A QUARTER CENTURY OF PSYCHOLOGY IN AMERICA: 1878-1903. Edward Franklin Buchner

Classics in the History of Psychology

An internet resource developed by Christopher D. Green York University, Toronto, Ontario ISSN 1492-3713

A QUARTER CENTURY OF PSYCHOLOGY IN AMERICA: 1878-1903.

By Edward Franklin Buchner University of Alabama.

First published in American Journal of Psychology, 14, 666-680.[*]

Posted April 2000

It was almost a century before the beginning of the period we wish to review that Kant, supported by all the machinery of his critical analysis, declared psychology to be forever an impossible science. The facts of the mind being given in time alone, and in no wise under the conditions of space, and therefore existing without the pale of exact measurement, was the reason upon which he based his assertion and his prophecy. This ideal of a scientific psychology was far more worthy than the prophecy to which it led. The century that has just passed possesses no greater merit in the changes of human thought and achievement than that which rendered this prophecy inert, while cherishing and realizing this ideal. American scholarship and energy have in part reflected, and In part contributed to, these great changes, to review which is fitting on this anniversary occasion.

There were two lines of constructive influence which operated directly in shaping the trend of psychology in America during the first three guarters of the nineteenth century. These may be summarized in terms of the speculative and the empirical aspects of thought which prevailed in the eighteenth and the early part of the nineteenth centuries. The former mould of belief and endeavor was derived from Germany; the latter, from England. The former was the descendant chiefly of the reasonings of Kant, Fichte, Hegel, and Herbart. The latter represented the best efforts of Locke, Hume, Reid, James Mill and his son. The one mode of psychologizing was to apply the fundamental tenets of "reason" to consciousness, principally as found in man. A priori conceptions were given application through persistent deductions. The other mode reveled in the endless sport of an individualistic analysis of human consciousness. Both of these developments in psychology were [p. 667] extremely individualistic, than which no quality can be more baneful to any attempted science. Still another line of psychological development was characteristic of French science. Here the human mind was approached through medicine and special interest in certain types of abnormal consciousness. Mental pathology was variously exploited in extreme ways. These three national tendencies have severally and collectively been influential in awakening and guiding American efforts at different times and into different directions in the total field of consciousness. The chief item in this historical glance is to be noted in that unique speculative preparation for a scientific psychology which was made by Herbart's elaborate and involved efforts at a "mechanic" and "static" of mind.

Prior to the beginning of our special period, psychology in America, borrowing heavily from British and German sources, predominated in the theological turn given to its speculative type. Universal hypotheses concerning the soul were turned to account chiefly by the theologians. Religious interests profoundly stirred our colonial forefathers in both a philosophical and an academic sense. Edwards, for example, was the chief theological psychologist we had produced. Closely identified with this union of psychology with theology, there also appeared the educational aspects of the "philosophy" of mind. Education and psychology became closely related very early in American development, but in a manner radically different from that which, as we shall see later, is actively

Livros Grátis

http://www.livrosgratis.com.br

Milhares de livros grátis para download.

contemplated and practiced in the present day. Psychology was taught in the higher schools then existing, -- not by psychologists, -- but by pastors. The Puritan traditions in favor of religious education absorbed soul fore with a peculiar appetite. Men spoke unblushingly of "the soul." And they meant by it the same thing in their theology as in their philosophy. The object of study flourished under the somewhat dubious terms of "mental philosophy" and "moral philosophy." Psychological knowledge, as this has since become distinctly recognized, occupied but a small, unnamed portion of the entire field of philosophy. The abiding result of this dogmatic naivete was an enlarging credit to, and confidence in, consciousness -- chiefly human -- which has practically saved it from [p. 668] shattering under the repeated attacks of a later scientific scepticism. Men thought of the mind as of a thing. They gave it a primal reality. The language they applied to it was profoundly more than a mere symbolism. "Fundamental beliefs" and "intuitions" could be drawn from its depths with the grappling hooks of speculative analysis as readily and as inexhaustibly to suit the needs of any peculiar occasion, as water could be drawn with the old well-sweeps. One can say all this without being pledged to support the common sense realism of Scottish thinkers, which was the philosophical background of most, if not all, the adapted psychology which became current in American educational and theological circles.

Some typical books, which may be mentioned as evidence in this connection, were Tappan's "Doctrine of the Will determined by an Appeal to Consciousness" (1840), Hickok's "Rational Psychology" (1848) and "Empirical Psychology" (1854), and Porter's "Human Intellect" (1868). (The last volume contained some progressive departures from the early prevailing type, having been written in acquaintance with the then growing knowledge of physiological facts.) Another striking feature of this early type of American psychology is the fact that its books were written by men who were primarily theologians and educators, authors whose profession combined in one person the functions of the chair of mental and moral philosophy and of the president of the college, and of a preacher. In these and many other books "the mind" was treated in terms of "faculties," distinct and separable "powers."

Consciousness was "ready-made," a sort of "hand-me-down" affair, which could be had for the studious and persistent asking. The power and authority of authorship were far more current and important in those days than the power and authority of free, independent investigation of mental facts and their correlated conditions. Fichte had quite a modern inspiration when he critically declared that men were prone to believe some old book rather than their own consciousness!

How can psychology become a science! No question of the intellect has been approached with more persistent gropings since the time when Descartes and Locke attempted to answer it. At first men seemed to think that the content of the science authors whose profession [p. 669] had to be made in order to be able to respond to the query. It was not until the beginning of the third quarter of the last century that the question radically appeared to be one of method rather than of conception. The world-old veneration for Reality, Being, Becoming, the Absolute, slowly gave way before a growing regard for the facts in consciousness and for the facts about consciousness. The revolution inherent in this iconoclastic change resulted in, and is well chronicled by, the labor which produced such works as Lotze's "Medicinische Psychologie" (1852), Fechner's "Elemente der Psychophysic" (1860), Helmholtz's monumental inquiries into vision and audition, and Wundt's "Grundzüge der Physiologische Psychologie" (1874). A wider philosophical platform for the development of the newly explorable psychological interests was provided in the beginnings of the "Revue Philosophique" by Th. Ribot (1876), and "Mind" by G. Croom Robertson (1876). The active and established possession of the new field was effected by the Psychological Institute at Leipzig, founded by Wundt in 1879. This brings us within the beginnings of our quarter-century, and the "new" psychology is well secured, awaiting its extension over the whole domain of human activity as relating to psychological instruction and research. The most striking feature in all this is, that psychology, distressed by the buffetings from philosophical systems and the scourgings of those intellectual vandals who had ruthlessly employed it to destroy the very experience which it, above all other disciplines, supremely validates, secures both peace of mind and a non-forfeitable lease upon life by appealing to the physical and physiological sciences, and adapting the suggestions in their methods and conclusions to its own special problems.

Facts, however, never stand alone before the human intellect. Almost simultaneously with this revolution in scientific attitudes towards the content of daily psychical experience, there swept another revolution over human interests, which, -- like-wise affecting psychology, but more slowly, -- left its reconstructing effects upon all science, as, indeed, upon all practical activity. Facts soon

become related, or attached, to hypotheses; and this second revolution consisted in a construction of a universal hypothesis for all science. Spencer's "Principles of [p. 670] Psychology" appeared in 1855, applying an interpretation of evolution to consciousness. No greater intellectual infusion into psychology has saturated the labors and constructions of the last twenty-five years. Spencer's views as to mind may not have been acceptable to his contemporaries of the 70's and 80's, for it is probably true that Darwin has exercised the greater influence upon scientific views and activity; but the demand that the data of experience should be viewed as the functional changes of consciousness was yielded to. Mind was thus brought anew into intimate relations to universal processes. Psychology acquired a consummating unity with the other sciences. Consciousness became "genetic," and "faculties" were appreciable only as growths. The further demand for unity in naturalistic evolution, so thoroughly expressed in Fiske's "Outlines of Cosmic Philosophy" (1874), was well in the ascendency, under the leadership of which psychology awakened to a deeper and wider interest in consciousness of every order and of every type wherever manifesting itself. Under the direction of the newly acquired methods of experimentation and demonstration, and the inspiration of the fresh conception synthesizing all the facts, consciousness came to be viewed as a unitary process, better known as psyche-physical. Indeed, mental process, slowly but surely, came to mean the activity of adaptation springing from within, instead of a mere reaction upon an environment. Consciousness, having ceased to be regarded as an entity, possessing parts and properties, is now known as a life, identifying itself with life relations.

When we come to look for the features of the psychology which has come to be among us, we find them to have developed through a devotion to measurement, enumeration, and comparison, as the efficient methods of ascertaining the elemental facts of the inner life and their relations. The experimenter, who teased out the intricate adjustments between impression and expression, -- the two primary functions in reactions, -- first claimed the field as his own by reason of the facts obscured in daily living which he brought to light. But the need of the method of the statistician, who can determine tendencies by taking faithful recognition of frequency of occurrence among mental processes, gradually appeared as the [p. 671] experimenter reached his limits with the so called lower processes of mental action. To find out truly what the mental life, in its multiple varieties is, has been the constant aim of those who proceed by precise laboratory methods or extensive questionnaires. The results of both types of students must be carried forward in credit to the scientific interpretation of that experience from which they were originally derived. Exactness in statement of facts has probably been the idolizing passion among the progressive Fachmänner trained in the earlier years of our period. Objective conformity in discoverable facts is the test for offsetting the peculiar limitations of merely individual observations, however honestly acquired, and for eliminating the warping bias of prejudice, to which the study of mental phenomena has ever been prone. No one can fail to be struck by the fact, that, with all the machinery of laboratory precision and with all the ingenuity of asking questions on unsuspected items in one's experience, every psychologist has been meeting the prime condition of the science, namely that it shall be true descriptively. To get a true picture of the mental life, describable in terms of human speech, has unquestionably been the persistent aim throughout these years, in which American investigators have cordially joined with their European colleagues.

The two types of methods just referred to have received a large addition in more recent years through the necessity which has led to the introduction of what may, by contrast, be called the comparative method. This method has enlarged the domain of psychology by leading its devotees to search the conscious manifestations in the lower forms of life, to undertake a more critical and exhaustive observation of the mental behavior in the higher animals, and finally to see the life of civilized man constructing itself through the modes of reaction, impulse, and deliberation which have become traceable in primitive men and children of civilized races. Almost the entire departments of child, race, and animal psychology, which now are so splendidly equipped with a knowledge of their respective objects, have been either entirely reconstructed or newly created within these twenty-five years, as a direct consequence of an earnest appreciation of the potency of [p. 672] comparison in the hands of a trained psychologist. The thorough study of sensory-motor processes and their multiple relations is to be credited to the first type of methods, which also has thrown brilliant light upon the higher manifestations of mind, completely overshadowing the painfully exhaustive emphasis placed upon the intellectual processes by the genius of the earlier psychology. The method of comparison has also brought a new light upon the obscure but wide-reaching life of impulse, instinct and volition, opening before us a larger world of mind than the most hopeful of the earlier psychologists ever dared dream of.

Among all people scientifically alive, during the quarter century, psychology has also been taking rapid strides beyond the primary task' of description. All this application of these methods has steadily progressed under the power of that logical belief which has pervaded the thinking of the explorers in the fields of physical science. The same logical principle of inductive generalization, which, according to Mill, controlled in the fabric of the material sciences, has gradually assumed its leading rôle in psychological science. The principle of "the uniformity of nature" became applicable to mind through these many pears of effort at exact and exhaustive description of mental processes, a few of which had been so often analyzed and re-analyzed in earlier eras in psychology. Explanation of the facts which are faithfully described is the larger and more intricate task of every science; and psychology has steadily faced this duty during the last twenty-five years.

In the first place, the careful description and attempted explanation of specific mental phenomena have proceeded with astonishing progress. Psychologists were altogether too late in the progress of science in discovering that their first duty lay rather in the direction of picking out detachable facts and studying them, than in that of attempting to discover some mode of universal explanation for the science. In numerous particulars Aristotle established good models in this respect, which were all too soon neglected and then totally forgotten. To select distinct phenomena, which may be studied apart and explained as integral problems, such, for example, as the perception of letters and angles, psyche-physical reflexes, special [p. 673] instincts, the horopter, control of the Eigenlicht, attention and contrast, simple voluntary movements, special associations and memories, the displacement of cross lines in visual illusions, imitation, tone discrimination, etc., etc., is to travel securely along the avenue of progress in exploiting the new region opened by the new methods of research and demonstration. The chief benefit arising from such zeal is to be found in a sharper definition of the held for psychology, increased accuracy in and enrichment of the actual knowledge the science possesses.

In addition to this alertness for the selection of specific phenomena which may be detached and studied, there has appeared an increasing recognition of that larger duty of explanation in psychology which should find for the whole science some principle which stands in an explanatory relation to the extreme compass of its investigation. This tendency towards the perfection of a supreme generalization has moved in two directions. The largest issues of this epoch appear in the varying answers individual psychologists and the nascent "schools" of psychology have given to these two questions: (1) What explanation, if any, shall be given of the relation of the activities of the individual consciousness to the particular brain processes with which they are always connected in experience? (2) What is the relation of the structure and function of mind at present to minds in the past? Do minds stand in a constructing series, each unit of which absorbs the fundamental activities of all the preceding units? The first is the problem of brain psychology; tile second, that of genetic psychology. The adoption of one theory resolves all orders of consciousness into a psycho-physical process; of the other, into a bio-genetic process. The one is satisfied In averring utility of the total individual organism. The other maintains a belief in the unity of the race of organisms. The one applies logical principles of interpretation to specific processes. The other gives a cosmic evaluation to the psychic half of every form of life. The former may be said to have been a dominating theoretical tendency during the first decade and a half of our period. The latter appeared with vigor a decade ago, and is now unquestionably in the ascendency. [p. 674]

Another essential feature in the explanatory tendencies in the psychology of these later days may be illustrated by the contrast and the debate between the Associationists and the Apperceptionists, who still maintain their camps on a war footing. To the Associationist mental forces mean something after the analogy of physical force in the objective world. The Apperceptionist holds that mental processes are expressions of a distinct cosmic function, which has a validity equal, at least, in the objective world to the play of forces in atoms, molecules and masses. These debates in search of a complete psychological theory, which shall offer a satisfactory explanation of the interaction of mental processes and their universal conditions, reflect a wholesome state of the science so long as they are conducted primarily in the interest of psychology and always on a basis of fact.

Next to the fact that a definite and positive science of man, growing in facts and in theories, to which every special investigator may offer somewhat permanent contributions, has been created, the most interesting feature of the last twenty-five years, both in Europe and America, is the changed relation between psychology and philosophy. This readjustment found its chief exponent, perhaps, in the large and persistent conception and labor out of which grew this Journal from the first devoted and pledged to the elevation of psychology through a sympathetic reciprocity of all lines of the objective

study of mental facts. In the past psychology was given a small corner in a philosophical system. The approach to a knowledge of mind lay through the fields of abstract conceptions, of which those presumed to fit such an entity had to be analyzed and adjusted to other abstractions before a discussion of subjective experience could be entered upon. Then one's psychology grew out of, and was dependent upon, his philosophy. Now one's philosophy depends upon his psychology, upon his recognition of the psychological facts of experience and his methods of interpreting them. Indeed, a man may nowadays not infrequently be found who possesses a psychology but no philosophy as such, the latter having been completely and enthusiastically absorbed by the former. What is true for all men now is, that no one who has not blown the psychological trumpet [p. 675] can gain the attention and respect of his philosophical contemporaries.

This complete change in the pointings of our intellectual compass does not do violence, so often feared, to either psychology or philosophy. Great value to both has accrued through a separation of mental and speculative interests for the sake of exhaustive knowledge. Ontological and other philosophical interests are not done away with. The new psychology only assigns them functions, different from those prevailing in earlier epochs but more progressive, in the new administration of the kingdom of truth. While philosophy has slowly, but certainly lost psychology forever, it has gained the opportunity of ceasing to be a pet affair of individual abstractions and of assuming a content full of life. The benefit also extends to the teaching of psychology and philosophy, each of which has made much progress. Vivacity and concreteness now replace -- or can replace -- the old weary grind of dogmatic jingle.

We come now to a recital of some of the most interesting and characteristic events in the history of psychology in America during the last quarter century. These items relate to university interest in the science, the founding of laboratories, the developments in organized instruction in undergraduate and especially in graduate courses, the widening influence of these changes upon the practical issues of human life, particularly education, the establishment of journals and the production of a technical literature, consisting of articles, monographs, treatises, and text books, and the promotion of the welfare of the science through the corporate activity of the American Psychological Association.

Probably the earliest attempt at exact demonstration in psychology in America occurred at Harvard University. Professor James has said that it was either in 1875 or 1876. But the first laboratory for psychological demonstration and research was opened in 1883 by him in whose honor this Festschrift is inscribed, during his incumbency as professor of psychology and pedagogy in the Johns Hopkins University. Four years later The American Journal of Psychology was founded by Dr. Hall himself, with the aim already mentioned, and "The Elements of Physiological Psychology" was published by Professor [p. 676] George Trumbull Ladd, of Yale University. This Journal and this treatise, by reason of their scientific vigor and the saneness of the industry they represented, completely effected a wholesome American adoption of all that was good of the progressive movements in foreign lands at that time, and also previsioned the integrity of the high purposes of American psychologists to work independently of foreign systems and thinkers. In 1888 Professor J. McKeen Cattell occupied the first chair in America created for psychology alone, having a laboratory attached, at the University of Pennsylvania. Here the first American college students received instruction in experimental psychology. Thus at the end of the first ten years of our guarter-century we meet with those conditions which peculiarly and effectively adapt a new and growing science to American ways and needs; namely, a journal, a book, a workshop, a teacher, and a college class! The pedagogical adaptation of the science, which is an American peculiarity, advanced still further in a very decisive manner when Professor E.C. Sanford began the publication of his valuable "Laboratory Course in Physiological Psychology" (1891). This publication was intimately connected with the activity in psychology at Clark University, which had been opened in 1889, and to the presidency of which Dr. Hall had been called in 1888.

Many public events tending to promote the welfare of the science and the extension of its influence upon modern life became closely connected with Dr. Hall's labor and initiative. His services as a teacher of university students and a guide and help to many a youthful investigator have likewise continued with unabated vigor. In 1891, he founded The Pedagogical Seminary, which has been, and is, devoted to the growth of educational thought as an application of a sound psychology, and has been a chief repository of many studies in child psychology. The same year he conducted a round table on psychology at the Toronto meeting of the National Educational Association of the United States. Again, in 1893, he organized the section on experimental psychology and education

as a part of the Congresses held in connection with the Columbian Exposition. In 1892, Dr. Hall, hoping to promote still further the interests of psychology in America by uniting its [p. 677] workers into closer bonds, planned, in conference with Professor Ladd and others, a society of psychologists, and invited more than a score to meet at Clark University on July 8th, 1892. As a result of this meeting there was organized The American Psychological Association, which has gradually become the largest and the most important single factor incorporating psychology into the temper of American institutions, both scientific and educational.

This Association has held meetings annually since its organization, having been the guest of the leading universities in the country until its recent affiliation with the assemblage at Convocation Week. It has had a membership of one hundred and forty-eight psychologists, eighty-nine of whom have been contributing members. In the course of its history the Association has received two hundred and eighty-three communications. How completely the scope of these papers accords with the extending bounds of the science is to be seen from the following summary which shows their percental distribution over the chief topics:

General Topics, 20% Sensation, 19% Genetic, Social and Individual, 14% Higher manifestations of mind, 14% Cognition, 12% Conation and movement, 6%

Characters of Consciousness, 4% Mental Tests, 4% Sleep, Trance, and Pathology, 3% Anatomy and Physiology of the Nervous System, 3% Affection, 1%

Twenty-five years ago America did not possess a single laboratory for psychology, although there were instruments of precision and graphic means for demonstration among us. In nine years after the establishment of the first laboratory on this side of the Atlantic Ocean, there had been fifteen laboratories equipped either for research or for demonstration. In the next two years ten new laboratories were opened. Now there are experimental facilities found in not less than forty colleges, universities, and pathological institutions in the United States. Still other colleges and normal schools have varying grades of facilities for teaching the science. And since the statistician has come in with his questionnaire, there is hardly a school but has its worker gathering or collating some new facts, or verifying some older studies. One of the most interesting [p. 678] features in this rapid and almost luxurious extension of the facilities for psychological investigation, which had centered chiefly in our great universities out of purely scientific interest, is that the adaptation of the exact methods of collecting facts in our universities, normal schools, and educational departments, and the institutions for the insane and defectives, was made almost simultaneously. There has also somewhat recently appeared a tendency to admit instruction in psychology in our theological seminaries as a part of the future minister's training; but the adaptation of the science to the practical aspects of the religious life remains a development of the future, which may come soon in consequence of the very recent active explorations in the psychology of religion.

If one desires evidence to believe that the extensive equipment for psychology in America -probably the most expensive of any nation -- and the special training of psychologists both within and without the laboratory, have been yielding creditable returns, he need but look to the periodicals which have been established especially for receiving the more technical studies conducted in these laboratories, to those which welcome a more popular discussion of psychological facts and problems, to the technical journals of other branches of science which open their pages to the treatment of topics which have mutual bearings with psychology, and to the serial issues and bulletins of universities and laboratories which secure a more immediate publication of their own studies respectively than could occur if this depended solely upon the larger journals. Mention can be made of this Journal (1887), "The Psychological Review" (1894), and its nineteen monographs, the publication of which began in 1895. Yale and Iowa Universities each maintain separate "Studies" for their departments of psychology. Chicago, Columbia, Colorado, and Cornell, have special serial issues devoted to philosophy, psychology, and education, or to psychology and education. "The Open Court" (1887), "The Monist" (1890), and "The Philosophical Review" have been valuable adjuncts to the broadening and deepening of psychology and its influence upon cognate departments of thought by having fostered the modern spirit of the science and brought out many valuable discussions of [p. 679] its topics. The educational press, headed by "The Pedagogical Seminary" and "The Educational Review" (1891), has also performed extensive service for a sound psychology in the schools. Not the least interesting and instructive part of this sketch, could its details be exhaustively presented, would be an enumeration of the many times foreign scientific periodicals have extended cordial welcome to pieces of work done by our students at home.

The literary activity of our psychologists has extended far beyond the bare limit of a supporting contribution to these home periodicals. Systematic treatises, monographic essays, and text books for the use of classes and private students have followed in an almost steady stream from the pens of our psychological scholars and experts. McCosh's "Psychology: The Cognitive Powers," Bowne's "Introduction to Psychological Theory," and Dewey's "Psychology," appearing in 1886 and 1887, were among the first works which effected something of a transition from the old slate to the new scientific aspirations, by introducing a recognition of objectively valid facts into the older systematic analyses of the mind. James's "Principles of Psychology" (2 vols., 1890), so long delayed in completion, possessed the double merit of working towards and looking forward to the constructive future of the science, and of placing the charm and persuasion of an attractive exposition of the science in the lead of the world. Tracy's "The Psychology of Childhood" (1893), Ladd's "Psychology, Descriptive and Explanatory" (1894), Baldwin's "Mental Development in the Child and the Race' (1895), Scripture's "The New Psychology" (1897), Harris's "Psychological Foundations of Education" (1898), Titchener's "Experimental Psychology: A Manual of Laboratory Practice" (2 vols. 1901), and Baldwin's "Dictionary of Philosophy and Psychology" (1901-1902), may be named as representative of successive forward movements in systematizing the gradual increments which experimental, comparative, and historical research has yielded in these recent years. Other works, less systematic, but too numerous to be mentioned, were produced especially in the 90's.

During the first seven years of the last decade in our quarter-century not less than eight excellent text-books for the science [p. 680] were prepared by our leading experts. Several " primers," even, by our authorities found their way into the hands of the boys and girls in our secondary schools. And women's clubs and Chautauquan circles have no less been exploited by the ingenuity of American authorship in psychology. No literary opportunity, it would seem, has been allowed to pass unimproved for making all men know something of themselves.

The American reader and student has also had a splendid foreign literature placed at his disposal during the same period largely through the industry of American translators. Eight works by Ribot, two by Preyer, two by Wundt, two by Groos, one each by Külpe and Ziehen, have become an integral part of our literary assets in abnormal, genetic, physiological, and systematic psychology. Our obligations to the psychologists of England during these years are too extensive to be specified in the space at our command. The early debt to French and German psychologists which America incurred In the early part of the last century, and which was so greatly increased in the 70's and 80's began to be repaid in the 90's. Since 1896, no less than seven important American works have been translated into either French or German; and foreign publishers continue to seek for further privileges from our authors. From this participation in an international exchange, may we not look forward with confidence to a time when psychology shall move forward with an unprecedented progress, and to a time when a complete science of man shall be at the command of all men?

Footnote

[*] Classics Editor's note: This article appeared in a special double-issue of AJP commemorating the 25th anniversary of G. Stanley Hall's doctorate. It has two sets of page numbers, one beginning from two issues previous, at the start of volume 14; the other beginning from the first page of this particular issue. I have chosen here to use the page numbers that start at the beginning of volume 14.

Livros Grátis

(<u>http://www.livrosgratis.com.br</u>)

Milhares de Livros para Download:

Baixar livros de Administração Baixar livros de Agronomia Baixar livros de Arquitetura Baixar livros de Artes Baixar livros de Astronomia Baixar livros de Biologia Geral Baixar livros de Ciência da Computação Baixar livros de Ciência da Informação Baixar livros de Ciência Política Baixar livros de Ciências da Saúde Baixar livros de Comunicação Baixar livros do Conselho Nacional de Educação - CNE Baixar livros de Defesa civil Baixar livros de Direito Baixar livros de Direitos humanos Baixar livros de Economia Baixar livros de Economia Doméstica Baixar livros de Educação Baixar livros de Educação - Trânsito Baixar livros de Educação Física Baixar livros de Engenharia Aeroespacial Baixar livros de Farmácia Baixar livros de Filosofia Baixar livros de Física Baixar livros de Geociências Baixar livros de Geografia Baixar livros de História Baixar livros de Línguas

Baixar livros de Literatura Baixar livros de Literatura de Cordel Baixar livros de Literatura Infantil Baixar livros de Matemática Baixar livros de Medicina Baixar livros de Medicina Veterinária Baixar livros de Meio Ambiente Baixar livros de Meteorologia Baixar Monografias e TCC Baixar livros Multidisciplinar Baixar livros de Música Baixar livros de Psicologia Baixar livros de Química Baixar livros de Saúde Coletiva Baixar livros de Servico Social Baixar livros de Sociologia Baixar livros de Teologia Baixar livros de Trabalho Baixar livros de Turismo