a

<sup>59</sup> Quotations of these letters from Wundt to Emil Kraepelin are from Wolfgang G. Bringmann, Norma J. Bringmann, and Gustav A. Ungerer, "The establishment of Wundt's laboratory: An archival and documentary study," in Wundt studies, a centennial collection, ed. Wolfgang G. Bringmann and Ryan D. Tweney (Toronto: Hogrefe, 1980), 146. Brackets contain my addition, for clarification.

bad side to Wundt's idea. The Vierteljahrsschrift was operating at a deficit, so it would help to get interesting new material without having to pay the authors. By the same token, the doctoral candidates would not have to pay for typesetting their dissertations, only the minimal costs for the 180 reprints needed to meet the university's requirement for publication. There were however problems with the idea: many of the journal's subscribers would get these reprints sent to them anyway by the authors; and a journal such as Vierteljahrsschrift might not always be able to publish a dissertation fast enough to meet the scheduling needs of the doctoral candidate.<sup>60</sup>

Wundt agreed that the undertaking would be inappropriate in the Vierteljahrsschrift and suggested a supplemental series, "Philosophical and Psychological Studies, edited by Wilhelm Wundt [Philosophischen u. Psychologischen Studien, herausgegeben von Wilhelm Wundt]." Avenarius approved of the idea. He suggested an additional line to the title--"Supplementary series to the Vierteljahrsschrift für wissenschaftliche Philosophie [zugleich Ergänzungshefte zu der Vjschr. f. w. Ph.]"--to encourage his subscribers to buy the new series (and, of course, to keep his own connection to Wundt's increasingly popular work in experimental psychology). Since Vierteljahrsschrift was barely keeping itself above water financially, Avenarius hoped that the new series would increase interests and sales. The financial arrangement was still uncertain, however. The publisher, O. R.

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<sup>60</sup> Richard Avenarius to Wundt, 19 December 1880, UAL, Wundt Nachlass, Nr. 1021.

Reisland of Leipzig, expected that the costs of producing the "Studien" would have to be shared with the authors, since long philosophical studies sold relatively poorly. It would still be a worthwhile thing for the doctoral candidates, Avenarius thought, because they would otherwise have to pay full costs of setting and printing their doctoral dissertations.<sup>61</sup>

Wundt kept looking for a better deal, one that would require minimal money up front. Within a half-year he had the arrangement he needed with the Engelmann publishing house in Leipzig.

### **3. The deal with Wilhelm Engelmann Verlag and the value of a successful academic author.**

In a letter to Wundt in June of 1881, Rudolf Engelmann summarized the terms for the new journal. Established writers would get 40 marks per sheet (16 pages quarto) and 12 reprints of their articles. Wundt himself would get six free copies of each issue. Dissertation writers would not be paid, but would get their necessary 180 copies, having only to pay minimal costs of setting the title page and the vita, and of producing the separates. They would not have to pay the major cost of setting the text.

Engelmann made a few general requests. The journal still needed an appropriate title. The journal should also be made

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<sup>61</sup> Richard Avenarius to Wundt, 31 December 1880, UAL, Wundt Nachlass, Nr. 1022.



attractive to the widest possible reading public: it should appeal to readers from philosophy and the natural sciences, as well as to psychologists. This goal might be accomplished by including short items on discoveries and phenomena, as well as reviews of literature in the field. Engelmann also advised that, since the Avenarius and the Wundt journals would be at least partially competing, Wundt should cut his ties with the other journal. Finally, Engelmann hinted that Wundt would do best to publish all his future works with Engelmann Verlag.<sup>62</sup>

Wundt did not grant Engelmann all his requests. "Philosophische Studien" was a general title, but the journal certainly did not aim for a general readership.<sup>63</sup> Wundt also remained coeditor of Avenarius's journal for another decade. Philosophical differences with Avenarius, discussed later, finally prompted Wundt to withdraw, much to Avenarius's dismay.<sup>64</sup>

Apparently Engelmann's last request was the one that counted most. He was prepared to underwrite a risky new journal, if he had the promise of an exclusive contract for Wundt's forthcoming books. Wundt achieved such good terms for the Philosophische

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<sup>62</sup> Rudolph Engelmann to Wundt, 6 June 1881, UAL, Wundt Nachlass, Nr. 1681-1.

<sup>63</sup> Wundt's memoirs explained the choice of title by referring to his occasional philosophical articles and by stating that the title of the journal staked a claim for experimental psychology in the field of philosophy. See also Wolfgang G. Bringmann, Norma J. Bringmann, and Gustav A. Ungerer, "The establishment of Wundt's laboratory: An archival and documentary study," in Wundt studies, a centennial collection, ed. Wolfgang G. Bringmann and Ryan D. Tweney (Toronto: Hogrefe, 1980), 123-157; 146.

<sup>64</sup> Richard Avenarius to Wundt, 27 December 1891, UAL, Wundt Nachlass, Nr. 1025.

Studien because Engelmann had already profited from good sales of two editions of Wundt's Grundzüge. Exclusive rights to this prolific and popular author gave Engelmann promise of high sales for years to come. If Wundt had not been such a plum for the publisher, he would have had difficulty getting his specialized journal started at all. He was not, like Bain, an affluent man--not yet. But as an author whom publishers coveted, Wundt was able to use his situation to support publication of doctoral dissertations written under his direction.

Subsequent letters from Engelmann show their agreement in operation, as the first four issues of Wundt's journal appeared.<sup>65</sup> This first volume, completed in 1883, contained four doctoral dissertations among the articles. As already noted, Wundt referred to these doctoral dissertations and the journal in his applications for state funding for the Institute in 1882 and 1883.

Wundt's journal, so important in the history of psychology, was really more of a liability than an asset to the publisher. Letters from Engelmann Verlag noted fairly poor sales and wavered between patient optimism and complaints that the journal was too specialized. After starting with 1000 copies of the first issue (four issues to a volume, roughly a volume a year), 600 copies of the next issues were printed. In 1890, the level dropped to 450 copies, in order to save costs. By that time sales had steadied

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<sup>65</sup> Rudolph Engelmann to Wundt, 8 November 1882, UAL, Wundt Nachlass, Nr. 1682-2; Rudolph Engelmann to Wundt, 3 February 1884, UAL, Wundt Nachlass, Nr. 1682-3.

at 250-260. The balance sheet showed a consistent loss: production costs [Herstellungsk., fourth column] exceeded gross income [Summe, seventh column] for nearly every issue of the first five volumes (see Figure 3.3).<sup>66</sup> The separates for dissertation writers and other authors are not included in these figures.

In spite of the journal's costs, Engelmann Verlag profited from the overall arrangement. It published every new Wundt title (though not new editions of older works). Wundt's textbooks sold well, and the agreement lasted until the fall of 1912, when Wundt wanted to change to Alfred Kröner Verlag. The Leipzig publisher had a colorful response to Wundt's plan: he did not, he wrote, "want to submit myself to amputation of a leg, even if I could replace it with a gold one [so vermag ich in diesem Falle doch nicht den Entschluss zu fassen, mich der schweren, von Ew. Excellenz gewünschter Amputation zu unterziehen, auch wenn es möglich wäre, mit den Verlust eines Beines durch ein goldenes zu ersetzen]."<sup>67</sup> Forced to name a price, Engelmann Verlag suggested 200,000 marks, and Kröner finally agreed to pay 100,000 marks for the name "Wundt."<sup>68</sup> These pre-inflation amounts give an idea of the value of the really successful academic author at that time.

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<sup>66</sup> By this time Rudolph Engelmann had died. E. Reinicke to Wundt, 7 February 1890, UAL, Wundt Nachlass, Nr. 1681-5. The table is part of this letter.

<sup>67</sup> E. Reinicke to Wundt, 17 October 1912, UAL, Wundt Nachlass, Nr. 1693-2.

<sup>68</sup> Letters of 1912, UAL, Wundt Nachlass, Nrs. 1693-18 through 1693-28.

#### **D. Summary of the establishment phase of Wundt's Institute.**

The successful founding of the Institute for Experimental Psychology in Leipzig depended upon Wundt's reputation as a prolific academic teacher and author. Leipzig, alone among Germany's great universities, had been interested in attaining him. Then it was willing to spend what was necessary to keep him.

At Leipzig Wundt continued to refine the methodology, the apparatus, and the textbooks that characterized the new discipline. There he began the institute and the journal publication that attracted successive generations of specialists to help Wundt carry out his comprehensive program for experimental psychology.

Now that the plant was firmly rooted, it could develop and bear fruit. The next three chapters consider the most characteristic and essential research in the Institute and its role as a model in the international spread of experimental psychology. Later chapters look at competing centers in Germany, as well as some alternative views on the philosophical basis, and proper academic role, of experimental psychology. Although Wundt's leadership of experimental psychology eventually eroded, from 1883 until at least 1900 there was no doubt that he was the leader and Leipzig was the center.