

Wilhelm Wundt – Pioneer in psychology *and* outsider?

Jochen Fahrenberg¹

15. 2. 2012

Abstract

Wilhelm Wundt is generally considered to be a pioneer of experimental psychology. At the end of the Nineteenth Century his academic reputation was at a high, but his influence declined sharply in the years that followed. There is only scant evidence as to why this declining happened. To throw some light on this, an impact and citation analysis was conducted. How was Wundt's work actually cited and received? This analysis was prepared by compiling and commenting on the principle ideas of Wundt's psychological and philosophical work. The reception analysis was based mainly on a content analysis of about 200 references: (1) contemporary reviews and controversies from the years 1858 to the present, and (2) contemporary and modern textbooks of General Psychology and of the History and Philosophy of the Science of Psychology from the years 1883 to the present. It is a matter of speculation whether Wundt's demanding methodology (multi-method approach), his call to limit psychology to processes of consciousness, his "psychology without a soul", and his disregard for analogous metaphysical definitions effectively ensured a poor reception of his psychology.

On the other hand, Wundt did oppose the division of psychology from philosophy. He suspected that psychologists would introduce their own metaphysical beliefs into their empirical research and would be reluctant to subject these assumptions to open philosophical-epistemological critique.

Introduction

Wilhelm Wundt (1832 – 1920), the physiologist, psychologist, and philosopher, is generally acknowledged as the founder of experimental psychology, having established the first laboratory specifically devoted to a systematic program of research in psychology. The tributes of his contemporaries, his honors and obituaries indicate that Wundt was held in high esteem at that time: He published in 1874 the milestone textbook *Grundzuege der physiologischen Psychologie*, was the author of the voluminous *Voelkerpsychologie* (cultural psychology), and the philosopher and writer of significant books on Ethics (1912), Metaphysics (1919b), Logic (1919–1921) that included Philosophy of Physical, Mental and Social Sciences (Natur- und Geisteswissenschaften). If we are to understand psychology, much would be gained by firstly recognizing Wundt's extraordinarily vast knowledge and his universal theoretical horizon and by considering his basic position – the first elaborated theory of science in modern psychology.

Much has been published since the Wundt centennial in 1879/1979, including a number of articles that highlight certain aspects of Wundt's work and biography (Bringmann & Scheerer, 1980; Bringmann & Tweny, 1980; Juettemann, 2006; Meischner & Metge, 1980; Rieber & Robinson, 1980, 2001). But there is still no commented edition or comprehensive summary and evaluation of his work. The last biography of

¹ Psychology Department, Albert-Ludwigs-University Freiburg, Germany
jochen.fahrenberg@psychologie.uni-freiburg.de <http://www.jochen-fahrenberg.de/>

Marcus Cheetham helped to improve the English version of this manuscript.

Wundt's life and work, which covered his psychology and philosophy, was published by Eisler (1902) and written in continuation of Koenig's (1901) preceding book.

This was however before the completion of the *Voelkerpsychologie* (1911) and the inclusion of the final version of Wundt's philosophy of science and methodology of psychology in the *Logik* (Wundt, 1919–1921). Although not intended as such, his autobiography (Wundt, 1920a) still appears to have been the best introduction to date of his thoughts, intentions and intellectual development. The subsequent biographies from Nef (1923) and Petersen (1925) up to Arnold (1980) confine themselves to either his psychological or philosophical contributions. These “focused” overviews do not provide adequate coverage of Wundt's work, and, especially, of the close relation between his empirical psychology and methodology and his epistemology and general philosophical view (“critical realism” as he named it) and typical style of thinking in perspectives, that is, his perspectivism. His psychology is difficult to understand without careful reference to the particulars of his theory of science. Though it should be noted that Wundt wrote mostly about “Erkenntnistheorie” (epistemology), specific categories and epistemic principles, and methodology, he did not use the German terms “Wissenschaftstheorie” (theory of science) or “Methodologie” with which we are familiar nowadays.

When reading Wundt's work one might enquire as to which elements of it could still be of general interest today. There is likely some value in acquainting oneself with his research and theorizing especially with regard to perception of space and spatial orientation, attention control processes, theory of emotion, and certain aspects in the psychology of language and of religion. But to expect, substantial results, discoveries, or valid theories over a period of nearly 150 years would be unfair. It appears that his enduring contributions are primarily the first theory of science in psychology and his versatile and skilled approach to methodology. Of particular note are his precise specification of the *experimental method* and his outstanding methodology of *psychological interpretation*. He specified basic principles and methods for the investigation of socio-cultural development in language, fantasy and art, mythos and religion, ethics (“Objektivationen des Geistes”).

Wundt's conceptual framework of psychology includes categories and epistemic principles and a set of guidelines. His conception ties in various considerations in a multi-perspective approach and includes the experimental paradigm and the interpretative paradigm. He viewed psychology as needing to incorporate the physiological and biological basis in scientific investigation while attributing it to the domain of mental science rather than natural science (Geisteswissenschaft; Wundt, 1920b). A re-construction of his theory of science in psychology (Wissenschaftstheorie) has never been undertaken.

Wundt's *Grundzuege der physiologischen Psychologie* (1874) marks a milestone of modern psychology, and his Institute in Leipzig was a famous address that attracted numerous students from many countries. But Wundt's influence declined sharply at the turn of the century. Today, his essential contributions to psychology, including his comprehensive methodology and original philosophy of science, are rarely cited or referred to appropriately. Historians of psychology obviously disagree as to why Wundt's influence diminished so quickly: His call for multiple perspectives was either superseded by the emerging trends and directions of the “geisteswissenschaftliche”, “verstehende”, or phenomenological psychology, or his call was discarded simply on account of having defined psychology as a natural science (or, today, as neuroscience). Writings on the history of psychology contain few clues as to why this break in tradition actually occurred. An investigation of the sources should throw some light on and perhaps explain the apparent disaffection towards him, failure to cite his work, and general disregard of his contribution. The intriguing question is still unanswered: Why was Wundt, the pioneer, treated more or less like an outsider?

Aims

The present investigation has two aims:

Firstly, to conduct an impact analysis of Wundt's work;

Second, to develop a number of hypotheses as to why Wundt swiftly lost much of his earlier influence long before his death.

In preparing this impact analysis it was necessary to suitably define the main features of Wundt's psychology and philosophy. This provided a basis for a content analysis and evaluation of whether his central concepts and leitmotifs were adequately represented in any given review or textbook. A re-construction of Wundt's theory of science in psychology in terms of the basic concepts of his epistemology and methodology was then undertaken because these concepts form a critical basis for understanding his work and its reception (see Part II / Appendix for a short summary).

The preparatory phase resulted in the identification of about 50 essential concepts that were documented with detailed citations and comments (Fahrenberg, 2011). The reduction of a work to such a set of concepts is difficult particularly when this concerns Wundt's work, but it is necessary. How were Wundt's principal concepts received and cited?

Method

A comprehensive historical investigation of how Wundt's thoughts were received should use various sources. To begin with, there are the various reviews of Wundt's publications. The search in contemporary journals of philosophy and the emerging journals of that time for psychology made use of two databases, *Periodicals Index Online PIO* and *Periodicals Archives Online PAO*, and many volumes and indices of the most important journals as well as significant secondary references and cross-references from literature on Wundt were screened directly. Particular attention was given to certain controversies. Wundt initiated or was engaged in several controversies that have endured until the present. Examples are: Kant – Wundt – Zeller (Helmholtz) about the isolation and measurement of states or changes in consciousness, Wundt – Buehler about necessary controls in psychological experimentation, Wundt – Husserl – Heidegger about psychologism, Meumann – Wundt about the interpretation of psychophysical parallelism and the use and limitations of applied psychology. Such controversies are especially helpful in showing the basic positions adopted toward epistemological and methodological problems.

This investigation is primarily based on citation and content analyses, the material for which was drawn from 75 reviews (each of at least one page in length) in *Journals* from 1858 onwards, about 20 other articles or essays, around 50 contributions to particular *Controversies* (including 20 by Wundt), and references to Wundt's work in about 50 German *Textbooks* on General Psychology, Methodology and History of Psychology from 1883 to the present. Further sources were analyzed: biographies, the autobiography, important academic speeches and some significant letters, the *Festschrift*, honors, obituaries, congress reports, rankings of eminence, citation frequencies, reference to Wundt in autobiographies of subsequent generations of German psychologists, web-presence (search-engine Google Ngrams "Wilhelm Wundt"). This second part of the investigation is not included here.

The present investigation was restricted to German sources for the following reasons: There is no English translation of crucial publications such as the *Logik* (3 volumes), *Voelkerpsychologie* (10 volumes) and several basic Journal articles. Wundt used a difficult style of writing in German that was instructed under the influence of Greek and Latin grammar in the Grammar school of the time. This style of writing is often strenuous even for today's native speakers and appears to have deterred foreigners from reading his work. On the other hand, Wundt was considered by contemporary witnesses to be an excellent rhetorician as evident in his inaugural speeches upon becoming professor in Zuerich in 1874 and in Leipzig in 1875, in his great lecture as Rector of Leipzig University (Wundt, 1889) on ethics and society that commemorated the centennial of the Revolution in France, and in his commemorative lectures in honor of Gustav Theodor Fechner and Gottfried Wilhelm Leibniz.

The Anglo-American Wundt-biographies by Hall (1912/1914), Boring (1950) and Flugel (1950) contain many misunderstandings, serious flaws, stereotypes, and subjectively biased judgments. Wundt's epistemology and methodology were not adequately represented and understood. For these reasons it is difficult to evaluate which publications were in fact accessible to English-speaking authors, whether these authors were sufficiently familiar with the German language, and the degree to which they actually developed a sense of Wundt's thoughts. But there is no doubt that more recent authors like Kurt Danziger (1979, 1980, 1983, 2001), Saulo Araujo (2010, 2011) and Wan-chi Wong (2010) and have developed an in-depth appreciation of Wundt's work. This appears not to be the case for many other authors (as also indicated by Danziger, 1980; Blumenthal, 1980, 2001). An exception to the criterion of using only German sources was made twice: Contributions to the Wundt Centennial Issue, *Psychological Research* (Bringmann & Scheerer, 1980) and selected chapters from *Wundt-Studies* (Bringmann & Tweny, 1980; Rieber & Robinson, 1980, 2001) were included. And, the inadequate presentations by Hall, Boring und Flugel were analyzed nonetheless, because their bias, misconceptions and stereotypical views had a disastrous impact on many of the later German authors – as indicated by the citations– even in the present time.

Findings

The findings from each part of the impact analysis were summarized and evaluated (Fahrenberg, 2011, Chapter 3) and documented with references, ample citations from the original publications, reviews, controversies, textbooks and other sources in an Appendix of about 450 pages. Subsequently, the findings were used to develop a set of hypotheses to explain the remarkable decline in the impact of Wundt's work. The hypotheses, altogether around 30 of them, consider three main areas: (1) the psychological and philosophical thought on the work itself, (2) the comprehensibility of his work, and (3) Wundt's attitudes and personality. In each area, the hypotheses were tentatively rank-ordered according to their assumed weight.

Discussion

The most likely explanation for Wundt's decline may be seen in the high level of Wundt's aspiration in his theory of science and his demanding methodology. His conception requires a particular multi-perspective approach, perspective taking ability and philosophical reflection. Wundt's theory of science in psychology appears to have aroused little attention, or it was considered unnecessary, far too philosophical or complex, and was in any case disregarded. The hypotheses put forward here appear to have been unexplored in the historical writings on Wundt. But one needs to keep the fact in mind that Wundt's theory of science in psychology had been widely ignored and was not therefore adequately represented in writings on him. And, Wundt's multi-method approach clearly exceeded the bounds of general interest and know-how of most psychologists, as exemplified by his book chapter on the methodology of interpretation, which went completely unnoticed (Wundt, 1921; cf. Fahrenberg, 2008).

The second most likely explanation relates to the surprising role of Wundt's former students. They appear to have distanced themselves from his basic principles as can be seen in their own textbooks and obituaries to Wundt. Wundt's philosophy of science, his epistemology and methodology, and the central issues of Wundt's psychology of apperception and will (volition) were not adequately referred to or discussed by his former co-workers, and did not – with a few exceptions – receive due attention from other contemporary textbook authors. It is significant that former PhD-students and assistants like Felix Krueger, Oswald Kuelpe, Ernst Meumann, Hugo Muensterberg and Wilhelm Wirth refrained from presenting the majority of Wundt's central concepts in their textbooks. None of these authors from his own circle developed a reasonably consistent and creative continuation of Wundt's ideas. Instead, Meumann, Muensterberg and Kuelpe delivered highly critical commentaries on certain of Wundt's principles and findings, thus begging the question as to whether they did in fact reject Wundt's central concepts altogether. Wundt's dispute about Immanuel Kant's profound criticism of psychological research and Wundt's methodology of critical interpretation – the first of its kind – were completely disregarded.

Krueger's (1924, 1934) inner distance to his predecessor's general conception of psychology and Wundt's work as a whole is hard to overlook, even though some of Krueger's remarks were positive. The break in tradition was already present in the relative indifference and obvious distance between former assistants and Wundt, this standing in stark contrast to the kind personal relationship they enjoyed as documented in their letters, greetings, and visits (Meischner-Metge, 2003; see, Wilhelm Wundts Briefwechsel, 2011). Wundt's students refrained from taking on the role of his interpreter and expounder. The direct impact of Wundt's psychology, epistemology and methodology thus appears to be much slighter than might have been expected.

A further explanation as to why Wundt's conception of psychology was disregarded appears to rest with his philosophical orientation. Wundt opposed the separation of psychology from philosophy and demanded instead a close tie between these disciplines, especially psychology and general epistemology. He suspected that psychologists would introduce their personal metaphysical beliefs into their empirical research and would refrain from subjecting their assumptions to open and general philosophical-epistemological criticism: "Nobody would suffer more from such a separation than the psychologists and thus psychology" (Wundt, 1913, p. 24; translation J.F.)

The essence of Wundt's work and the "Traditionsbruch", that is, the gulf that separated Wundt and the next generation of psychologists, was recently addressed by Kurt Danziger:

"This development seems to be part of a general trend for the formation of ever more narrowly specialized disciplines and sub-disciplines in the social and human sciences during the 20th century. For Wundt, psychology was more like an intellectual and scientific FIELD that

required multiple perspectives, as you point out. It was not yet a DISCIPLINE with strongly institutionalized norms establishing a particular approach to the exclusion of others. That transformation was accomplished by later generations, and this was not unique to psychology." ²

Further contributory factors to the low impact of Wundt's work can be discussed: the extraordinary extent and the often academic style, the complex psychology of apperception, the intricate theory of volition, and perhaps a lack of applied psychology suited to the professional fields. A more comprehensive consideration of these hypotheses suggests that each is not so compelling and that each would have to counter the objections that Wundt himself would have probably raised (e.g. Wundt, 1909a).

One final reason that has received scarce attention in the Wundt-Studies might be proposed. Wundt's psychology discontinued the fundamental belief of Johann Friedrich Herbart, Gustav Theodor Fechner and Rudolf Hermann Lotze in the metaphysical principle of the soul. Wundt understood consciousness as a process (actuality, not substantiality of consciousness), meaning that the metaphysical notion of the term "soul" is absent in Wundt's psychology. Similarly, equivalent concepts like "Me", "Self" or "Actor" were also absent insofar as such concepts imply a substantial metaphysical and transcendent meaning. Wundt's "negation of the soul" evoked at that time several polemic repudiations from followers of philosophical idealism as well as from psychologists sharing Christian beliefs. Even his successor, Felix Krueger, demanded a return to the "Seelenlehre" (notion of soul) and in doing so echoed an apparently widely-held conviction. Strangely enough, a clear articulation as to their metaphysical or religious beliefs or disbeliefs – and the implications of these for their own definition of psychology and methodology – were and are still rare among psychologists (for a more recent survey and discussion, cf. Fahrenberg & Cheetham, 2007). Even in this respect Wundt was an outsider.

Concluding remarks

Wundt defined *anthropology* generally as the "teaching about the psycho-physical nature of man, where it is grounded in physiology and psychology and where it forms a bridge to the philosophy of mind." (Wundt, 1909b, p. 83; translation J.F.). – Wundt's work in total may be understood as a *psychological anthropology*, interdisciplinary in scope and based on empirical psychology. Wundt defined the wide field of psychology in new terms, and he called for and pursued a multi-method approach for more than six decades of fruitful research.

This is not the place to review in detail the critical comments found in contemporary reviews and controversies (cf. Fahrenberg, 2011). The issues concerned were in part aspects of his cultural psychology, his three-dimensional theory of emotion, his psychology of apperception and volition, and especially his tendency to favor a psychological voluntarism (together with a philosophical basis). Several authors on the history of psychology have pointed out certain shortcomings. Wundt was not interested in the social psychology of dyadic interaction or interaction in small groups because he gave priority to cultural psychology. He was hardly concerned with differential psychology and was hesitant to declare any practical application for professional fields without having first conducted ample research on general psychological laws.

Wundt proposed new definitions for the field of psychology. Basically, he views consciousness as a contingent unitary process of cognitive, volitional and emotional functions. The nature of this psychophysical process requires a complementary application of the psychological and neurophysiological perspectives. Psychology constitutes the empirical basis of the mental and social sciences (Geisteswissenschaften), and the leitmotif, that is, the guiding principle, of this psychological anthropology is the mental development of man. Wundt was the first to build up a genuine and unifying philosophy of science suited to psychology. He required the ability and readiness to distinguish and to employ distinct frames of reference, and he called for the skilled use of both the experimental and the interpretative paradigm. He thus implemented a research program that would today be labeled "interdisciplinary". At the same time, he underscored the necessity of philosophical reflection to monitor and restrict the influence of personal metaphysical beliefs on scientific psychology.

² Personal letter by Dr. Kurt Danziger, November 28th, 2011.

The impact analysis reveals how this universal theoretical horizon and the perspectiveness and essential aspects of the methodology were lost. Most psychologists of the succeeding generations apparently preferred a simpler and philosophically less aspiring and seemingly more straightforward approach, being therefore more inclined toward a natural science or to a social and mental science research orientation. Wundt's general body of thought was rarely referred to or discussed, except in a few reviews from the philosophical angle.

The field of psychology and anthropology split into many sub-disciplines. In this respect, Wundt's general approach and his strive for theoretical unity is still salient. The controversies surrounding the aims and methods in psychology persist. It would appear that an advanced debate on the pluralism of theories and methods in psychology would benefit from strategies of relational and contextual thinking, of perspectivism and the complementary frames of reference *sensu* Wundt. – Reading Wundt again could be fruitful.

References

Note: The German editions are preferred when referring to Wundt's books and articles. English translations may contain many flaws, incorrect terms and other limitations, and some of his essential publications were never translated. A careful and comprehensive evaluation of Wundt's thoughts should be based therefore on the original publications.

- Araujo, S. F. (2010). *O projeto de uma psicologia cientí'fica em Wilhelm Wundt: Uma nova interpretac, a~o* [Wilhelm Wundt's project of a scientific psychology: A new interpretation]. Juiz de Fora: EDUFJF.
- Araujo, S. de F. (2011). Why did Wundt abandon his early theory of the unconscious? Towards a new interpretation of Wundt's psychological project. *History of Psychology*, Jul 4, 2011, doi: 10.1037/a0024478.
- Arnold, A. (1980). *Wilhelm Wundt–Sein philosophisches System* [Wilhelm Wundt–His philosophical system]. Berlin: Akademie-Verlag.
- Blumenthal, A. L. (1980). Wilhelm Wundt – Problems of interpretation (pp. 435–445). In W. G. Bringmann & E. D. Tweney (Eds.), *Wundt Studies. A Centennial Collection*. Toronto: Hogrefe.
- Blumenthal, A.L. (2001). A Wundt Primer. The operating characteristics of consciousness. In R. W. Rieber & D. K. Robinson (Eds.), *Wilhelm Wundt in history: The making of a scientific psychology* (pp. 121–144). New York: Kluwer-Academic.
- Bohr, N. (1931). *Atomtheorie und Naturbeschreibung* [Theory of atoms and description of nature]. Berlin: Springer.
- Bohr, N. (1937). Causality and complementarity. *Philosophy of Science*, 4, 289–298.
- Boring, E. G. (1950). *A history of experimental psychology* (2nd ed.). New York: Appleton-Century-Crofts.
- Bringmann, W. G. & Scheerer, E. (1980). Wundt centennial issue. *Psychological Research*, 42, 1–189.
- Bringmann, W. G. & Tweney, R. D. (1980). *Wundt studies. A centennial collection*. Toronto: Hogrefe.
- Danziger, K. (1979). Wundt and the two traditions of psychology. In R. W. Rieber (Ed.), *Wilhelm Wundt and the making of a scientific psychology* (pp. 73–87). New York: Plenum.
- Danziger, K. (1980). On the threshold of the New Psychology: Situating Wundt and James. In W. G. Bringmann & E. D. Tweney (Eds.), *Wundt Studies. A Centennial Collection* (pp. 362–379). Toronto: Hogrefe.
- Danziger, K. (1983). Origins and basic principles of Wundt's Voelkerpsychologie. *British Journal of Social Psychology*, 22, 303–313.
- Danziger, K. (2001). Wundt and the temptations of psychology. In R.W. Rieber & David K. Robinson (Eds.), *Wilhelm Wundt in history: The making of a scientific psychology* (pp. 69–94). New York: Kluwer-Academic.
- Eisler, R. (1902). *W. Wundts Philosophie und Psychologie* [W. Wundt's philosophy and psychology]. Leipzig: Barth.
- Fahrenberg, J. (1979). Das Komplementaritaetsprinzip in der psychophysiologischen Forschung und psychosomatischen Medizin [The Complementarity principle in Psychophysiological research and Psychosomatic Medicine]. *Zeitschrift fuer Klinische Psychologie und Psychotherapie*, 27, 151–167.
- Fahrenberg, J. (2008). Wilhelm WUNDTs Interpretationslehre [Wilhelm Wundt's theory of interpretation]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 9(3), Art. 29, <http://www.qualitative-research.net/index.php/fqs/article/viewArticle/1151/2557>.

- Fahrenberg, J. (2011). *Wilhelm Wundt – Pionier der Psychologie und Außenseiter? Leitgedanken der Wissenschaftskonzeption und deren Rezeptionsgeschichte* [Wilhelm Wundt. Pioneer of psychology and outsider? Leitmotifs of his work and its history of reception]. e-book. Retrieved from Dokumentenserver der Universitaet des Saarlandes. urn:nbn:de:bsz:291-psydok-29016, url: <http://psydok.sulb.uni-saarland.de/volltexte/2011/2901/> [PDF-Datei, 639 Seiten, 8.4 MB].
- Fahrenberg, J. (2012). Wilhelm Wundts Wissenschaftstheorie. – Ein Rekonstruktionsversuch. [Wilhelm Wundt's epistemology and methodology – A re-construction of his theory of science in psychology]. *Psychologische Rundschau*, 63 (4), 228-238.
- Fahrenberg, J. & Cheetham, M. (2007). Assumptions about human nature and impact of philosophical concepts on professional issues. A questionnaire-based study with 800 students from psychology, philosophy, and science. *Philosophy, Psychiatry, & Psychology*, 14 (3), 183–201 (Commentaries pp. 203–214).
- Flugel, J. C. (1950). *Probleme und Ergebnisse der Psychologie. Hundert Jahre psychologischer Forschung* [Problems and results of psychology. A hundred years of psychological research]. (German translation from the 5th edition). Stuttgart: Klett.
- Hall, S. (1912/1914). *Wilhelm Wundt. Der Begruender der modernen Psychologie* [Wilhelm Wundt. Founder of modern psychology]. (transl. by Raymund Schmidt, Preface by Max Brahn). Leipzig: Meiner.
- Hoche, H.-U. (2008). *Anthropological complementarism. Linguistic, logical, and phenomenological studies in support of a third way beyond dualism and monism*. Paderborn: mentis.
- Juettemann, G. (Ed.). (2006). *Wilhelm Wundts anderes Erbe* [Wilhelm Wundt's other legacy]. Goettingen: Vandenhoeck & Ruprecht.
- Kant, I. (1786/1983). *Metaphysische Anfangsgruende der Naturwissenschaft* [Metaphysical foundations of natural science]. (Immanuel Kant Collected Works, Vol. 5, ed. by Wilhelm Weischedel). Darmstadt: Wissenschaftliche Buchgesellschaft.
- Kant, I. (1798/1983). *Anthropologie in pragmatischer Hinsicht* [Anthropology from a Pragmatic Point of View]. (Immanuel Kant Collected Works, Vol. 6, ed. by Wilhelm Weischedel, pp. 395–690). Darmstadt: Wissenschaftliche Buchgesellschaft.
- Koenig, E. (1901). *Wilhelm Wundt als Psychologe und als Philosoph* [Wilhelm Wundt as psychologist and philosopher]. (3rd ed. 1909). Stuttgart: Fromman.
- Krueger, F. (1924). Wilhelm Wundt als deutscher Denker [Wilhelm Wundt: A German thinker]. In A. Hoffmann-Erfurt (Ed.), *Wilhelm Wundt. Eine Wuerdigung* [Wilhelm Wundt: An Appreciation Assessment]. (pp. 1–39). (2. Aufl.). Erfurt: Verlag Kurt Stenger.
- Krueger, F. (1934). Eroeffnung des XIII. Kongresses. Die Lage der Seelenwissenschaft in der deutschen Gegenwart [Opening of the XIII Congress. The situation of the "Seelenwissenschaft" (science of the soul) in present Germany]. In O. Klemm (Ed.), *Bericht ueber den XIII. Kongress der Deutschen Gesellschaft fuer Psychologie in Leipzig vom 16.-19. Oktober 1933* (pp. 6–36). Jena: Fischer.
- Meischner, W. & Metge, A. (1980). *Wilhelm Wundt – progressives Erbe, Wissenschaftsentwicklung und Gegenwart. Protokoll des internationalen Symposiums* [Wilhelm Wundt – progressive legacy, development and presence]. *Karl-Marx-Universitaet Leipzig, 1979*. Koeln: Pahl-Rugenstein.
- Meischner-Metge, A. (2003). Wilhelm Wundt und seine Schueler [Wilhelm Wundt and his students]. In H.-P. Brauns (Ed.), *Zentenerbetraechtingen. Historische Entwicklungen in der neueren Psychologie bis zum Ende des 20. Jahrhunderts* (pp. 156–166). Frankfurt a.M.: Lang.
- Meischner-Metge, A. (2006). Die Methode der Forschung [Research method]. In G. Juettemann (Ed.), *Wilhelm Wundts anderes Erbe. Ein Missverstaendnis loest sich auf* (pp. 131–143). Goettingen: Vandenhoeck & Ruprecht.
- Nef, W. (1923). *Die Philosophie Wilhelm Wundts* [The philosophy of Wilhelm Wundt]. Leipzig: Meiner.
- Petersen, P. (1925). *Wilhelm Wundt und seine Zeit* [Wilhelm Wundt and his time]. Stuttgart: Fromman.
- Periodicals Archive Online / PAO 1802-2000. ProQuest Information and Learning. Host: Chadwyck Healey. <http://www.proquest.com>.
- Periodicals Index Online / PIO 1770-2000. ProQuest Information and Learning. Host: Chadwyck Healey. <http://www.proquest.com>.
- Reich, K.-H. (2002). *Developing the horizons of the mind: Relational and contextual reasoning and the resolution of cognitive conflict*. Cambridge: Cambridge Univ. Press.
- Rieber, R. W. & Robinson, D. K. (Eds.). (1980). *Wilhelm Wundt in history: The making of a scientific psychology*. New York: Kluwer-Academic.
- Rieber, R. W. & Robinson, D. K. (Eds.). (2001). *Wilhelm Wundt in history: The making of a scientific psychology* (2nd Ed.), New York: Kluwer-Academic.

- Wilhelm Wundts Briefwechsel (2011). [Wilhelm Wundt's Collected Letters]. (edited by M. Wontorra, I. Kaestner & E. Schroeger, Universitaet Leipzig). Retrieved from: <http://www.uni-leipzig.de/~wundtbriefe/viewer.htm>.
- Wong, W.-C. (2009). Retracing the footsteps of Wilhelm Wundt: Explorations in the Disciplinary Frontiers of Psychology and in Voelkerpsychologie. *History of Psychology*, 12, (4), 229–265.
- Wontorra, M. (2009). *Fruehe apparative Psychologie* [Early apparatuses in psychology]. Toenning: Der Andere Verlag.
- Wundt, W. (1862). *Beitraege zur Theorie der Sinneswahrnehmung* [Contributions to the theory of sensory perception]. Leipzig: Winter.
- Wundt, W. (1863). *Vorlesungen ueber die Menschen- und Thierseele* [Lectures on human and animal mind]. (2 vol.). Hamburg: Voss.
- Wundt, W. (1874). *Grundzuege der physiologischen Psychologie* [Principles of physiological psychology]. Leipzig: Engelmann.
- Wundt, W. (1889). Ueber den Zusammenhang der Philosophie mit der Zeitgeschichte. Eine Centenarbetrachtung [On philosophy and contemporary history. A centennial view]. Rede des antretenden Rectors Dr. phil., jur. et med. Wilhelm Wundt. In F. Haeuser (Ed.), *Die Leipziger Rektoratsreden 1871-1933. Band I: Die Jahre 1871-1905* (pp. 479–498). Berlin: de Gruyter.
- Wundt, W. (1894a). Ueber psychische Causalitaet und das Princip des psycho-physischen Parallelismus [On psychic causality and the principle of psychophysical parallelism]. *Philosophische Studien*, 10, 1–124.
- Wundt, W. (1894b). *Logik. Eine Untersuchung der Prinzipien der Erkenntnis und der Methoden Wissenschaftlicher Forschung. Band 1. Allgemeine Logik und Erkenntnistheorie* [Logic. An investigation of the principles of knowledge and of the methods of scientific research. Second Volume. Logic of Human Sciences]. (Vol. 2/Part 2; 2 nd. Ed.), Stuttgart: Ferdinand Enke.
- Wundt, W. (1896). Ueber die Definition der Psychologie [On defining psychology]. *Philosophische Studien*, 12, 9–66.
- Wundt, W. (1896-1898). Ueber naiven und kritischen Realismus [On naive and critical realism]. I - III. *Philosophische Studien*, 12, 307–408; 13, 1–105, 323–433.
- Wundt, W. (1897). *System der Philosophie* [System of philosophy]. (2nd Ed.), Leipzig: Engelmann.
- Wundt, W. (1902-1903). *Grundzuege der Physiologischen Psychologie* [Principles of physiological psychology] (5th ed., Vol. I–III.). Leipzig: Engelmann.
- Wundt, W. (1904). Ueber empirische und metaphysische Psychologie [On empirical and metaphysical psychology]. *Archiv fuer die gesamte Psychologie*, 2, 333–361.
- Wundt, W. (1907). Ueber Ausfrageexperimente und ueber die Methoden zur Psychologie des Denkens [On questioning in experiments and on methods in the Psychology of reasoning]. *Psychologische Studien*, 3, 301–360.
- Wundt, W. (1909a). Ueber reine und angewandte Psychologie [On pure and applied psychology]. *Psychologische Studien* 5, 1–47.
- Wundt, W. (1909b). *Einleitung in die Philosophie* [Introduction to philosophy] (5th ed.), Leipzig: Engelmann.
- Wundt, W. (1911). *Voelkerpsychologie. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythos und Sitte* [Cultural psychology. An investigation in developmental laws in language, myth and morality]. (3rd ed., 10 Volumes). Leipzig: Engelmann.
- Wundt, W. (1912). *Ethik. Eine Untersuchung der Tatsachen und Gesetze des sittlichen Lebens* [Ethics. A study of facts and laws] (4 th. ed., 3 Vol.). Stuttgart: Enke.
- Wundt, W. (1913). *Die Psychologie im Kampf ums Dasein* [Psychology in its fight for survival]. Leipzig: Kroener.
- Wundt, W. (1917). *Leibniz zu seinem zweihundertjaehrigen Todestag. 14. November 1916* [To Leibniz on his 200th birthday]. Leipzig: Kroener.
- Wundt, W. (1919a). *Logik. Eine Untersuchung der Prinzipien der Erkenntnis und der Methoden Wissenschaftlicher Forschung. Band 1. Allgemeine Logik und Erkenntnistheorie* [Logic. An investigation of the principles of knowledge and of the methods of scientific research. First Volume. General Logic and Epistemology]. (4 th.ed.). Stuttgart: Ferdinand Enke.
- Wundt, W. (1919b). *System der Philosophie* [System of philosophy]. (4th ed.). Leipzig: Kroener.
- Wundt, W. (1920a). *Erlebtes und Erkanntes* [Experienced and known]. Stuttgart: Kroener.
- Wundt, W. (1920b). *Grundriss der Psychologie* [Outlines of psychology]. (14th ed.). Stuttgart: Kroener.

- Wundt, W. (1920c). *Logik. Eine Untersuchung der Prinzipien der Erkenntnis und der Methoden Wissenschaftlicher Forschung. Bd. 2. Logik der Naturwissenschaften* [Logic. An investigation of the principles of knowledge and of the methods of scientific research. Second Volume. Logic of Natural]. (4th ed.). Stuttgart: Enke.
- Wundt, W. (1921). *Logik. Eine Untersuchung der Prinzipien der Erkenntnis und der Methoden Wissenschaftlicher Forschung. Bd. 3. Logik der Geisteswissenschaften* [Logic. An investigation of the principles of knowledge and of the methods of scientific research. Third Volume. Logic of Human Sciences]. (4th ed.). Stuttgart: Enke.

Citation of Internet-Publications according to rules given by: (1) Psychology Document Center Psy.Dok (SLUB Saarbruecken), and (2) Forum: Qualitative Social Research.
--