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WUNDTIAN PSYCHOLOGY AND THE PSYCHOLOGIES IN POST-INDUSTRIAL SOCIETIES

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INTRODUCTION

The development of Psychology during the last 100 years can roughly be divided into the following stages:

a) The attempt at the construction of a general and theoretical Psychology between 1870 and 1930.

b) The emergence of fields of psychological practice and so-called "applied" psychologies around the time of World War One. Applied Psychology comes of age in the twenties as a part of a general trend in the social sciences, viz. their *intervention-orientation* in support of the control of social processes. In this respect it should be remarked that during the 1870's and 1880's *first* discontinuous changes in important societal problem areas such as labor, education and health caused many new

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problems to be solved, *before* social scientists started to occupy themselves with these problems in the first place. Educational Psychology and Child Psychology form an excellent example of what I have in mind here.

c) The break-down of a general and theoretical Psychology after World War II and the unexpected growth and usury of Clinical Psychology and psychological psychotherapy as fields of psychological practice (2).

The distinction just made between an academic, theoretical Psychology, "applied" Psychology and the emergence of fields of psychological practice which is closely related to the professionalization of Psychology, has, as yet, not been historiographically elaborated (see, however, VAN HOORN & VERHAVE, 1977, p. 218; VAN HOORN, 1979; VAN HOORN, MEULMAN & VINCENT, 1980, and VAN HOORN & VERHAVE, 1981). The current textbooks in the history of Psychology either use a great man approach (BORING, 1950; WATSON, 1963) or a problem-oriented *Ideengeschichtliche* historiography (PONGRATZ, 1967), or a systems and theories treatment of Psychology's history (e.g. MARX & HILLIX, 1963). A full-fledged Marxist historiography of Psychology has, as yet, to be worked out (see JAROSCHEWSKI, 1975; MAIKOWSKI, a.o.'s, 1976; JAEGER & STAEUBLE, 1978, and ECKARDT (Ed.), 1979). The history of applied Psychology has been grossly neglected (see, however, DORSCH, 1963; and PIERON et al., 1959). In general, the historiography of Psychology has not been given any systematic treatment at all (for a modest attempt at giving an overview of the aims, resources and approaches in present day historiography of Psychology (see BROZEK & PONGRATZ (Eds.), 1980).

WUNDT HISTORIOGRAPHY

Especially in the German Democratic Republic, WUNDT historiography has been developed by a number of scholars (see MEISCHNER, 1975, 1977 and 1980; METGE, 1975, 1977 and 1980; SPRUNG, 1975, 1979 and 1980). Also in the United States much attention has been paid recently to a reinterpretation of WUNDT's Psychology (see BLUMENTHAL, 1970, and BRINGMANN & TWENEY (Eds.), 1980).

THREE CONTEXTS OF WUNDTIAN PSYCHOLOGY

In a recent publication VAN HOORN and VERHAVE (1980, pp. 73-74) have called attention to three important contexts, in which WUNDT's conception of a general and theoretical Psychology developed (3).

a) *MATERIALISMUSSTREIT*

The first and most important context of WUNDT's early works is the *Materialismusstreit*, the battle of materialism, which in Germany reached its peak around the middle of the 19th Century. The German idealism of FICHTE, SCHELLING and HEGEL and its judicial, political and economic hand-maiden, the Prussian State, have never recovered from the blows they received during the battle of materialism. WUNDT was heavily influenced by the materialism-inmaterialism debate in the early years of his scientific career. Around 1860 WUNDT took two major steps which would decisively influence the future of Psychology: he turned to laboratory experimentation in the realm of the mind and he rejected the scholastic concept of the soul as an ontological substance. The result of all this hard work was not primarily a new doctrine, but a new *method* by which the *processes* of the mind could be studied scientifically. Since the changing notion of time and the new ways of time-measurement are of prime importance for the development of WUNDT's natural science based methodology, we could say that -unwittingly- WUNDT's laboratory work forms the *intellectual* reflection of the changing modes of material production of German industrial capitalism. To this point I shall return later in this essay.

It should be noted in passing that WUNDT's flight to the laboratory and experimentation and his notion of mind as process which could be studied by *experimentally* controlled *Selbstbeobachtung*, did not lead to a materialist position. Modern materialism, said WUNDT, "has not made one single positive contribution to research worth mentioning" (WUNDT, 1863, p. 18). WUNDT, who had already turned his back towards materialism in his earliest publications, would develop a voluntaristic Psychology colored by stark traces of German idealism.

b) THE NATURWISSENSCHAFTEN-GEISTESWISSENSCHAFTEN DEBATE

The second context, relatively more important to WUNDT's maturing views after 1870, is the *Naturwissenschaften-Geisteswissenschaften* debate which took place in the second half of the nineteenth century and still lingers on in the basic assumptions of the main streams of twentieth-century Psychology (phenomenological and humanistic Psychology, behaviorism, Gestalt Psychology, psychonomic Psychology and psychoanalysis). Since the social *sciences* only emerged after 1800 as a fusion of contemporary societal circumstances -the search for order in bourgeois society- and *transformations* of fundamental Romantic and Enlightenment themes, the *Naturwissenschaften-Geisteswissenschaften* debate may be seen as a special case of the Romantic Enlightenment *current* in the development of Western science and the humanities. Freudian psychoanalysis forms the best example of the issues at stake.

In the context of the irreconciliable opposition between a Newtonian methodology and a hermeneutic methodology, as inspired by Schleiermacher, WUNDT tried to develop a general and theoretical Psychology with a natural science surface and an idealistic core. Although one must carefully distinguish between FICHTE's and HEGEL's absolute idealism, in which material phenomena are conceived as excretions of spirit, and WUNDT's idealism characterized by a psychophysical parallelism of sorts, there is no doubt that WUNDT conceived of Psychology as the *fundamental Geisteswissenschaft* (see WOODWARD, 1972; RICHARDS, 1980 and VAN HOORN & VERHAVE, 1980).

The following notions are closely related to WUNDT's idiosyncratic conception of Psychology as a science of the mind:

- Mental causality as opposed to material causality
- The will as kernel of all mental processes (see RAPPARD, 1979)
- Psychology forms the *basis* of the *Geisteswissenschaften*
- Mind is not a substance but a process and as process and actuality the human mind is a mirror of the world(4)
- Structure as opposed to element
- Apperception as distinct from association

The most important theme, however, for my idealistic interpretation of WUNDT's theoretical Psychology, is formed by his persistent anti-materialism, which is already present in the *Vorlesungen* of 1863 (see, however, for a different

view, METGE, 1977). As far as "modern" materialism was concerned, WUNDT wrote sarcastically:

> "No analogy has been farfetched enough, no hypothesis too bold for its purpose. One only was somewhat in doubt whether thinking was more like light than electricity -on one point, however, was there general agreement: it did not weigh much" (WUNDT, 1863, p.18; transl. by Th. VERHAVE, 1980).

In sum then, WUNDT's mature vision of mental life can be characterized as follows: structuredness, goaldirectedness, mental articulation, creative processes, the continuous development of mental structures, mental causality, values and acts of will make up the processes of the human mind.

c) THE THIRD CONTEXT OF WUNDT'S SYSTEMATIC PSYCHOLOGY: THE SECOND INDUSTRIAL REVOLUTION

The third context for a more complete understanding of WUNDT's attempt at the construction of a general and theoretical Psychology --"...es gibt nur *eine* Psychologie"-- is formed by the rise of Germany to industrial supremacy during the last three decades of the nineteenth century. In no other European country has a combination of the aspirations of business tycoons, government policy, the planning and execution of higher *technical* education and the sweat of labor contributed so completely to the emergence of a capitalist society as in Germany (see METGE, 1977). However, if we try to link Wundtian Psychology with the social and economic context in which is developed, we are confronted with grave historiographical difficulties. First, we should realize that, generally speaking, there are no *direct* links between an intellectual endeavor, such as the construction of a systematic, theoretical Psychology, and the social and economic processes taking place at the same time. Second, a certain type of Psychology can represent a progressive and emancipatory line of development in the acquirement of knowledge in accordance with progressive lines of development in the modes of production and social relationships. Often, however, certain types of Psychology represent a kind of *Herrschaftswissen* which can be used in the maintenance of the *status quo*. The ideological and legitimating aspects of these types of Psychology are obvious (see BARITZ, 1960). Third, one could investigate which types of Psychology could be characterized as *reactionary* in comparison to the overall socio-economic processes taking place (here the 2nd Leipzig school would be a case in point).

ECKARDT (1979, pp. 13-14) has pointed to the necessity of empirical investigation of the *Vermittlungsglieder* (mediating links) of the interaction and interdependence of societal developments and the production of scientific knowledge. HOLZKAMP (1976, p. 40, as quoted in ECKARDT, 1979, p. 13) has put forward two fundamental mediating links between the societal mode of production and the process of science. The first link consists of the historical evolution of the labor and reproduction conditions of the scientific and scholarly intelligentsia. The second link is formed by the investigation of the historical evolution of parts of society in which scientists and scholars do their work.

As we have set forth in our recent essay of WUNDT, "we would like to suggest that in the light of the societal processes belonging to this third context, WUNDT's mature conception of a general and theoretical Psychology is *opposed to* the general trends of socio-economic developments at the end of the nineteenth century" (VAN HOORN & VERHAVE, 1980, p. 73). This statement can now be somewhat refined in the light of the discussion about the mediating links between scientific and social developments. On the one hand, WUNDT's introduction of the experiment in psychological investigation may be characterized as a progressive act, on the other hand his clinging to a basically idealistic notion of the mind may be judged as conservative, scholarly politics.

WUNDT's Psychology is an academic Psychology par excellence. WUNDT follows the best of Humboldtian ideals for German higher education. However, WUNDT's fundamental contention that one must *first* construct a systematic, general and theoretical Psychology *before* it is possible to have an applied Psychology, was resolved quite differently by the steamroller of socio-economic developments. WUNDT wanted to be the Newton of the mind, in more than just one sense.

Physiological Psychology, Child Psychology, Animal Psychology and Historical and Anthropological Psychology, all had to furnish the data for the establishment of the general laws that govern the processes of the human mind. However respectable such a quest might have been, developments outside the Leipzig laboratory have wrecked this heroic attempt from the very outset.

Here I would like to return to the historiographical distinction between the development of theoretical Psychology, of "applied" Psychology and the emergence of fields of psychological practice. To me it has become clear that

WUNDT's, KOHLER's, STERN's, HULL's and SKINNER's attemps at the establishment of a general and theoretical Psychology, were all of them doomed to fail because the emergence and rapid growth of the fields of psychological practice left behind the developments in theoretical Psychology at an ever increasing speed (5). WUNDT's case clearly illustrates what I have in mind here. At the height of WUNDT's career, educational Psychology emerged before Child Psychology and TAYLOR's time and motion studies had been undertaken more than a generation before the Psychology of labor became a serious subject of study. Mental health problems were already a subject of great concern within the bourgeoisie, with the view of a better way to regulate the behavior of the lower classes, before even the idea of a Clinical Psychology had been put forward (6).

What I want to say is this. Labor, education, the raising of children, the measurement of individual differences and mental health care -all by themselves fundamental phenomena of industrialized societies- have given birth to the emergence of fields of psychological practice without much theoretical underpinning. And, this social-historical phenomenon has basically remained unchanged during the development of Psychology in the 20th century. Taking societal labor as an example, it may be seen that the process, structure, experience and ideology of labor in our time, have been shaped by technological, economic, judicial, social and psychological factors. In comparison to the way technology shapes labor, the influence of Psychology in rather minimal and, alas, very often lagging behind.

My position leads to two basic points:

a) The psychological-theoretical foundations of the psychology of labor, of educational Psychology, of child Psychology and clinical Psychology are rather weak.

b) The views of the professionals working in these fields are necessarily limited by technological and economic conditions and these same views *limit* the patterns of behavior of the people concerned, due to social, political and ideological restrictions.

Seen from a theoretical and social-historical viewpoint, it is thus necessary to distinguish between an emancipatory-oriented Psychology and an establishment-oriented Psychology. This distinction comes close to Max WEBER's notions of

Herrschaftswissen and *Bildungswissen* (7).

Judged from an overall standpoint, the development of educational Psychology, child Psychology, the Psychology of labor and clinical Psychology show a great deal to establishment-oriented intervention. A Psychology specifically developed for the emancipation of children, women and men, is still very much in the air. Emancipation, especially in post-industrial societies, should not only be aimed at the liberation from the oppression by fellow human beings, but also at the preservation and restoration of mental and physical health; health being the greatest societal good. Right at the beginning of the modern era, this fundamental ethical principle was set forth by DESCARTES in Part 6 of the *Discours* (1637): "..., but also principally because it brings about the preservation of health, which is without doubt the chief blessing and the foundation of all other blessings in this life " (8). This means for rendering men wiser and cleverer than they have hitherto been, DESCARTES continues, must be sought in Medicine. Since modern, technological Medicine -apart from its beneficial side- has caused much more illness than would be permissible, it follows logically from the Cartesian position that the emancipation of humankind must be sought in a new kind of *preventive* Medicine. And since mind and body can only be healthy in symbiosis with our natural and man-made environment, a new discipline, viz. *preventive architecture*, is called for.

In sum then, if one is willing to fully take into account the distinction between emancipatory and establishment-oriented types of Psychology, there are many reasons to evaluate carefully the connection between Wundtian Psychology, present-day Psychology and a Psychology for the future. Indeed, as Lothar SPRUNG (1979) has aptly phrased it, the life-work of Wilhelm WUNDT contains memorable, as well as *disquieting* elements (9). Instead of talking indiscriminately about WUNDT's "influence" *ad nauseam*, it now seems time for historians of Psychology to come to terms with the progressive as well as the conservative aspects of Wundtian Psychology.

PSYCHOLOGY IN INDUSTRIALIZED SOCIETIES

The sequence of the three industrial revolutions we have witnessed so far, can be characterized as follows. The first industrial revolution (1770-1850), brings about the fusion of the technical and the scientific tradition, the rapid

spread of the division of labor and a surplus of *new energy* as produced by the steam-engine (10). From a social history viewpoint, the first industrial revolution has brought into being the worst conditions ever for the laboring classes. *MARX'S* analysis of the life conditions of the *Lumpenproletariat* serves as a permanent warning for the evils of rapidly industrializing societies. Scientifically speaking research on the maximum efficiency of steam-power and the development of an ideal steam-engine led Sadi CARNOT (1824) to the foundation of the science of thermodynamics and the formulation of the principles of a general theory of machines.

The second industrial or scientific-technical revolution started after ± 1860.

Mechanization of labor processes, the rise and increasing influence of management, the importance of the electromotor as a new source of energy, and the fundamental study of *motion*, are all a part of the second industrial revolution. Temporalization of the labor process, of the principles of the life sciences and of daily life and also the study of time and motion in the laboratory, in the workshop, in art and in theoretical physics, have prepared the way for modern life in the twentieth century. Science and technology in their apparent ethical neutrality, counteracted upon by the search for new human values, will dominate economic and social processes. A Psychology which explicity deals with the penetration of mechanization, automation and technology into the realm of the mind and the mental, has still to be developed. Instead of giving in to the endless plea for more Psychology, which, after all, cannot do much more than whitewash the mental evils of capitalist societies, a wiser social policy would be to support the construction of a *preventive* Psychology. Preventive Medicine, preventive Architecture and preventive Psychology, as I see it, form an important stepping stone towards the development of a genuinely progressive social science.

The third industrial revolution, foreshadowed in the twenties and the thirties, set in after the end of World War Two. The publication of military secrets and their subsequent use in industry, operations research, computer science, cybernetics, systems theory and information theory went hand in hand with a highly developed natural science and technology to shape the new materiality of modern times. *Automation* has penetrated into the labor processes and daily life. Vast and significant changes in the labor process, continuous laying off of working people, staggering unemployment rates, energy shortage, impressive social problems and the permanent crisis of

the capitalist socio-economic system as such, all constitute important aspects of the third industrial revolution.

In no way have the social sciences kept pace with the development of science and technology as productive forces. This is one of the reasons why the social sciences may be looked upon more as the *product* of the societal labor process, than as a productive force.

Let us now shortly compare the three industrial revolutions just touched upon and the development of a science and the practice of Psychology. During the first industrial revolution, there has hardly been, nor could have been any scientific Psychology worth while mentioning in the western world. KANT's famous dictum that empirical Psychology cannot ever enter the ranks of true natural science, aptly summarizes the situation with respect to systematic investigation of the realm of the mental during the first industrial revolution. For KANT and contemporaries, Psychology consisted of introspection of the phenomena of the inner sense. Mathematics -that which makes science scientific- says KANT, cannot be applied to the phenomena of the inner sense and their laws. Moreover, *the time of mental phenomena cannot be measured.* Finally, we are unable to penetrate into the thought-processes of another person and introspection invariably has to be considered as retrospection (11). To me, KANT's high-brow and rather abstract line of thought simply means that temporalization had not yet penetrated into the heart of the labor process and hence was not considered a property of the human mind. Seen from the vantage point of the historical Psychologist, it also means that factually time and time-measurement *formed no part* of labor and mental processes during the first industrial revolution.

The second industrial revolution and the rise of scientific and practical Psychology go together. On the one hand, we see how WUNDT and the Wundtians have tried to build a general and theoretical Psychology. On the other hand, there has been the rise and expansion of the fields of practice of Psychology. So-called "applied" Psychology comes much later, when mechanization takes command" (GIEDION). Earlier in this essay I have called attention to a *Nacheilung* of theoretical Psychology in comparison to practical Psychology. Very hesitatingly, before World War Two, Psychology came to be a profession. But still the actual number of people then employed in Psychology is not impressive.

In more than one sense then, we could say that Psychology, as we know

it today, is a post World War Two phenomenon. Fields of psychological practice like the Psychology of labor and organization, child Psychology, social Psychology, the Psychology of individual differences, and above all the unexpected growth of clinical Psychology, have placed our subject in the center of social life (12). No doubt, clinical Psychology and psychological psychotherapy are genuine modern phenomena. HELSON (1951) writes: "It is amazing that psychologists have not turned to the study of psychotherapy as to an unworked goldmine" (13). Since then, this societal goldmine has been put into full exploitation and we may certainly ask to what good. Coming back to the distinction between *Herrschaftswissen* and *Bildungswissen*, made earlier in this essay, it seems difficult to deny that parts of theoretical and practical Psychology have been used to regulate individual and social behavior.

Besides, psychologists flatter themselves with the hope that some of their activities and insights have been useful for the emancipation of women and men in post-industrial societies. However, as remarked earlier, a truly critical and emancipatory Psychology, as opposed to the still-born Wundtian general and theoretical Psychology, has, as yet, to be developed.

SUMMARY

In summary, the developments in material life in industrialized societies have created specific types of practical Psychology which in and by themselves are as *un-Wundtian* as can be.

In 1913, the eighty-one year old Wilhelm WUNDT wrote an enlightening essay entitled: *Die Psychologie im Kampf ums Dasein* (14). Notwithstanding this title, the essay does not deal with the threat of academic Psychology caused by the fields of psychological practice and the rise of all kinds of "applied" Psychologies. In this article WUNDT deals with the question whether Psychology will become and independent academic discipline, fully divorced from Philosophy. WUNDT's answer is vehemently negative. He passionately pleads only the employ new professors of Philosophy who are fully versed in Psychology and new professors of Psychology who are able to teach some of the disciplines of Philosophy.

It seems to be the lot of Wundtian Psychology almost always to run against the tide of the times.

Two World Wars and the second and the third industrial revolutions have witnessed the complete divorce of theoretical and applied Psychology and the usury of the fields of psychological practice. And, Psychology and Philosophy are wider apart than ever (15).

RESUMEN

El trabajo sitúa la obra de WUNDT en varios contextos:

1.- El de la lucha entre *idealismo-materialismo* en la Alemania del siglo XIX, orientándose frente a este último, ya desde las *Vorlesungen.*

2.- La polémica en torno a la distinción entre las *ciencias de la naturaleza y las ciencias del espíritu*, de raiz romántica. WUNDT situó la Psicología como la fundamental *Geisteswissenschaft*.

Su visión defiende dimensiones de estructuralidad, propositividad, creatividad, y desarrollo a través de los procesos mentales.

3.- La segunda revolución industrial alemana. El autor busca posibles enlaces entre una teoría psicológica y los desarrollos sociales, y sugiere que la introducción por WUNDT del experimento en Psicología aparece como un fenómeno progresista, mientras que su defensa de las tesis idealistas es más conservadora.

El intento wundtiano de establecer una Psicología general se vió frustrado por los desarrollos de las investigaciones especializadas, y particularmente de la Psicología aplicada, bajo las exigencias de la sociedad industrial.

Así, se sugiere que en esas áreas especializadas (Psicologías del trabajo, educativa, infantil y clínica) la base teórica ha sido escasa y los profesionales que se han ocupado de ellas han tenido que aceptar limitaciones impuestas por las condiciones económicas y tecnológicas.

Así, cabe hablar de una doble Psicología: una, emancipadora, frente a otra orientada a mantener el "establishment". Y se plantea en el trabajo

la conveniencia de distinguir esos aspectos emancipadores junto a los conservadores en la obra de WUNDT.

El trabajo revisa sucintamente el impacto de las tres grandes revoluciones industriales (1770, 1860, 1945). Relaciona, la primera de ellas con la negación kantiana de toda posibilidad de Psicología científica; con la segunda, los esfuerzos wundtianos por una Psicología científica al lado de las nacientes aplicaciones, y con la tercera la profesionalización del psicólogo y su creciente atención a los temas de la vida social. Finalmente, establece la necesidad de lograr una Psicología que trate explícitamente de la penetración de la mecanización, la automatización y tecnología en el ámbito de la mente, y permita llegar a una Psicología preventiva que haga frente a las exigencias de salud mental de hoy.

NOTES

(1) Would like to thank my wife, Hella van der Steen, for improvement of the style and the English of this paper.

(2) It should be noted, however, that Experimental Psychology as such has a *Janus face*. The overall influence of Experimental Psychology on the development of theoretical Psychology has been minimal. On the other hand, especially during the last decades, many experimental psychologists have put their science to work in the revalidation of the handicapped, the education of the feeble-minded, etc...

(3) For a treatment of the notion of *contextualism* in the historiography of Psychology see Van HOORN 1972 and 1979 and Van HOORN and VERHAVE, 1981.

(4) Explicit reference to this Leibnizian notion can be found up to the 4th ed. of the *Grundzüge*, 1893, vol. 2, p. 648: "...als das entwickelte Erzeugniss zahlloser Elemente ist die menschliche Seele was Leibniz sie nannte: e i n S p i e g e l d e r W e l t" (spacing in orig.).

(5) In this passage I make use of the concept of *accelerated Nacheilung*, a historiographical principle that will be dealt with more extensively in Van HOORN & VERHAVE, 1981.

(6) FREUD uses the term "Clinical Psychology" in a fascinating context in a letter to FLIES, dated 30-1-1899: "What is rising out of the chaos this time is the connection with the Psychology contained in the *Studies on Hysteria*, the relationship with conflict and life; I should like to call it clinical Psychology".

(7) I have several times called attention to this important theme; see Van HOORN, 1966, 1970, 1971, 1972, 1976 and 1979. See, also, Van HOORN & VERHAVE, 1977 and VERHAVE & Van HOORN, 1977.

(8) DESCARTES, Discours, 6th Part, transl. by Haldane and Ross (1911), 1968, p. 120. In the original the wording is as follows: "..., mais principalement aussi pour la conservation de la santé, laquelle est sans doute le premier bien et le fondement de tous les autres biens de cette vie; ...". The context of this quote is absolutely fascinating. It contains the principles of DESCARTES's notion of *praxis*, his famous idea of people as *maîtres et possesseurs de la nature*, his Epicurean stance of enjoying the fruits of the earth and the link of the preservation of health, the betterment of mankind, the attainment of longevity with the progress of Medicine.

(9) Lothar SPRUNG: "Wilhelm Wundt -Bedenkenswertes und Bedenkliches aus seinem Lebenswerk". In Eckardt (Ed.), 1979, pp. 73-85.

(10) BERNAL: *Science in History*, Vol. 4, pp. 1120-1121.

(11) KANT: "Metaphysische Anfangsgründe der Naturwissenschaft" (1786). Suhrkamp ed., 1957, pp. 15-16. In this well-known passage, KANT's way of reasoning is more

complicated than I have described. KANT does not say that mental phenomena are immeasurable; the context, however, viz. the fundamental link between mathematics and true science, justifies my interpretation of KANT's exposition.

(12) In this connection it should be noted that the importance of clinical Psychology in the U.S.A. has been greatly enhanced by the bureaucratic measures of the *Veterans Administration*.

(13) HELSON: *Theoretical Foundations of Psychology*, 1951, p. 641.

(14) WUNDT: *Kleine Schriften*, 1921, Vol. 3, pp. 515-543.

(15) One could object that the so-called *Philosophy of science* plays an increasingly important role in post World War II Psychology. In my view this is not the case. Nobody, so far, has ever been able to demonstrate the actual influence of the Philosophy of science on the material development of the theory and practice of Psychology. The only thing which really seems to be true in this connection is Feyerabend's principle of "anything goes".

BIBLIOGRAPHY

BARITZ, L.: *The servants of power*. A history of the use of social science in American industry. Middletown, 1960.

BERNAL, J.D.: *Science in History* (1954). Penguin ed., 1969; 4 vols.

BORING, E.: *A history of experimental Psychology* (1929). New York, 1950.

BRINGMANN, W., & TWENEY, R. (Eds): *Wundt Studies*. Toronto, 1980

BROZEK, J., & PONGRATZ, L. (Eds): *Historiography of Modern Psychology*. Toronto, 1980.

DESCARTES, R.: "Discours de la Méthode" (1637); in *Oeuvres et lettres de Descartes*. A. Bridoux (Ed.), Paris, 1953.

DORSCH, Fr.: *Geschichte und Probleme der Angewandten Psychologie*. Bern, 1963.

ECKARDT, G. (Ed.): *Zur Geschichte der Psychologie*. Berlin, 1979.

ECKARDT, G.: "Bemerkungen zum Anliegen psychologiegeschichtlicher Forschung". In G. Eckardt (Ed.), 1979, pp. 7-21.

FREUD, S.: *The Origins of Psycho-analysis*. Letters to Wilhelm Fliess. M. Bonaparte et al., (Eds.). London, 1954.

HELSON, H. (Ed.): *Theoretical foundations of Psychology*. New York, 1951.

HOLZKAMP, K.: *Sinnliche Erkenntnis*. Historischer Ursprung und gesellschaftliche Funktion der Wahrnehmung. Frankfurt, 1976.

HOORN, W. VAN: *A Philosophy of Psychology*. Dutch. Mimeogr. doct. thesis. Leiden, 1966.

HOORN, W. VAN: "Psychology's Methodology revisited (Dutch.)". *Hypothese*. 1970-1971, *14*, 2-18.

HOORN, W. VAN: "Descartes and present-day Psychology (Dutch.)". *Wijsgerig Perspectief*, 1971-1972, *5*, 295-307.

HOORN, W. VAN: *As Images Unwind*. Ancient and modern theories of visual perception. Amsterdam, 1972.

HOORN, W. VAN: "Psychology in the Netherlands". In V. Sexton & N. Misiak (Eds.): *Psychology Around the World*. Belmont, 1976, 293-317.

HOORN, W. VAN: "History and theory of Psychology (Dutch.)". *Psychologie en Maatschappij*, 1979, *7*, 66-88.

HOORN, W. VAN & VERHAVE, Th.: "Socio-economic factors and the roots of American Psychology: 1865-1914". In *The Roots of American Psychology*: Historical Influences and Implications for the Future. R. W. Rieber and K. Salzinger (Eds.). Annals of the New York Academy of Sciences, vol. 291, 1977, 203-221.

HOORN, W. VAN; MEULMAN, J.; & VINCENT, B.: *The Societal Development of Psychology* (Dutch.). Mimeogr. Leiden Psychol. Inst., 1980.

HOORN, W. VAN & VERHAVE, Th.: "Wundt's changing conceptions of a general and theoretical Psychology". In Bringmann & Tweney (Eds.): *Wundt Studies*, 1980, 71-114.

HOORN, W. VAN & VERHAVE, Th.: "Contextualism in the historiography of Psychology". *Storia e Critica della Psicologia*, 1981, acc. for publication.

JAEGER, S., & STAEUBLE, J.. *Die Gesellschaftliche Genese der Psychologie*. Frankfurt, 1978.

JAROSCHEWSKI, M.: *Psychologie im 20 Jahrhundert*. Berlin, 1975.

KANT, J.: "Metaphysische Anfangsgründe der Naturwissenschaft" (1786), Suhrkamp ed., 1957.

MAIKOWSKI, R.; MATTES, P., & ROTT, G.: *Psychologie und ihre Praxis*. Materialien zur Geschichte und Funktion einer Einzelwissenschaft in der Bundesrepublik. Frankfurt, 1976.

MARX, M., & HILLIX, W.: *Systems and Theories in Psychology*. New York, 1963, 1978.

MEISCHNER, W.: "Die Anwendung marxistisch-leninistischer Prinzipien der Psychologie -Geschichte auf die Wundt-Forschung". In *4 Kongress der Gesellschaft für Psychologie der D.D.R.*, 1975.

MEISCHNER, W.: "Widersprüche im Wundtbild der Gegenwart". In *Beiträge zur Wundt-Forschung II*. Karl-Marx Universität. Leipzig, 1977, 7-22.

MEISCHNER, W.: "Wilhelm Wundt und die Psychologie". In Meischner, W., & Metge, A. (Eds.): *Wilhelm Wundt -Progressives Erbe, Wissenschaftsentwicklung und Gegenwart*, 1980, 1-21.

METGE, A.W.: "Wundt's Position zur psychologischen Methodik. In *Beiträge zur Wundt-Forschung*. Karl-Marx-Universität. Leipzig, 1975, 52-62.

METGE, A.. "Zur Neuausbildung der Experimentalpsychologie unter besonderer Berücksichtigung des Beiträges von Wilhelm Wundt". *Dissertation*. Karl-Marx-Universität. Leipzig, 1977.

METGE, A.: "Zum Problem der Selbstbeobachtung bei Wundt". In Meischner, W.& Metge, A. (Eds.): *Wilhelm Wundt*, 1980, 183-191.

PIERON, N., et al.: *Traité de Psychologie Appliquée*. Livre VII. Paris, 1959.

RAPPARD: *Psychology as Self-Knowledge*, 1979.

SPRUNG, L. "W. Wundt -Bedenkswertes und Bedenkliches aus seinem Lebenswerk. In Eckardt, G. (Ed.). *Zur Geschichte der Psychologie*, 1979, 73-85.

SPRUNG, L., & SPRUNG, H.: "Weber-Fechner-Wundt. Aspekte zur Entwicklungsgeschichte einer neuen Wissenschaft, der Psychologie". In Meischner, W. & Metge, A. (Eds.): *Wilhelm Wundt*, 1980, 282-302.

VERHAVE, Th., & HOORN, W. VAN: "The temporalization of ego and society during the 19th C.". In *The Roots of American Psychology*: Historical Influences and Implications for the Future. Rieber, R.W., & Salzinger, K. (Eds.). Annals of the New York Academy of Sciences. Vol. 291, 1977, 140-148.

WUNDT, W.: *Grundzüge der Physiologischen Psychologie*. 4th ed., 1893.