TITLE Educational Psychology in Italy

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UNIVERSITY of Michigan DATE 1949

DEGREE Ph.D. PUBLICATION NO. 1203

EDUCATIONAL PSYCHOLOGY IN ITALY

By

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A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy in the
University of Michigan

Ann Arbor, Michigan

January, 1949

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to those who have helped in the preparation of this investigation.

Special acknowledgment is due the chairman of the doctoral committee, Doctor Claude Eggertsen, Assistant Professor of Education, together with the other members of the committee: Doctor Clifford Woody, Professor of Education and Chairman of Graduate Study in the School of Education, Doctor W. Clark Trow, Professor of Educational Psychology, Doctor Willard C. Olson, Professor of Education and Professor of Psychology, and Doctor Vincent Scanio, Assistant Professor of Italian.

The author feels he is fortunate to have had, during the preparation of this thesis, the guidance of Professor Mario Stefanini, on leave of absence from the University of Rome, and at present at Marquette University, who read the entire manuscript and made many constructive suggestions. His intelligent aid has added greatly to the accuracy of the text.

Also worthy of special mention is the help recieved from Doctor Walter B. Pillsbury, Professor of Psychology at the University of Michigan, for reading the manuscript; and from the librarians of the University of Michigan, the University of Chicago, Marquette University, the Chicago Public Library and the Milwaukee Public Library for their aid in obtaining Italian books and magazines through inter-library loans.

A special recipient of thanks is my wife, Constance Zarcone La Malfa, who supplied criticism of literary expression as well as constant encouragement.

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

This investigation may be described as a documentary study of the rise and development of educational psychology in Italy. It examines the extent to which educational psychology drew upon the positivistic movement in Italy. It provides answers to a series of basic questions.

1. When did the study and teaching of educational psychology have their beginnings in Italy?
2. For what purpose and by what groups was it sponsored?
3. Who were some of the leading educational psychologists in Italy and what were their contributions?
4. To what extent did concepts and procedures of psychology in other countries affect pedagogy in Italy?
5. Did educational psychology affect teacher training in Italy?
6. Were the products of the laboratory researches utilized in school practice?
7. Was the scientific approach to educational methods and its use modified as a result of the change from constitutional monarchy to dictatorship?

Italian Psychology in Secondary Accounts

It is true, of course, that until 1890, Italy had little organized research in psychology compared to that of other

countries. After 1890 impetus was given to Italian psychology by other countries, especially America, with the translation in 1901 of William James's Principles of Psychology by Giulio C. Ferrari, psychiatric director of the Emilian Medico-Pedagogical Institute, Bologna, Italy. Ferrari believed that this translation marked a turning point in the history of Italian psychology.[1]

> Of this we have before our eyes today a luminous example in the enormous impulse given to psychology here by my translation of the Principles of Psychology by the great American psychologist, William James. This translation dates from 1901 and in two years the first edition of more than 2000 copies has been exhausted....I believe, however, that this publication marked a turning point in the history of Italian psychology.[2]

In view of the fact that Italian psychological contributions have received only superficial mention in English scientific literature, it is often assumed that little research of significance outside of Italy has been produced by the Italians. In most English writings on the history of psychology the same group of Italian psychologists are treated and the same sources of information are used in the respective accounts of Italian accomplishments.

None of the attempts to review the development of psychology in Italy have yielded a complete picture, especially

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[1]Giulio C. Ferrari, "Experimental Psychology in Italy," American Journal of Psychology, XVI (April, 1905), 227.

[2]Ibid.

of the application of psychology to education. Of those that have been made, the outstanding ones are briefly discussed below.

Although Edwin G. Boring gives a brief account of Italian contributions in his A History of Experimental Psychology, he admits the inadequacy of his account of Italian psychology and points out that the language barrier may have been a factor in limiting the number of available summaries of Italian work.[1]

> There are, however, no national trends or general bodies of research that have greatly affected psychology as a whole, and a superficial mention of men and laboratories would serve no useful purpose here. Insofar as these investigators do not publish in German, French, or English, the language-barrier is apt to leave the work unknown and without the recognition which it deserves.[2]

There is little about pedagogy in the works of Carl Murchison who included two Italian psychologists, Sante de Sanctis[3] of the University of Rome and Giulio C. Ferrari[4] of the University of Bologna in his History of Psychology in Autobiography.

The History of Psychology by George Sidney Brett contains a short article on the subject concerning the contri-

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[1]Edwin G. Boring, A History of Experimental Psychology, p. 67. New York: The Century Company, 1929.

[2]Ibid.

[3]Carl Murchison, (editor), A History of Psychology in Autobiography, III, pp. 83-120. Worcester, Massachusetts: Clark University Press, 1936.

[4]Carl Murchison, (editor), A History of Psychology in Auto-biography, II, pp. 63-88. Worcester, Massachusetts: Clark University Press, 1932.

bution of one Italian psychologist, Giuseppe Sergi of the University of Rome, to educational psychology.[1]

> Sergi thought that science might be utilized to prevent as well as to understand the development of criminals; he, therefore, promoted the anthropological study of childhood with a view to the creation of a scientific psychological method of educating, not only the intellect, but the entire mental and physical organism of the child.[2]

From his examination of many sources the writer believes that Boring is correct in saying that Italian psychologists published very little in German, French, or English, and that they made few attempts to make periodic reviews of their own work, which resulted in misleading accounts of Italian psychological contributions by foreign psychologists. Ferrari, the originator of the first Italian psychological journal, Rivista di psicologia, who labored continually for the spread of Italian psychological thought, frequently pointed out that Italian psychologists failed to provide compilations of their activity and severely criticized any misrepresentation of Italian psychological progress in his own country and outside of it as well. "The Tendencies of Experimental Psychology in Italy", by Giovanni Chiabra, in the American Journal of Psychology in 1904, was met with severe criticism by Ferrari. Chiabra described the work of

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[1]George Sidney Brett, A History of Psychology, III, pp. 254-55. London: George Allen and Unwin Ltd., 1921.

[2]Ibid., p. 254

Angelo Mosso and Francesco DeSarlo, and named three laboratories which he considered as contributors to a "tendency" in experimental psychology in Italy. These were the laboratory at the Institute of Physiology at the University of Turin, directed by Mosso; the laboratory of Anthropology at the University of Rome, directed by Sergi; and the laboratory at the Institute of Higher Learning at the University of Florence, directed by DeSarlo.[1]

In an effort to correct misleading impressions given by Chiabra, Ferrari contributed an article to the same journal a year later, which deplored Chiabra's lack of information.[2]

> Reading with a real interest the title of the article by Chiabra, "The Tendencies of Experimental Psychology in Italy," published in the October number of the American Journal of Psychology, I was very greatly surprised when I perused the few pages in which the author treats his subject.[3]
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> ...Mr. Chiabra has every reason to praise unreservedly the work of two such eminent persons as Professor Mosso and Professor DeSarlo...but he is very wrong in speaking of a subject about which he is not fully informed, when he ignores many others in Italy, who, without following in anybody's steps, have sought to open wide for psychology the way of experiment.[4]

Ferrari stated he could not understand Chiabra's failure to mention the founding of a department of experimental psychology at the University of Rome, which DeSanctis headed,

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[1]Giovanni Chiabra, "The Tendencies of Experimental Psychology in Italy," American Journal of Psychology, XV (October, 1904), 515-25.

[2]Ferrari, op. cit., p. 225.

[3]Ibid.

[4]Ibid.

and one at the University of Naples, directed by Colucci. Further, according to Ferrari, Chiabra did not mention the works of DeSanctis on dreams, abnormal child psychology, attention and intellectual imitation; or those of Colucci on ergography, reform schools, abnormal psychology, and his experiments on the ventricles of the brain. There were others who had made valuable contributions on scientific psychology, Ferrari asserted, but the work of these men represented a "tendency", and deserved to be mentioned in Chiabra's article.[1]

Ferrari also criticized Sapienza Castognola's book Storia moderna della pedagogia italiana, published in 1916. He stated that the title was promising, but that the material was misleading since many outstanding Italian educators were ignored. Sergi, a prominent physician and pedagogical anthropologist, was among the leading educational psychologists left out of Castagnola's book.[2] In view of the fact that an inspection of the bibliography in any English book which treats of Italian educational history reveals several books by Castagnola, if Ferrari's low estimate of his performance is correct, it is not difficult to understand why educational psychology in Italy has not been accurately treated by English writers.

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[1] Ibid.

[2] Giulio C. Ferrari, "Sapienza Castagnola, Storia moderna della pedagogia italiana", Rivista di psicologia, XIII (1917), 68-9.

Carl Murchison was criticized by an Italian psychologist, Mario Canella, for his unintentional misrepresentation of Italian psychology. In 1929, Murchison published a Psychological Register containing 580 pages, listing alphabetically and by countries the names of thirteen hundred psychologists. Canella pointed out that Murchison should remedy the omission of the names of prominent Italian psychologists in subsequent editions of the Psychological Register; omissions that would give the misleading impression that Italy had only eleven scholars in psychology, against thirty-eight in Russia, eighty-nine in France, one hundred ten in the British Empire, one hundred forty in Germany and six hundred sixty in the United States. The eleven "brave men" listed as Italian psychologists in Murchison's Psychological Register, were Benussi, Bonaventura, Colucci, De Sanctis, De Sarlo, Gatti, Gemelli, Kiesow, Ponzo, Rignano and Musatti. Although all of these men unquestionably were eminent, many important men were not included, among them Ferrari.[1]

According to Mario Ponzo of the University of Turin, and at the present time a co-editor of Psychological Abstracts, the omission of Italian as an official language at international conventions until 1926 was a major factor in keeping all but a few Italian psychologists from attending these meetings and from presenting their contributions. This lack of attendance, he says, was obvious at the International Congress of Psychology held at Oxford in 1923, and at the next convention, held three years later at Groningen, Germany, at which English and German representatives predominated.[2]

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[1]Mario Canella, "L'opera e l'attività di uno psicologo americano: Carl Murchison," Rivista di psicologia, XXXI (1930), 193-6. [2]Mario Ponzo, "L'VIII Congresso Internazionale di Psicologia," Rivista di psicologia XXII (1926), 129-35.

> ...English and German representatives predominated. Kiesow and Ponzo of Turin and Gatti and Rignano of Milan were present. Professor Kiesow complained of this situation and the Congress unanimously accepted this request for Italian to be readmitted in future Congresses. Thus Professors Kiesow, Ponzo and Rignano were admitted to the International Committee for the Organization of Future Congresses.[1]

However, this action was not adopted officially. In reply to an invitation to the convention to be held at Yale University in 1929, Fernberger stated that the Italian Government informed the Congress Committee that unless Italian was added as an official language of the Congress, it would refuse to issue passports for the attendance of Italian psychologists at the Yale Congress. The Italian language thus was made an official language of future Congresses.[2]

There is some evidence that I. L. Kandel and Howard Marraro are in error in concluding that the small attention given Italian psychologisy in English is due to a lack of

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[1] Ibid., p. 130.
...vi hanno predominato i rappresentanti di lingua inglese e tedesca. Intervennero Kiesow e Ponzo di Torino; Gatti e Regnano di Milano. Di questo protesto opportunamente il prof. Kiesow, e il congresso accettò unanime la sua richiesta che l'italiano fosse riamesso nei Congressi futuri. Nel Comitato internazionale pei futuri Congressi furono quindi ammessi i Professori Kiesow, Ponzo e Rignano.

[2] Samual W. Fernberger, "Publications, Politics and Economics", Psychological Bulletin, XXXV (1938), 88.

activity by the Italians.[1] In 1938, Fernberger listed the number of titles in the Psychological Index and the Psychological Abstracts which have appeared in different languages (English, German, French, Italian) from 1894 to 1936. In an interpretation of the data, he indicated that from 1897 to the first years of World War I, the number of Italian articles steadily declined. From 1918 to 1920 the number rose sharply, owing in part to the publication of a number of articles on military psychology just before and toward the end of the First World War, and in part to the fact that the Italians began to publish more largely in Italian. Later Fernberger continued his study to include the years 1936 through 1945.[2] The writer has compiled the data, which is presented in Tables I* and II*, from this and other articles.[3]

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[1]The author wrote to I. L. Kandel and Howard Morraro requesting information on Italian educational psychology. They replied that as far as they knew Italian educators had not given much attention to the problem.

[2]Samuel W. Fernberger, "On the Number of Psychological Interest Published in the Different Languages," The American Journal of Psychology, LIX (April, 1946), 284-90.
In the opinion of the writer, Fernberger is not in disagreement with Boring's statement, previously cited, concerning the amount of publications on Italian psychology in other languages. Boring's point is merely that there has been a language barrier insofar as Italian psychologists were prevented from publishing in German, French, or English, and that this fact accounts for work unknown and unrecognized.

[3]Samuel W. Fernberger, "On the Number of Psychological Interest Published in the Different Languages," The American Journal of Psychology, XXVIII (1917), 141-50; XXXVII (1926), 578-80; XXXXVIII (1936), 680-84; LIX (1946), 284-90.

* See Appendices

From 1894 to 1945, the Italians produced almost 6% of the world's psychological articles. From 1894 on, the Italians lagged behind the Americans, English, Germans, and French, except for the years of 1925 and 1932 when Italian psychological publications surpassed the French. In 1932 the Italians produced 11.7% and the French 8.1% of the world's psychological articles. During 1944, Italian psychological contributions dropped to zero per cent. The salient fact, however, is that the Italians produced 3,460 articles in the field over a period of about fifty years. Although this may indicate a lesser degree of interest by Italian scholars, it also indicates that there was a larger body of scholars at work in the study of psychology than is represented in American sources.

Primary Source Material

From the foregoing, it is clear that little of a survey nature is to be found in English, or in any other language, Italian included, on the contributions of Italian scholars in psychology. There are few guides of secondary nature, except by that which also has been shown to contain very brief statements concerning the early status of psychology in Italy.

Further, such leading figures in Italian-American culture and science as Giuseppe Antonio Borgese and Enrico Fermi, both now on the faculty of the University of Chicago, were unable to supply helpful information. Although Mario

Stefanini, a recent recipient of honorable mention from the Italian government for his study of mental fatigue, at present at Marquette University while on leave of absence from the University of Rome, Italy, was of some assistance, he was not able to supply any additional titles to the bibliography compiled by the author. In fact, Stefanini stated that more material on the subject is available in the United States than in Italy at the present time, due to World War II.

Perhaps this is the reason why Carleton W. Washburne indicated that he found few Italians able to contribute to modern child psychology in present day Italy.[1]

> Because of the lack of professors in the Magistrale who knew anything about child psychology and modern teaching methods, and the lack of books in this field, the program fell far short of its purpose. So in January, 1946, we suggested to Arangio Ruiz's successor that a small group of university professors might be sent to Switzerland for training, to bring back to Italy some knowledge of the essentials of child psychology and educational procedures.[2]

This dissertation has been developed mainly from materials contained in primary sources concerning the work in educational psychology in Italy from 1905 through 1939.

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[1]Carleton W. Washburne, "New Schools for Italy," Survey Graphic, (November, 1946), 386.

[2]Ibid.

Chief among the available journals and periodicals are:[1]

1. Rivista di psicologia applicata alla pedagogia ed alla psicopatologia.
2. Archivio italiano di psicologia.
3. Psiche.
4. Enciclopedia italiana.
5. Annuari. (Annuals of leading Italian Universities)
6. Année Psychologique.

Rivista di psicologia[2]

The Rivista di psicologia applicata alla pedagogia ed alla psicopatologia, was first published by Ferrari in 1905. Ferrari believed that the Rivista would bring together the work of all Italian psychologists.[3]

> In order to co-ordinate the general work now being done in Italy, I intend to publish in January, 1905, a special journal entitled Rivista di psicologia applicata alla pedagogia ed alla psicopatologia. If the new journal shall be permitted to centralize the work of all Italian psychologists, there will be seen springing naturally from the mass, diverse tendencies reflecting the special individuality of our thinkers and at the same time affirming the independence and originality of their thought.[4]

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[1]Available at University of Michigan Library, Ann Arbor, Michigan.

[2]Rivista di psicologia, Stabilimenti Tipografico Zamorani e Albertazzi, Poligrafici Riuniti, Piazza Calderini 6, Bologna, Italia.

[3]Ferrari, op. cit., p. 227.

[4]Ibid.

There are thirty-four volumes of this journal from 1905 to 1939, inclusive. No Italian psychological journal existed before this publication. A more significant statement for the purpose of the present study is Ferrari's claim that the journal provides a "vivid picture" of the development of psychology and pedagogy.[1]

> This journal, which existed solely because of my desire to create sympathy for psychology and which was entirely supported by its subscribers, was governed by the varying winds of the time and by the sympathies of amateurs in psychology and pedagogy. However, from it one can get a vivid picture of the development of psychology and pedagogy in Italy during the last twenty-five years. The wavering line between these two disciplines through the years can be traced by running over the list of original articles.[2]

Archivio italiano di psicologia[3]

In addition to the Rivista the files of the Archivio italiano di psicologia were consulted. There are thirteen volumes of this journal from 1920 to 1936. It was first edited in 1920 by Agostino Gemelli, a Catholic friar and psychiatrist at the University of the Sacred Heart at Milan, and Frederick Kiesow, psychologist of the University of Turin, and after 1922 edited by Kiesow alone. It was the third psychological journal published in Italy. The Archivio

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[1]Murchison, "Giulio Cesare Ferrari" op. cit., II, p.76.

[2]Ibid.

[3]Archivio italiano di psicologia. Direzione ed amministrazione, Istituto di psicologia sperimentale (fond. E. E. Pelegrini) della R. Università. Via Po 8, Torino, (102), Italia.

collected the Italian scientific studies of an exclusively technical nature, which, owing to their mass and their charts and tables, would have been difficult to publish in the Rivista. It included such fields as experimental, psychophysical, differential, social and comparative psychology.

Psiche[1]

Another source was four volumes of Psiche, Rivista di studi psicologici, edited by Enrico Morselli, Sante De Sanctis, and Guido Villa. Each volume contains one or two original Italian articles, a translation of an important study by a foreign psychologist, quotations from pages of works written by past and contemporary psychologists, critical reviews and comments on the principle theme of each periodical. Each issue of Psiche was devoted exclusively to such sections as Psychology and Philosophy, Psychoanalysis, Sexual Psychology, and Child Psychology. Only four volumes were published from 1912 to 1915. World War I caused the suspension of its publication.

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[1]Psiche, Rivista di studi psicologici, Redazione e amministrazione, via degli Alfani, 46-Firenze Tipografico aldino-via dei Renai, 11-Firenze.

Enciclopedia Italiana[1]

This Italian encyclopedia was edited by the ex-Minister of Education, Giovanni Gentile; Rome, 1929 to 1938. Articles in the Enciclopedia Italiana which were pertinent to the present study were consulted. The fascistic tendency of many of the articles of the Italian Encyclopedia can be gathered by one of the opening statements made in this encyclopedia.

> The atmosphere which has made possible a work of this sort, which, in the past it seemed impossible to consider in Italy, has been the new spirit, which has burst forth with the advent of Fascism, which has shaken men's feelings and ideas, and has kindled an inextinguishable passion for the rebirth and affirmation of the power of Italy in the world.[2]

Annuari

Annual bulletins (1900-1938) of Italy's leading universities, such as Padua, Turin, Pisa, Rome, Bologna, Palermo, and the University of the Sacred Heart at Milan were examined. Other Italian sources of less importance are listed in the bibliography of this study.

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[1] Enciclopedia Italiana, publicata sotto l'alto patronato di S. M. Il Re D'Italia. La parte editoriale dell' Enciclopedia Italiana è curata della casa Editorice d'arte Bestetti & Tumminelli, Milano-Roma. Proprietà artistica e letteraria riservata. Pizzoli and Company, Milano, 1929.

[2] "Prefazione", Enciclopedia Italiana, I (1929), 12. Il clima che ha reso possibile un' opera come questa alla quale non parve in passato possibile in Italia pensare, è il nuovo spirito esploso con l'avvento del Fascismo, che scosse idee e sentimenti e accese una passione inestinguibile di rinnovamento e di affermazione della potenza dell' Italia nel mondo.

Année Psychologique[1]

Since Italians utilized French journals before they had any of their own psychological journals, the Année Psychologique (Volumes 1 to 39, 1894 to 1939) were carefully examined. Other French sources used in this study are listed in the bibliography.

The logical first step in the attempt to utilize the available sources to describe the use of psychology in Italian education is an analysis of the early interest in anthropological pedagogy. Of this the American and English writers have said little, but certain Italian periodicals and books hold abundant source material.

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[1]Année Psychologique, Fondée par Alfred Binet. Publiée par Larguier Des Bancels et Dr. th. Simon. Masson et Cie, Éditeurs. Libraires De L'Académie De Medécine, 120, Boulevard Saint Germain, Paris, France.

CHAPTER II

ANTHROPOLOGICAL CONTRIBUTIONS TO EDUCATIONAL PSYCHOLOGY IN ITALY

The contributions of Italian anthropology to Italian educational psychology are important because they gave impetus to the study of individual differences and the effects of the bodily condition upon the mental progress of children.

Definition of Anthropology

Anthropology may be broadly defined as that branch of natural history which deals with the human species. It was a development of biological studies during the nineteenth century, chiefly due to the stimulus afforded by research into the origin of species. Anthropological science seeks to establish man's position in his environment and the extent of human variation.[1]

> ... the ordination of the fundamental facts concerning the growth of the individual, and the bearing on human evolution of the evidence drawn from comparisons of the existing human types with one another, or of each in turn with their prehistoric precursors.[2]

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[1]"Anthropology," Encyclopedia Britannica, II, p. 41. Chicago: University of Chicago, 1947.

[2]Ibid.

Early Anthropologists

Early Italian anthropologists were concerned more with the development of their research techniques than with the solution of fundamental problems of human nature which had been attacked by the philosophers. The early anthropologists sought not only to describe physical traits and characteristics, but behavior patterns as well. The descriptive classification method produced an enormous quantity of data during the second half of the nineteenth century.[1] Later anthropologists branched off into fields of functional, endocrinological and physiological differences. Some attempted to extend the findings to heredity, criminality, insanity, and education.

Caesar Lombroso

The belief that the insane and criminally inclined present deviation from the normal range of physical variability was already old in early Greek times, but in the beginning of the nineteenth century, Franz Gall (1757-1828) again attempted to develop such criteria for detection purposes. At a later date, Charles Darwin (1809-1882) introduced some factual matters into the pseudo-science of physiognomy by pointing out many evidences of physical deviations representing the persistence of structures.[2]

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[1]Maria Montessori, Pedagogical Anthropology, p. 2, New York: Frederick A. Stokes Company, 1913.

[2]Cecilia C. Mettler, History of Medicine, p. 596. Philadelphia: The Bladison Company, 1947.

The same theory was taken up by the Italian Caesar Lombroso (1836-1909), who was considered one of the leading criminal anthropologists of the last century. He studied medicine at Padua, Vienna and Paris. At twenty-six he became professor of psychiatry at the University of Pavia and during that time became interested in the criminal type. In 1866 he became chief physician at the city hospital of Pavia, and in 1871 was appointed director of the insane asylum of Pesaro. At the University of Turin in 1876, he taught legal medicine and public health, and in 1880 founded, with Enrico Ferri and Raffaele Garofalo, the Archivio di psichiatria e antropologia criminale. In 1905 he was appointed "extraordinary professor" of criminal anthropology at the University of Turin. He also was the official doctor at the Turin penitentiary and penal inspector of the Piedmont region of Italy. [1]

The scientific study of the anatomy and physiology of delinquent man which Lombroso began was destined to upset the earlier philosophical and theological conceptions of crime, pose a new explanation for its genesis and open the way for psychological and sociological views of criminology which revolutionized modern penological theory and practice. [2]

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[1]"Cesare Lombroso," Enciclopedia Italiana, XXI, p.442. Roma: Rizzoli and Company, 1934.

[2]Agostino Gemelli, Le dottrine moderne della delinquenza, pp. v-vi. Milano: Vita e pensiero, 1920.

His theory, according to Ferrero, was that some people are born criminals since they possess certain physical and mental characteristics which mark them as special types, materially and morally different from the bulk of mankind. He evidenced an exaggerated tendency to refer all mental facts to biological causes, but he surpassed all his predecessors by the wide scope and systematic character of his researches. Lombroso held that criminals exhibit a higher percentage of physical, nervous and mental anomalies than non-criminals, and that these anomalies are due partly to degeneration and partly to atavism. To Lombroso the criminal was a special type, midway between the lunatic and the savage.[1] In his book L'uomo delinquente, Lombroso set forth his theories in detail, pointing out relationships between physical abnormalities and the moral degeneration of delinquent man, though the dynamics involved were not clarified. He enlarged his theory of man's criminal degeneration to include not only morphological deviations, but also social environment, that is, geographical location, race, living conditions, food, alcoholism, education, economic status, religion and political organization. To Lombroso belongs the credit of originating criminal anthropology and of creating interest in the criminal as an individual. He

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[1]Gina Lombroso Ferrero, Criminal Man, p. 51. New York: The Knickerbocker Press, 1911.

extended anthropological methods to the study of another deviant type, the insane, and perceived a similiarity between these two categories of individuals. His method involved a description of the individual by observation and clinical measurement. It also included the collection of data on the individual's physiological and psychological makeup, the analysis of his responses to the environment and the study of his habits.[1]

> . . . Cesare Lombroso applied the anthropological method first to the study of the insane, and then to that of criminals, having perceived a similiarity or relationship between these two categories of abnormal individuals. The observation and measurement of clinical subjects, studied especially in regard to the cranium by anthropometric methods, led the young innovator to discover that the mental derangements of the insane were accompanied by morphological and physical abnormalities that bore witness to a profound and congenital alteration of the entire personality. Accordingly, for the purposes of diagnosis, Lombroso came to adopt a somatic basis.[2]

Lombroso held that offenders delinquent since their early years were victims of a continuing bad education. For juvenile offenders, therefore, Lombroso suggested Froebelian educational methods and a special hygenic regimen for overcoming criminal tendencies. If the tendencies were deep-rooted

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[1]Cesare Lombroso, L'uomo delinquente, passim. Torino: Fratelli Bocca, 1889.

[2]Montessori, Pedagogical Anthropology, op. cit., p. 5.

however, he did not hesitate to advocate life confinement of the criminal in an appropriate institution.[1] He was recognized by contemporaries as an effective disseminator of ideas, and eventually his criminal anthropology gained favor in scientific circles.[2] He gave to crime study its initial impulse. After all, he came to be a positivist,[3] in the new school of inductive psychology by supporting his conceptions with objective anthropological and biological investigations.[4] Modern psychologists discredit most of his work, expecially his assertions that there are "criminal types" which can be recognized by certain anthropological characteristics, such as a low forehead or close-set eyes, but the psychological and social approach which he initiated, is generally accepted.[5]

Achille De Giovanni

While Lombroso devoted himself mainly to the anthropological aspects of delinquency, another Italian anthropologist, Professor Achille De Giovanni, (1838-1915) intro-

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[1]Raffaele Garofalo, La Criminologie, pp. 320-21. Paris: Ancienne Libraire Germer Bailliere Et. Cie., Felix Alcan, Editeur, 1886.

[2]Carl Murchison (editor), "Giulio Cesare Ferrari", A History of Psychology in Autobiography II, p.71. Worcester, Massachusetts: Clark University Press, 1932.

[3]Cf., p. 193.

[4]Enrico Ferri, Socialism and Modern Science, pp. 177-79. New York: International Library Publishing Company, 1900.

[5]Willard L. Valentine, Experimental Foundations of General Psychology, p. 187. New York: Farrar & Rinehart, Inc., 1938.

duced the anthropological method to medicine. In his clinic at Padua, he applied the naturalistic procedure in examination of patients, that is, he described the individuals, classified them into types according to common fundamental characteristics and studied the etiological factors which supposedly influenced the development of their personalities. Lombroso had noted malformations solely in relation to other symptoms of degeneration. De Giovanni, however, established a broader physiological base for his investigations. He considered the individual in his entirety, as a functioning organism, and regarded all deformities as signifying a predisposition to certain forms of illness. In his Morphology of the Human Body, De Giovanni elaborated a doctrine of temperaments and their predisposition to diseases. His work helped bring collaboration between medicine and anthropology for the study of the individual patient.[1]

De Giovanni distinguished three morphological combinations: the normosplanchnic, the microsplanchnic and the macrosplanchnic. Two of these, the microsplanchnic and the macrosplanchnic correspond to Kretchmer's asthenic and pyknic constitutional body types respectively.[2]

> The Italians under the leadership of De Giovanni... have gone to the opposite extreme (the visual method of determining body build has been followed by German investigators; e. g. Kretchmer.) and base their system

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[1]Montessori, op. cit., pp. 11-12.

[2]Walter S. Monroe (editor) Nathan W. Shock, "Constitutional Types," Encyclopedia of Educational Research, pp. 144-49. New York: The Macmillan Company, 1941.

> entirely upon an extensive series of anthropometric measurements with the computations of numerous ratios between various width and length measurements. The Italians have expressed their assessments in terms of extremes in the frequency distributions of various measurements or ratios. The extremes of the distribution corresponds to the asthenic and pyknic types fairly close, but the intermediate or average category, as determined by the Italian group, does not necessarily correspond to the athletic category of Kretchmer.[1]

Montessori claims that the chief result of De Giovanni's work was to establish the concept of an internal factor or predisposition to disease analogous to that of Lombroso to crime. He pointed out that this tendency to disease could be combated during childhood if the organism was wisely guided in its development toward the goal of physical health.[2]

Nicola Pende

A student of De Giovanni, Nicola Pende (1880-) is a leading constitutional psychologist and endocrinologist of the century. While De Giovanni devoted himself to the morphological predispositions to disease and applied anthropometric methods in his constitutional studies, Pende investigated constitutional differences more thoroughly. Pende's school discredited the German visual technique, claiming that it was too subjective.[3]

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[1] Ibid.
[2] Montessori, op. cit., pp. 12-14.
[3] Shock, op. cit., p. 147.

> Pende's school of thought expressed the view that the visual subjective technique was not accurate... the Italian school, contends that ... subjective impressions lead one astray by untoward emphasis on one or another aspect of the personality and that therefore the visual method is open to grievous errors...[1]

Pende introduced the endocrinological, the physiological and the functional aspects of personality.[2] Like De Giovanni, he stressed precise anthropometric methods of determining body types rather than Kretchmer's visual technique. According to Shock, Pende did intensive research on the relationship of glands to body types.[3]

> Pende has developed a more elaborate scheme for the relationship between hyperfunction and hypofunction of various endocrine glands and the "body biotype" as Pende labels the constitution. Pende's conception of the antagonistic action of pairs of glands, as for instance, the thyroid as opposed to sex glands, as well as the antagonism between sex glands and the pituitary gland has a basis in experimental findings although the application to the human is far removed from simple animal experiments which have been performed.[4]

In one of the following chapters some of Pende's contributions to educational psychology will be discussed more thoroughly.

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[1] Ibid.

[2] "Nicola Pende," Enciclopedia Italiana, XXVI, p.661. Roma: Rizzoli and Company, 1935.

[3] Shock, op. cit., p. 147.

[4] Ibid.

Giuseppe Sergi

Montessori claimed that it was Giuseppe Sergi (1841-1936) of the University of Messina who extended anthropological methods into pedagogy. As early as 1886, he proposed the study of school children by anthropological methods.[1]

> It is ... an Italian to whom we owe that practical extension of anthropology that leads us straight into the field of pedagogy. It was my former teacher, Giuseppe Sergi, who as early as 1886, defended...the new scientific principle of studying the pupils in our schools by methods prescribed by anthropology.[2]

Like Lombroso, De Giovanni and Pende, his younger contemporaries, he substituted clinical studies of the individual for generalities and abstract philosophic concepts. Sergi saw that theories of constitutional psychology and predispositions to certain illnesses and crimes might be redirected into useful channels by the school. He sought for the solution of social problems within limits of the classroom, where the new generation could be guided in its development.[3] Sergi claimed that social environment, the effect of examples and even direct teaching might have rehabilitated delinquent individuals.[4]

Montessori claimed that it was through Sergi that anthropology brought into relief practical principles of educational psychology and that he was one of the first to

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[1]Montessori, op. cit., p. 14.
[2]Ibid.
[3]Montessori, op. cit., p. 14.
[4]Garofalo, op. cit., p. 286.

see the necessity of relating instruction to the actual interests of the child. His contribution to educational psychology will be discussed in the next chapter.

Professional Life of Maria Montessori[1]

Maria Montessori (1869-) was one of the expositors of pedagogical anthropology. She studied at the University of Rome and was graduated in medicine in 1894. Upon receiving her medical degree, she was appointed assistant doctor of the psychiatric clinic of the University of Rome. She was interested in children's mental diseases, and soon saw that education could join with medicine in treating mental deficiency. Consequently, she promoted the anthropological study of childhood with a view to creating a scientific method of training not only the intellect but also the entire mental and physical organism of the child. She took up the subject of educating mentally deficient children.

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[1] Montessori has described her career in numerous books such as The Montessori Method, The Advanced Montessori Method, Dr. Montessori's Own Handbook and Pedagogical Anthropology. Virtually all of the secondary sources, such as Robert John Fynne's, Montessori and Her Inspirers, have been based almost entirely upon these sources. William Kilpatrick's The Montessori System Examined, Florence Ward's The Montessori Method and the American School, Elizabeth Harrison's The Montessori Method and the Kindergarten, were concerned almost exclusively with her theories in practice and not with her career. There are no secondary sources about her life which do not rely upon her own interpretation. The Rivista ignores her life story and says little about her method.

From the educational experience acquired with these children, she concluded that similar methods might be applied to normal children. After a series of experiments on a small scale, she extended her theories to large groups of children in private and public schools in Rome.[1] The schools and the methods she employed in them will be discussed later.

Her address to the First Italian Pedagogical Congress at Turin in 1898 on "Moral Education" resulted in the request by the Minister of Education for a lecture course by Montessori to teachers of Rome on the education of feeble-minded children. This led to the development of the State Orthophrenic School, of which she was in charge from 1898 to 1900. About 1905, Montessori became a student at the newly established department of experimental psychology at the University of Rome.[2]

Montessori had an opportunity to apply her methods to the education of normal children in 1907 when Eduardo Taloneo, director of the philanthropic society of the Roman Association for Good Building, asked her to organize schools in every tenement erected and controlled by his association. The schools were to teach tenement children between three and seven years of age. These schools were known as Casa dei

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[1]Robert John Fynne, Montessori and Her Inspirers, p. 286. London: Longman, Green and Company, 1924.

[2]Maria Montessori, The Montessori Method, pp. 41-47. New York: Frederick A. Stokes Company, 1912.

Bambini. Her book, The Montessori Method, is based on principles and practices utilized in these schools. For four years after the founding of the first Casa dei Bambini in January, 1907, Montessori personally directed and trained her teachers. She believed that pedagogy more than medical therapy could improve the physical as well as the mental conditions of children.[1]

After 1911, she devoted her efforts to promoting the adoption of her methods in other countries and to the study of their use in the education of older children. The results of her efforts are published in her book, The Advanced Montessori Method,[2] and in a practical treatise entitled Dr. Montessori's Own Handbook: A Manual for Teachers and Parents.[3]

In 1928, when the agreement between church and state on the Roman question established the teaching of religion as a compulsory course in elementary and high schools, Montessori became interested in religious education. To supplement her I Bambini viventi nella chiesa (Contemporary Children in the Church) of 1922, she wrote La Vita di Cristo in 1931; and in 1932 she published an English book in London

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[1] Ibid.

[2] Maria Montessori, The Advanced Montessori Method, New York: Frederick A. Stokes Company, 1917, pp. v+335.

[3] Maria Montessori, Dr. Montessori's Own Handbook, New York: Frederick A. Stokes Company, 1917, pp. viii+121.

entitled The Mass Explained to the Children.[1] In these works she gave her views on religious education, which should consist mainly, according to Montessori, in helping the child unfold its natural spiritual nature.[2]

The preceding paragraphs have presented a brief summary of her career and activities. Because the Montessori method is well known to students of education, a summary of its fundamental concepts, and procedure will serve as a basis for criticism of its principles and practice. In the appendix is found a description of the didactic apparatus that she employed in her schools.

The Montessori Method

The Montessori method was an educational experiment which attracted considerable attention during the first quarter of the nineteenth century. Her method was in part based on the result of her theories advocated in her book, Pedagogical Anthropology. Montessori defines pedagogical anthropology as a scientific study of the pupil's physical, mental, racial and environmental condition, in order to achieve sound principles of education.[3]

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[1]The writer is interested in the method that Montessori used in her religious education, but was unable to obtain a copy of the above books.

[2]"Maria Montessori," Enciclopedia Italiana, XXIII, p. 758. Roma: Rizzoli and Company, 1934.

[3]Montessori, Pedagogical Anthropology, op. cit., p. vii.

> A method that systematizes the positive study of the pupil for pedagogic purposes and with a view to establishing philosophic principles of education. The method employed (in pedagogical anthropology) was in all respects similar to the naturalistic method which anthropology had taken over from zoology; that is to say, the description of the individual subject considered chiefly in his somatic or corporal personality, but also in his physiological and mental aspect; the study of his responsiveness to his environment, and of his habits (manners and customs); and grouping of subjects under types according to their dominant characteristics (classification); and finally, the study of their origin, which, meant a sociological investigation into the genesis of degenerate and abnormal types.[1]

She believed that pedagogical anthropology deviated from general anthropology since the latter considered only the origin of the species while the first included two points of view, the development and the variation of man.[2]

> Pedagogical Anthropology, considered as a form of study departs from general anthropology. It studies man from two different points of view: his development (onto-genesis), and his variations.[3]

She claimed that pedagogical anthropology differed from criminal and medical anthropology in its declared intentions since pedagogical anthropology stressed the psychological aspect of the individual and the others stressed his physical characteristics.[4]

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[1] Ibid.
[2] Ibid., p. 35.
[3] Ibid.
[4] Ibid.

> These other two kindred branches endeavor to diagnose the personality of the individual: we must admit that both psychiatry and general medical practice profit by the application of anthropology...but whenever the study of a patient's personality sheds light...it generally follows that the personality is fixed...Pedagogic Anthropology...embraces all humanity (both normal and abnormal); but it pays special attention to that part of it which is psychologically superior: the normal human being.[1]

Montessori also claimed that pedagogical anthropology considered diagnosis as a "means" and not an end in itself.[2]

> ...but it regards diagnosis as constituting a means and not merely indicating an end; because the end projected by pedagogic anthropology is a far-reaching and rational system of hygiene.[3]

It was her opinion that pedagogical anthropology would aid the school teacher, giving practical rules in the art of educating the child.[4]

To some educators the Montessori Method was the greatest advance since Froebel; while others regarded it as a restatement of the educational theory of the Rousseau-Pestalozzi-Froebel group, with additions which in themselves were not of great value.[5] Kilpatrick stated in 1914 that Montessori's theories of sense training were outmoded.[6]

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[1] Ibid.

[2] Ibid., pp. 35-36.

[3] Ibid.

[4] "Maria Montessori," The New International Encyclopedia, XVI, p. 198. New York: Dodd, Mead and Company, 1927.

[5] Ibid.

[6] William Kilpatrick, The Montessori System Examined, pp. 51-52, Boston: Houghton Mifflin Company, 1914.

> Montessori's doctrine of sense-training is based on an outworn psychological theory:... that the didactic apparatus devised to carry this theory into effect is in so far worthless...[1]

However, the work aroused interest because it came at a time when the educational world had reached a transition period and also from the fact that her work received not a little purely commercial advertising.[2]

Fynne, Professor of education at the University of London, Kings College, and chief biographer of Montessori, has attempted to discover the historical sources for her ideas and procedures. He believed that she was influenced by the writings of John Locke, (1632-1704) who, like Montessori, was a physician and regarded many of the problems of education from the medical standpoint and that three of her fundamental principles, that of <u>education through the senses</u>, <u>of individuality</u>, and <u>of freedom</u>, were derived from him. Locke held that all the materials of thinking must first come through the senses; hence it follows that all mental development, all education, must be dependent on sensation.[3]

> Since there appear not to be any ideas in the mind before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with sensation, which is such an impression

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[1] <u>Ibid.</u>

[2] "Maria Montessori," <u>The New International Encyclopedia</u>, <u>op. cit.</u>, p. 198.

[3] Fynne, <u>op. cit.</u>, p. 2.

> or motion made in some part of the body as produces some perception in the understanding.[1]

It is Fynne's contention, that although Locke implied the senses are of major importance in education, he nowhere suggested methods of sense training, whereas it is with such training that Montessori's practice was chiefly concerned. Fynne notes that both Locke and Montessori insisted upon the necessity for closely observing the child and advised that this is best done when the child is free, as in play.[2]

Fynne carefully explored the relationship between the theories of Rousseau and Montessori. Rousseau (1712-1778) stated the principle that education must be based on a study of the child and that it must be in accordance with the nature of the pupil. And for Rousseau, as for Montessori, observation of the individual child and the adaptation of his activities to his individual needs were the most important bases of education. The dependence of intellectual development upon the training of the senses and the consequent need for this training are among Rousseau's and Montessori's fundamental concepts. They both believed that in his early years, the child wants to touch and handle everything and

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[1]John Locke, An Essay Concerning Human Understanding, p. 51. Oxford: Clarendon Press, 1934.

[2]Fynne, op. cit., p.4.

his curiosity must not be checked. Rousseau had some conception of "prepared environment," one of Montessori's chief ideas, which presents proper choices to a child as soon as he begins to distinguish objects. But Rousseau was not a practical educator. He failed to demonstrate, as Montessori attempted to do, the applicability of his principles to the actual education of children.[1]

Fynne[2] pointed out that Montessori devoted years of study to the works of Rousseau, who influenced by the philosophy and psychology of Locke, wrote The Emile, dealing with the direct dependence of educational theory and practice upon the nature of the child. But neither Locke or Montessori had any real knowledge of child life based upon direct

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[1] Ibid., pp. 4-5.

[2] The sources upon which Fynne based his study included: Wm. Boyd, From Locke to Montessori, 1917; E. P. Culverwell, Montessori Principles and Practice, 1918; E. Sequin J. R. Perlire, Premier Instituteur, 1847; E. Séquin, Idiocy, 1866; Itard's two pamphlets on the Savage of Aveyron reprinted in the "Bibliotheque d' Education Speciale" series. The volume includes an account of Itard's life and work by A. Bousquet...; Itard's, Traite des Maladies de l' Orville in 1821; Séquin's works on education, Idiocy: and its Treatment by the Physiological Method, 1866; H. Holman, Sequin and his Physiological Method of Education, 1914; L. P. Brochett, In Memory of Edouard Séquin, 1881; works by Dr. Montessori herself: The Montessori Method, 1912, Dr. Montessori's Own Handbook, 1914, The Advanced Montessori Method, 1917, Pedagogical Anthropology, Montessori Manual, 1914, A Montessori Mother, 1913, C. Grant, English Education and Dr. Montessori, 1913; H. E. Hunt, The Psychology of Auto-Education, illustrated in the work of Dr. Montessori, 1912; S. Radice, The New Children, Talks with Dr. Montessori, 1920; J. White, Montessori Schools as seen in the early summer of 1913; C. W. Kimins, A Montessori Experiment; C. A. Claremont, A Review of Montessori Literature, 1919.

observation of children's experimentation.[1]

It was a further contention of Fynne's that Montessori was also influenced by the work of Frederick Froebel (1782-1852), who is regarded as the founder of the modern kindergarten.[2] In 1837 in Blankenburg, Germany, he founded the first kindergarten which was designed to meet the needs of the pre-school child. Although the Germans did not accept his new ideas, shortly before his death he met Baroness Bertha von Marenholtz Biulow Windhausen who believed in his theories and introduced his kindergarten into other countries of Europe. The movement made little progress in European countries but was accepted more enthusiastically outside of Europe, particularly in the United States.[3]

In Froebel's writings are found the equivalent of many of Montessori's ideas, such as rhythm; game and occupational activities of the Casa dei Bambini are found in the Froebelian gardens of childhood, and even the didactic material of Montessori is similar to Froebel's "graduated gifts". She and Froebel emphasized the principle of self-activity, although Montessori called it the principle of auto-education, and invented for its expression an elaborate

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[1]Fynne, op. cit., p. 5.

[2]Ibid.

[3]Katherine L. McLaughlin, "Kindergarden Encyclopedia of Educational Research, op. cit., p. 645.

system of auto-sensorial didactic apparatus. According to Arnold Gesell, the suitability of "gifts" and "occupations" to the needs of the child was not determined by exact scientific methods, either by Froebel or Montessori.[1]

Jean Itard and Edward Séquin

Montessori acknowledged her indebtedness to the two medical doctors, Itard and Séquin. Itard (1775-1838) was for many years physician to the National Institution for the Deaf and Dumb in Paris. He made valuable contributions to the science and art of the education of deaf-mutes. In 1801 he published his account of "The Education of a Human Savage". The chief contribution he made to education, according to Gesell, was through his observational and experimental treatment of the Savage of Aveyron, a boy of eleven found living, what appeared to be, a purely animal existence in the woods near Aveyron.[2] This creature, Itard was convinced, was potentially a man and required only training to be enabled to act like one. He felt that it was necessary only to draw forth and develop the child's latent powers; to add to nature the other essential factor which necessarily had been inoperative during a savage existence. He therefore, began to teach the boy, and although it trans-

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[1]Arnold L. Gesell, The Normal Child and Primary Education, pp. 325-26. Boston: Ginn and Company, 1912.

[2]Ibid.

pired in the sequence that his original diagnosis was wrong and that the child was really an idiot, Fynne pointed out that the value and significance of the experiments and observations he made scarcely can be ignored.[1]

Séquin (1812-1880) devoted his life to the education of idiots, beginning his work in France and continuing it in the United States. He studied medicine under Itard for a time, specializing in the causes and cure of idiocy. Séquin for the first time demonstrated the organic relation between sensory and intellectual development, emphasizing the importance of touch. He introduced, into the training of the feeble-minded, the use of geometric insets and other graduated sense material which Montessori elaborated and extended. He believed that education afforded the best means for the rehabilitation of the child idiot. The result was the formulation of his system of physiological education. Though this system was based upon the causes and relief of idiocy, he always insisted it embodied the true principles and the best methods of education.[2]

This physiological and psychological education of the child was taken up by Montessori who stated that her material and apparatus should be presented in sequence and grades.

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[1] Fynne, op. cit., pp. 8-9.

[2] Ibid.

She claimed that she based this sequence and grading on her pedagogical anthropology data, which included the study of mental and physical differences, anthropometric measurements, observation of the child, including his "somatic" personality, environment, habits and manners. She also investigated the child's origin ("the sociological investigation into the genesis of generate and abnormal typing") and the child's development ("onto-genesis").[1] As a result of this anthropological data she felt that the sequence and the presentation of materials should be presented to the child in relation to his physical and mental maturation and that the exercises should proceed from the most simple to more complex tasks.[2] The following is the sequence and presentation of Montessori's material for the first five elementary grades.

First Grade

Upon arrival at school, the first-grade child was given the exercises of lacing, buttoning, hooking and of moving the seats in silence. Of the above, two sets were especially suitable. The first consisted of ten frames, to each of which were attached two pieces of cloth or leather which could be fastened down the middle by means of buttons, hooks

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[1]Montessori, Pedagogical Anthropology, op. cit., pp. 35-37.

[2]Montessori, The Montessori Method, op. cit., pp. 338-45.

laces, ribbons or automatic fasteners. By the use of these, it was believed the child developed muscular power and learned the movements necessary for dressing and undressing.[1]

The second set of exercises consisted of three blocks of wood, each containing ten wooden cylinders fitting into holes in the block, and provided with brass or wooden tops for holding with the fingers. In the first block, the cylinders all were of equal height but of different diameter; in the second, the diameters were equal while the heights varied; in the third both height and diameter varied. The child took all the cylinders out of the block, scattered them on the table or floor, and then replaced them. The blocks were not all of the same difficulty and could be used in the above order unless a child clearly desired to use them in another order. By playing with these insets, the pupil acquired experience of size and learned to distinguish objects according to height and thickness.[2]

Second Grade

In the second grade the exercises included rising and being seated in silence and walking on a chalk line. The special apparatus consisted of the set of cubes, the Big or

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[1] Ibid., p. 338.
[2] Ibid.

Broad Stair and the Long Stair. There were ten rose-colored cubes varying from ten centimeters to one centimeter. The child was to build these regularly into a tower, beginning with the largest. Here he had to distinguish larger and smaller objects as they lay about at different distances.[1]

The Big Stair was built by the child with ten rectangular prisms, twenty centimeters long with bases ranging from ten centimeters to one centimeter. This exercise taught him to distinguish thickness and thinness. The Long Stair was constructed with ten rectangular rods, each two centimeters thick, varying from a meter to a decimeter. The decimeter lengths on all rods were painted alternately red and blue. Beginning with the longest, and arranging corresponding colors together, the rods had to be built to make a stair. This exercise was designed to lead to an appreciation of length and also was used in teaching arithmetic.[2]

More difficult movements and greater muscular effort were involved, and as the apparatus did not so readily indicate errors, the eye had to do more work than in the first grade.[3] At this state Montessori felt that the child was capable of fixing his attention upon, and of being inter-

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[1] Ibid., p. 339.
[2] Ibid.
[3] Ibid.

ested in, the tactile and thermic stimuli. Montessori was aware that biologically touch precedes sight, but she found tactile stimuli did not attract attention as early as the visual. She therefore did not present the former until the education of attention began. She believed training the thermic sense made touch more acute. The hands were placed in basins of water of widely differing temperatures, thus using the principle of contrast. Later, the differences of temperature were graded with a set of bowls. There followed practice in the correct method of touching surfaces with the fingertips. Varying materials were used.[1]

In all the touch exercises the eyes were closed. The special apparatus used was a rectangular board, half of which was polished or covered with smooth paper and the other half with sandpaper. At this period, training of color sense began. Pieces of woolen stuffing or spheres were used. Formal didactic material consisted of sixty-four tablets wound with wool or silk. Raised ends kept the colored stuffing off the table. The children were taught to handle the tablets at the ends only. There were eight gradations of tint for each of the eight colors, black, red, orange, yellow, green, blue, brown and violet.[2]

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[1] Ibid.

[2] Ibid., p. 340.

The child started by arranging strongly contrasting colors, such as red, blue and yellow, in corresponding pairs, according to Itard's and Séquin's principle of proceeding from wide to narrow differences. Contrasts gradually became less striking as more colors and shades were introduced, until at last the child was able to distinguish delicate differences. Later he learned to grade the tints of all the colors and acquired the power of going some distance to obtain a tablet of a shade corresponding to one shown him.[1]

Third Grade

Third grade lessons enabled the child to wash, dress and undress himself, dust tables and handle objects. The child was also exercised in discrimination of more delicate gradations, his spontaneity allowed free play. Stimuli for the sense of hearing and for the baric sense were presented here. In the training of the hearing sense, spontaneity was not relied upon; the teacher had to do a great deal for the children.[2]

As in Séquin's practice, the first essential here was securing silence and immobility before the lessons began.

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[1] Ibid.

[2] Ibid., p. 341.

Exercises then were arranged to enable the pupils to distinguish noise from sound, and to discern differences among noises and among sounds. For the former, small boxes containing pebbles and sand were used, the boxes being shaken and differences distinguished. For the latter, a double series of thirteen bells gave no results, as the children could not strike the corresponding bells with equal force.[1]

Here again progress from wide to narrow differences ruled. Apparatus for training the sense of weight consisted of three tablets of the same size, made of wistaria, walnut and pine, weighing twenty-four, eighteen, and twelve grams, respectively. They were smooth, producing no distraction through touch. The child placed one in each palm at the base of the fingers, and moving his hands gently up and down while his eyes were closed, decided which was heavier. The third was similarly compared with the lighter.[2]

Montessori felt that training of the "stereognostic" sense leads to the "recognition of objects through feeling, that is, through the simultaneous help of the tactile and muscular sense."[3]

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[1] Ibid.

[2] Ibid.

[3] Ibid., p. 205.

For this Froebel's bricks and cubes were first used. By handling, without the aid of sight, the pupil arranged the cubes on one side and the bricks on the other. At this stage the child learned to appreciate form. The apparatus consisted of many geometrical shapes which could be fitted exactly into corresponding slots or spaces. "The idea of these insets goes back to Itard and was applied by Séquin."[1]

These insets were in frames kept in rectangular trays. They were taken from their frames and scattered on a table. After being carefully examined by sight, touch and muscular sense, the insets had to be placed correctly in their frames. The pupil passed his index finger along the edges of the contrasting shapes and their spaces, and thus visual, tactual and muscular impressions were associated. Later, three sets of cards were used. On the first were pasted geometrical figures in blue paper corresponding exactly with the insets. On the second were outlines of the same figures in blue paper, a cemtimeter wide. On the third, the outlines were in thin lines. The child had to learn to recognize the correspondence between the three sets of figures and the insets, and to prove his having done so by placing an inset over each figure correctly. Thus he gradually became able to recognize the representation of form by simple lines.[2]

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[1] Ibid., p. 196.
[2] Ibid., pp. 341-42.

Fourth Grade

The children learned to perform domestic duties and to attend to personal toilet. Through rhythmic exercises they learned to walk with perfect balance. Prominence was given to music. Voice and instrument taught them to distinguish notes. Montessori, however, believed that simple and primitive instruments were best adapted to the awakening of music appreciation in the child's soul. She believed that rhythmical tunes had an "educational disciplinary effect" on the child.[1]

Fifth Grade

During this stage, the child in a Montessori school continued spontaneously all the foregoing exercises, but more increased in complexity. He was introduced to writing, reading and simple arithmetic, more in accordance with the requirements of the public schools. Montessori claimed that fifth grade children are very anxious for education.[2]

> The child at this stage presents most interesting differences of development. They fairly run toward instruction, and order their intellectual growth in a way that is remarkable.[3]

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[1] Ibid., p. 343.
[2] Ibid.,pp. 343-44.
[3] Ibid., p. 345.

Montessori urged teachers to play a passive role. Her directresses were to intervene only when the children's acts were, what Montessori considered, anti-social, ill-bred or harmful. She would not allow a child to mar furniture, or to snatch an object belonging to another, nor allow the child to walk down the stairs made by him on the broad blocks. Through the passive role of the teacher and the provision for movable furniture, the child was to grow in self-help and independence. She claimed that her apparatus was of such an order that it became more and more complex with the advancing grades and that the child's personality would merely "unfold" with the growth process.[1]

The above paragraphs have presented a brief review of Montessori's presentation of her material, by sequence and grades, from grade one through five. As has previously been mentioned, a more complete list of didactic apparatus employed in her schools is listed in the appendix.

Criticism of the Montessori Method

Montessori's method drew only lukewarm response from many of her contemporaries. Harrison took her to task on several counts, criticizing her emphasis on the individual

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[1]Florence Ward, The Montessori Method and the American School, pp. 211-13, New York: The Macmillan Company, 1913.

development instead of group training, which in Harrison's estimate, was the kindergarten's real contribution to civilization. The failure to make a place for stories was also sharply scored by Harrison. She asserted that Montessori failed to see the psychological value of the right kind of a story, since it is the story that takes the child into a world which he could not enter by his senses alone.[1]

Montessori's lack of material for self-expression was thought to be another shortcoming of her system. Harrison claimed that a child should have ample opportunity to rearrange the material according to his own ideas. Montessori's failure to see the need for a definite attitude on religious training was also attacked by Harrison, who criticized her for believing that a child's spiritual nature would unfold if freedom were given it. Harrison believed that Montessori failed to realize that a child's nature is subject to the customs and opinions of the older people about him and that if it is not guided it is in danger of being warped.[2]

In regard to the value of her didactic apparatus and the education of the senses as proposed by Montessori,

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[1]Elizabeth Harrison, The Montessori Method and the Kindergarten, pp. 30-34, Bulletin No. 28. Washington: Government Printing Office, 1914.

[2]Ibid.

Kilpatrick stated that Montessori's doctrines of sense training were based on obsolete psychological theories.[1]

> We must then, take exactly the opposite view from Montessori as to the nature of sense-training. She says the aim is not that the child know colors, forms, and the different qualities of the objects. We say that the aim is exactly that he may know such things, and we don't care about his getting any sense-training outside of this. We conclude, accordingly, that Montessori's doctrine of sense-training is based on an outworn psychological theory; that the didactic apparatus devised to carry this theory into effect is in so far worthless; that what little value remains to the apparatus could be better got from the sense-experiences incidental to properly directed play with widely chosen, but less expensive and more childlike playthings.[2]

Fynne claimed that like all other educational systems and methods, Montessori's is not wholly original. What there is in it that is original forms but a small part of the whole body of her doctrine and procedure.[3] What then was Montessori's contribution? According to Kilpatrick, her only contribution was the institution of the Casa dei Bambini. However, he asserted that she rendered a service to education by advocating scientific education, and by practicing the principle of liberty for the individual pupil.[4]

> Her greatest service lies probably in the emphasis on the scientific conception of education and in the practical utilization of liberty.[5]

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[1]Kilpatrick, op. cit., pp. 51-52.
[2]Ibid.
[3]Fynne, op. cit., p. 67.
[4]Kilpatrick, op. cit. p. 67.
[5]Ibid.

Kilpatrick felt that Montessori did not place much reliance upon the results of experimental investigation in psychological laboratories, for she believed that the subject tormented by instruments and in an unnatural environment could not manifest his "psychic needs and modes of expression". Students and directresses of the Casa dei Bambini were constantly urged to observe the children, as if, Kilpatrick pointed out, observation alone were sufficient. She lightly dismissed the work of Binet and Simon as "arbitrary and superficial". [1]

Montessori in her book, Pedagogical Anthropology, asserted that she laid the foundation of special schools for mentally deficient children. Further, she implied that she was responsible for the work which caused the regeneration of Italian teachers and of many reforms in the Italian schools. [2]

> . . . a question so momentous that it spread rapidly throughout all Italy and was followed by the establishment of institutes and classes designed expressly for the deficient and most important of all by the universal conviction which it carried, it also constituted the first page of pedagogy reformed upon an anthropological basis. [3]

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[1] Ibid., p. 322.

[2] Montessori, Pedagogical Anthropology, op. cit., p. 17.

[3] Ibid.

It will be shown later in this study that it was De Sanctis, an Italian psychiatrist of the latter part of the nineteenth century, who in 1899 founded the asili-scuole for mentally deficient and physically abnormal children in Italy.[1] Of Montessori's claim that she established a scientific pedagogy, a leading statement of her work, Fynne expressed doubt, since she supplied no satisfactory answers as to the origin or scientific control of her methods and experiments.[2]

> Now when we come to consider her science of pedagogy, several questions present themselves. Is it a new and distinct science, or are her data and principles, her facts, hypotheses and method, borrowed from various sciences? Why has she not provided us with a clear and full account of her observations, inductive and deductive inferences, her formulation and testing of hypotheses? Precisely what experiments has she found necessary to avoid drawing erroneous conclusions therefrom? To these questions she supplies no satisfactory answers.[3]

Montessori's Contribution to Education

Although not entirely original, as we have shown, the individual work plan was one of the most valuable features of the Montessori school. However, while Montessori believed in liberty, it was of a circumscribed type. The didactic apparatus was self-corrective; that is, it allowed the child

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[1] F. Banissoni, "Sante De Sanctis," Rivista di psicologia, XXVI (1930), pp. 219-31.

[2] Fynne, op. cit., p. 307.

[3] Ibid.

only one solution to the problem, in order to eliminate teacher direction, but this characteristic limited the use of the material and contrary to Montessori's claim, stifled, rather than encouraged, spontaneous expression. She devised various buttoning and fastening apparatus, which she claimed belonged to the "practical life type of activities", and various "inset cut-out letters" which she used to produce "spontaneous writing". She had very little appreciation for play technique and did not believe that children needed to play. Montessori, contrary to modern educational thought, did not believe in gaining sensory experience through life situations. Although she based her initial approach to the study of education on what she called "sense training", this sense training was characterized by too much detailed instruction which conveys the impression that she reverses her major fundamental concepts, the individual work plan and liberty of the individual pupil.

> This new pedagogy accordingly belongs to the series of modern sciences, and not to antique speculations, although it is not based on the purely metric studies of positive psychology. But the method which informs it -- namely, experiment, observation, evidence or proof, the recognition of new phenomena, their reproduction and utilization, undoubtedly place it among the experimental sciences.[1]

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[1]Montessori, The Advanced Montessori Method, op. cit., pp. 73-74.

This is but one example of the contradictory explanations characterizing her work. Many educators believed her method to be a fad.[1] Although most writers assert Montessori made no original contribution to childhood education, her greatest service was in her emphasis on the scientific conception of education and in the establishment of the Casa dei Bambini.

SUMMARY

Concerning the anthropological foundations of educational psychology in Italy, the first step away from speculative philosophy towards objective observation of fact was taken by Lombroso, when he used anthropological methods to oppose the movement of Italian speculative thought. With the publication of Lombroso's L'uomo delinquente in 1876, the psychology of crime began, marking the first step of the steady progress of Italian science. Lombroso believed that through Froebelian methods of education, criminal tendencies manifested by certain children could be overcome. With the influence of Lombroso's positivist movement in Italy, De Giovanni united medicine and anthropology for the study of man, and evolved from this combination a study of temperaments and their predisposition to disease. He based his body builds upon an extensive series of anthropometric measurements. The computations were based upon a numeric ratio

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[1] Kandel, "Maria Montessori," op. cit., p. 194.

between different length and width measurements. He believed that simple observation was insufficient because of the subjective element involved. It was De Giovanni who introduced anthropometrics into the clinic.

Nicola Pende, a student of De Giovanni, went a step further. He introduced the endocrinological, morphological, functional and physiological aspects of personality. He developed a more complete scheme for the relationship between hypofunction and hyperfunction of various endocrine glands. However, the exact relationship between certain endocrine glands and specific constitutional body types is far from established.

A complete severence of psychological from philosophical inquiries is seen in Sergi's work. He established the foundation in experimentation of psychological problems in Italy, and exerted great influence on the development of Italian psychological research and in educational psychology. It was Sergi who promoted the anthropological study of the child in order to evolve a scientific psychological method of education.

Montessori brought to the solution of the problem only an experimental method based on her method which was observation alone. She claimed that she promoted the anthropological study of childhood in order to create a scientific method of training the intellect. At first she applied her theories

to the education of mentally defective children, and later, from the experience acquired with these children, she concluded that similar methods might be applied to normal children. Montessori felt that the training of the senses was of major importance in education. Further, she insisted upon the necessity of closely observing the individual child and stressed the adaptation of his activities to individual needs.

Montessori was not wholly accepted by many of her contemporaries. She was criticised for the failure to make a place for stories and for lack of material for self-expression. According to Kilpatrick, her "sense" training was based on outworn theories and her educational method was not original. She did not place much reliance upon results of experimental investigations in psychological practices, but believed only in subjective observation of the child in the classroom. Neither did she favor objective experimentation, and therefore dismissed the work of Binet and Simons as "arbitrary and superficial". Some writers felt that the practical application of the individual work plan and the Casa dei Bambini were the most valuable features of the Montessori educational system.

CHAPTER III

THE DEVELOPMENT OF EDUCATIONAL PSYCHOLOGY IN ITALY

In the previous chapter the logical development of experimental psychology by the application of anthropology and physiology was shown. It is the purpose of this chapter to describe the origin and development of educational psychology as a branch of experimental psychology. It is held that the history of Italian educational psychology is, therefore, intimately connected with the progress of experimental psychology and is a description of the research of the outstanding scientists of Italy. According to Saffiotti[1]

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[1]Mario Ponzo, "Umberto Saffiotti," Archivio Italiano di Psicologia, IV (1928), p. 152.

Professor Umberto Saffiotti (1868-1928) had been for many years a collaborator of Professor Zaccaria Treves of the Institute of Experimental Psychology at Milan. He made valuable psychological contributions to mental testing and used these tests in the selection of aviators during World War I. After the War he instituted a course in experimental psychology at the University of Palermo, where he served as director for many years.

At first glance it may seem that Saffiotti's account of the "Origin of Experimental Psychology in Italy" and of its applications to education, gives individual recognition to leaders from Sicily. While this may be partly true, it must also be noted that Saffiotti also gives full account of the work of psychologists from other sections of Italy. Also, Ferrari, the vigorous editor of the Rivista di psicologia, published Saffiotti's account without comment, nor did any critical comment on the Saffiotti article appear in subsequent issues of the Rivista di psicologia or in any other Italian contemporary journal such as the Psiche or the Archivio Italiano di Psicologia. In his own development of "Experimental Psychology in Italy", Ferrari was in agreement with Saffiotti. For example, he evaluated the work of Buccola in a very similar way.

Italian psychology was given impetus by the work of three Sicilian scientists, Giuseppe Sergi of the University of Messina, Gabrielle Buccola of the Instituto de Frenocomio de Reggio Emilia, and Simone Corleo of the University of Rome.[1]

> ...The scientific tradition of experimental psychology in Italy is associated with the names of three Sicilians, (Giuseppe Sergi, Gabrielle Buccola and Simone Corleo). They were the first in Italy to give to this science, already highly developed beyond the Alps, life and impetus with a clear conception of its importance.[2]

Giuseppe Sergi

Sergi (1841-1913) was interested in basing psychology on minute observation of human phenomena from which fundamental laws could be drawn.[3] His interest translated itself into a series of publications and he made repeated attempts to obtain some government recognition of the utility of the new science.[4] In 1878 Sergi published his Principi di

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[1]Umberto F. Saffiotti, "La evoluzione della psicologia sperimentale in Italia", Rivista di psicologia XVI (1920), p. 129.

[2]Ibid.

...La Tradizione scientifica della psicologia sperimentale in Italia è legata ai nomi di tre siciliani, (Giuseppe Sergi, Gabrielle Buccola e Simone Corleo), i quali primi in Italia a queste scienza--allora appena nata ma gia in rigoglio oltre Alpi--seppero dare vita e impulso in un ampia concezione della sua importanza.

[3]Saffiotti's claims for Sergi seem not to be exaggerated, since in 1873, Sergi became the first director of the psychology section of the "Institute of Anthropology and of Experimental Psychology" at the University of Rome.

[4]Ibid., pp. 129-30.

psicologia sulla base della scienza sperimentale. It is to be noted that Sergi's book was written quite independently and appeared one year before Wundt's Grundzüge der physiologischen Psychologie. Also, Saffiotti claimed that Sergi first became acquainted with Wundt's book two years after (1875) his own publication.[1]

> Giuseppe Sergi of Messina, in 1873 published the first issue of his Principi di psicologia sulla base della scienza sperimentale...One year later Guglielmo Wundt published the first edition of his Grundzuge der physiologischen Psychologie...a masterpiece of experimental psychology. This closeness of dates is not meant to suggest a dependence of one work on the other, for Sergi came to know Wundt's work only in 1875, but rather it is an indication of the general trend of psychological studies during that time.[2]

In this book Saffiotti stated that Sergi analyzed the experimental data obtained from enthropological, physiological, ethnological and linguistic researches to determine the fundamentals which would give a scientific basis to the techniques of the teachings of psychology in high schools.[3]

The importance of a vigorous scientific approach in psychological problems was again emphasized by Sergi in his

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[1] Ibid.

[2] Ibid., p. 130.
Giuseppe Sergi di Messina nel 1873, pubblicando il primo fasciocolo dei suoi Principi di psicologia sulla base della scienza sperimentale. ...l'anno appresso Guglielmo Wundt pubblicando la prima edizione dei suoi Grundzuge der physiologischen Psychologie...un capolavoro della psicologia sperimentale. Questo ravvicinamento di date non vuol essere un ravvicinamento delle due opere--che il Sergi conobbe l'opera del Wundt solo nel 1875--ma l'indice dell'orientamento generale degli studi di psicologia in quel tempo.

[3] Ibid., pp. 129-30.

La psychologie physiologique, published in 1888. Sergi compared the advancement that psychology had made as a science in other nations through men such as Herbart, Helmholtz, Fechner, Carus, Beneke, Fortlage and Wundt in Germany, Bain and Spencer in England, and Taine and Ribot in France; with the indifference with which the movement was furthered in Italy. Psychology in Italy, during Sergi's time was not recognized as a science, according to Sergi, and very little had been produced in the field, he believed, to be classified as genuine scientific work. He urged the Minister of Public Instruction to provide scientific facilities in order to allow Italy to keep pace with other nations. Sergi, in a letter to the minister, expressed belief in the future of psychology and advocated its application as a basis for the Italian educational system which he believed was obsolete and in great need of change.[1]

> Today in the social world an imperative need makes itself felt---the reconstruction of educational methods; and he who fights for this cause, fights for human regeneration.[2]

Sergi stressed the importance of psychological foundations for didactic methods in education and believed that the way to a change in the Italian educational system was to be found in the methodological study of the individual to be educated. The individual was to be studied through

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[1] Ibid.

[2] Robert John Fynne, Montessori and Her Inspirers, p. 217. (as quoted from Giuseppe Sergi, Educazione ed Istruzione, 1892), London: Longman, Green and Company, 1924.

pedagogical anthropology and experimental psychology.[1] Sergi felt that the new science of psychology was destined to become the trunk which would ramify into comparative psychology, genetic psychology for the study of the origin of speech and the development of language, and pathological psychology for the study of physical degeneration. He expounded these ideas in a series of representations to successive ministers of public instruction. Sergi indicated that it would be a credit to any minister to approve the establishment of regular courses of psychology at the universities as this would be the only way to place the nation on the road to progress.[2]

The only result Sergi obtained from these repeated requests was the authorization to establish and teach a two year course in psychology at the University of Messina, (1878-1879). According to Saffiotti this was the first course in psychology initiated in Italy to train public school teachers. In addition to this achievement and in spite of the inadequacy of means of experimentation, Sergi produced a significant amount of research in the later part of the nineteenth century. In 1891 he published Psicologia per le scuole, in 1894 Dolore e Piacere, in 1901 La psiche dei fenomeni della vita, as well as other minor contributions.[3]

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[1]Maria Montessori, The Montessori Method, pp. 2-3. New York: Frederick A. Stokes Company, 1912.

[2]Saffiotti, op. cit., pp. 130-32.

[3]Ibid., pp. 130-131.

Finally in 1889 Sergi obtained official recognition of his ideas. Boselli, at the time Minister of Public Instruction, issued the Royal Decree of December 15, 1889, which authorized the establishment of a psychological laboratory of experimentation at the University of Rome, which however, remained under the auspices of the Philosophy department. Sergi was made director of the laboratory. This legislation recognized that psychology had made progress by means of observation and experimentation. It also acknowledged the claim that benefits were to be obtained from instituting a laboratory of the experimental research for the purpose of advancing the science of psychology in order to better instruction of young scholars.[1]

> The credit for the establishment of a laboratory for psychological experimentation is due to Paolo Boselli, Secretary of Public Instruction, by his decree of December 15, 1889, "considering that psychology has progressed by means of objective observation and experimentation; considering that it would be extremely useful to establish a laboratory of experimental research for the advancement of the science of psychology and for the instruction of the students who intend to devote themselves to such studies..."[2]

The new laboratory was founded as a section of the Institute of Anthropology, which at that time assumed the

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[1] Ibid., p. 132-33.

[2] Ibid., p. 133.

Spetta a Paolo Boselli, Ministro della Pubblica Istruzione, la gloria di tale istituzione: con decreto reale del 15 dicembre 1889 "Considerando che la psicologia è progredita per mezzo dell' osservazione obiettiva e dell' esperimento, considerando che sarebbe di grande utilità l' istituire un laboratorio di ricerche sperimentali per l' avanzamento della scienza psicologica e per l' istruzione della gioventù che a tali studi si vuol dedicare.

title of the "Institute of Anthropology and of Experimental Psychology" and was also an integral part of the faculty of physical, natural, and mathematical sciences at this old University. Sergi promoted the development of anthropology, pedagogical, pathological and social psychology, and mental hygiene. The royal decree also required the director of the institute's laboratory to hold lectures and perform experiments for the benefit of students. In this laboratory Sergi presented a teacher's training course consisting of five months' study in which the students attended class twice a week.[1]

> The laboratory was equipped with a large number of psycho-physical apparatuses of the type used by Buccola, Wundt and others. It had several esthesiometers for measuring cutaneous sensations, taste, hearing, and sight.[2]

However, the equipment was quite inadequate to satisfy the scientific eagerness of Sergi and his students. Sergi also tried to utilize the new science to prevent, as well as to understand, the development of criminals. He promoted the anthropological study of childhood with the thought of creating a psychological method of modifying the entire physical and mental organism of the child.[3]

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[1] Ibid.

[2] Giuseppe Sergi, "Laboratorie de Psychologie de Rome," Annee Psychologique, op. cit., p. 533.

Il possède beaucoup d'appareils pour psychophysique, d'après Buccola, Wundt et d'autres. Avec ces appariels on trouve plusieurs esthesiomètres pour les sensations cutanées, pour l'ouïe, la vue, le goût, l'olfaction.

[3] Soffiotti, op. cit., pp. 133-34.

Gabriele Buccola

Buccola, (1855-1886) from Mezzoluso, Sicily, was a physician called by Seffiotti, a psychiatrist who, from 1880 until his death in 1886, contributed much to the new science. After his death, Tamburini and Morselli, his collaborators, carried forward the work he had started.[1]

> Buccola, within a space of only five years acquired in Italy and even in Europe, the reputation of a bold and original thinker and of a prudent, patient experimenter. Disdaining the paths followed by mediocre experimenters and revealing a real originality in concepts and in methods, he was the first to introduce in Italy, and the second in Europe, after Obersteiner, the experimental approach in pathological psychology (abnormal). A very learned and profound psychologist, his researches on the duration of elementary and complex psychic acts, on the duration of acts of volition, on the reproduction of perception in the fields of tactile and visual space, his extremely original and hitherto unattempted experiments on mnemonic mechanisms of writing, on estesio metria, and on sense of time, are enough to assure him a lasting fame in the history of psychology in the last decade.[2]

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[1] Ibid., pp. 133-34.

[2] Ibid., p. 134, as quoted from Enrico Morselli, "Gabriele Buccola" Archivio di Psichiatria, VI, Torino: (1885), 312.

Il Buccola in soli cinque anni s'era acquistata in Italia anzi in Europa, la fama di pensatore originale ed ardito, di sperimentatore sagacissimo e paziente. Sdegnando le vie battute dai mediocri e facendo inconscia rivelazione d'una originalità vera e propria nei concetti e nei metodi, egli è stato il primo ad introdurre in Italia, il secondo in Europa dopo l'Obersteiner, l'indirizzo sperimentale nella psicologia patologica. Psicologo dottissimo e profondo, le sue ricerche sulla durata degli atti psichici elementari e complessi, sulla durata degli atti volitivi, sulla riproduzione delle percezioni nello spazio tattile e visivo, le sue originalissime e mai tentate esperienze sul meccanismo mnemonico della scrittura, sull' estesiometria tattile, sul senso del tempo, bastano ad assicurare al suo nome un posto imperituro nella storia della psicologia durante l'ultimo decennio.

At the Frenocomio de Reggio Emilia, Buccola had opportunity to carry on experimentation and was, according to Saffiotti[1] and Ferrari,[2] the first in Europe to make use of lunatics for the study of the problems of normal psychology. Saffiotti claimed that at this asylum in 1886, Buccola and Tamburini organized the first independent, that is, not connected with a philosophical or anthropological department, laboratory of experimental psychology in Italy. Buccola introduced to the study of mental disease the same precision of method which characterizes psychometry. Ferrari claimed that Buccola was the first in Italy to describe fixed ideas and systematized delusions. Buccola worked with problems of memory, the conscience of the insane, and the reaction of accoustics in the insane which had been newly investigated by Jolly.[3] He also experimented with the effect of cocaine on the reaction of the pupil and the diverse effects of cocaine on the nervous system.[4] Saffiotti believed that Buccola's work, La legge del tempo nei fenomeni del pensiero, is a major contribution in the field of psychometry.[5]

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[1]Ibid.

[2]Giulio C. Ferrari, "Experimental Psychology in Italy," American Journal of Psychology, XVI (April, 1905), 335-37.

[3]Ferrari, "Experimental Psychology in Italy, op. cit., p. 215.

[4]Guido Villa, Contemporary Psychology, p. 59. London: Swan Sonnenschein and Company, 1903.

[5]Saffiotti, op. cit., pp. 184-85.
L'opera sua del 1886 La legge del tempo nei fenomeni del pensiero resta ancora oggi il saggio classico della psicometria.

Simone Corleo

A contemporary of Buccola, Corleo of Salemi, Italy, carried on in 1887 psycho-physiological and psychometrical researches. While at the University of Palermo he organized a small laboratory in experimental psychology.[1]

Corleo wrote in his unpublished memo that along with the teaching of theoretical philosophy he favored the introduction of experimentation, in order to ascertain and analyze the elements of psychological data, as Wundt had done in his seminar at Leipzig.[2] The University Association allowed Corleo a small fund of 1800 Lire to be used for apparatus.[3]

> I have thought of introducing experimentation to verify and analyze the elements of some psychological phenomena, as Wundt has done in his Seminar at Leipzig. The committee of the University granted me the sum of 1500 Lires for the purchase of the instruments and I hope that the government will grant me an additional sum.[4]

He was grateful, and hoped that the government would appropriate another small sum so that he might carry on guided research, but, above all, he wished to purchase Mosso's plethysmograph to measure the circulation within the brain

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[1] Ibid., pp. 135-36.
[2] Ibid.
[3] Ibid., p. 135.
[4] Ibid.
...ho creduto introdurre la sperimentazione per accertare ed analizzare gli elementi di alcuni fatti psicologici, come il Wundt ha fatto nel suo Seminario di Lipsia. Il consorzio Universitario mi ha accordato la somma di L. 1500 per l'acquisto delle macchine e spero che il governo mi accorderà qualche altra somma.

during the operation of the higher mental processes; such as, abstraction, idealization, judgment, reasoning, motivation, and choice. Corleo's idea for the need of a larger experimental laboratory was accepted by Professor Roberto Ardigo, a philosophy professor who shared Corleo's enthusiasm for experimentation. Together they had planned to enlarge the laboratory and to carry on research. However, Corleo died in March, 1901, and the initiative for extending his laboratory was lost, interrupting the progress of experimentation in psychology at the University of Palermo. Saffiotti indicated that Corleo merely repeated known experiments and that he made no contribution to experimental psychology through his personal inquiry, although, of course, his untimely death might have prevented more original research. Corleo did not believe that psychology would become a branch of science separated from philosophy, but saw in experimentation only a support to the teaching of philosophy.[1]

> But on the first of March of the same year Corleo died and the initiative was lost, and thus the recently established tradition of experimental research in psychology, at the University was interrupted.
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> In reality, Corleo was only a mere repeater of experiments already known. He could not make any research contributions before acquiring the proper training in research techniques. On the other hand he did not understand the imminent development of psychology as an independent science, since he considered experimentation merely as an aide to philosophical teaching. However, Corleo's

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[1] Ibid., p. 136.

initiative belongs to the history of the development of experimental psychology in Italy.[1]

Corleo published on July 11, 1889, "Le prime esperienze fatte nel Gabinetto di Psicologia" based on the experiments conducted in his laboratory, in an article in Giornale di Sicilia, a Sicilian newspaper published in Palermo. He also was the editor of a periodical called La Filosofia which was published in Palermo, and in which was re-published in May 1889, the above article in psychology from the Giornale di Sicilia.

It has been shown as a result of the decree of 1880 that psychology was supplementary to the course of anthropology, taught by Sergi at the University of Rome. In other cases, however, psychology was a matter of secondary importance to scientists interested in other fields. Thus, Buccola, though making valuable contributions to psychology, did not treat it as a separate science, but rather as a part of medical pathology. Nor did Corleo think of divorcing psychology from philosophy. Psychological experiments

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[1] Ibid.

M. il 1 Marzo dello stesso anno il Corleo moriva e la sua iniziative si perdeva, interrompendosi per tal modo l'appena sorta tradizione scientifica della ricerca sperimentale in psicologia in questo Ateneo.

A dire il vero, il Corleo non fu che un semplice ripetitore di esperienze già note e non potè prima che si addestrasse alla ricera portare contributi di indagini personali; d'altro canto egli non intese il prossimo avvento della psicologia come scienza autonoma, non vedendo nell' esperimento che un semplice sussidio all' insegnamento filosofico. Comunque, l' iniziativa del Corleo appartiene alla storia dello sviluppo della psicologia sperimentale in Italia.

were conducted by psycho-physiologists, anthropologists, and psychiatrists. However, collaboration between these different workers did not exist.

Angelo Mosso

One of these psychological psychologists was Angelo Mosso, (1846-1910), a professor of physiology at Turin. He had been one of Benedict Ludwig's students in 1868 at the Leipzig Institute and had worked for two years in Ludwig's institute in the interval between 1870 and 1880. He is particularly noted for his studies on sleep and fatigue, but also did research on blood vessels and blood respiration and some aspects of human physiology in altitude. He pioneered in the use of a number of devices for measuring physiological data, especially the ergograph and the plethysmograph.[1] Mosso sought to determine experimentally the organic states and functions which underlie and explain the physical phenomena.[2]

It was theoretically maintained by Mosso that the manifestations of emotions were only the outer signs, and, however much these might be repressed, some physical expansion or contraction was a concomitant of every emotional

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[1]"Angello Mosso", Encyclopedia Britanica, XIV, p. 140. Chicago: University of Chicago Press, 1947.

[2]Giovanni Chiabra, "The Tendencies of Experimental Psychology in Italy," American Journal of Psychology, XV (October, 1904) 518-25.

state. Montessori holds that Mosso was the first to recognize the relationship of bodily reaction to emotional change and that experimental proof of this was given in his book, La Paura (Fear) published in 1889. His use of the graphic registration of pulse and respiratory motions since these motions were recognized as co-variants with emotional life, have attracted more and more attention among psychologists.[1]

In 1889 Mosso announced the results of some original experiments on the effects of emotion on the contractions of the bladder and stated that the seat of the emotions lies in the sympathetic nervous system.[2] This theory was later supported by physiological demonstrations made by Cannon[3] and Crile[4] on the physiological connections between emotion and glandular influence by way of the sympathetic system. The works of Mosso, many of which have appeared in German translation Kreislauf des Blutes im menschlichen Gehirn, Diagnostik der Pulses, die Furcht, die Ermudung, according to Kiesow, created a stir in the scientific world of the early twentieth century.[5]

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[1]Montessori, Pedagogical Anthropology, pp. 174-75. New York: Frederick A. Stokes Company, 1913.

[2]Henry Herbert Goddard, Psychology of the Normal and Subnormal, p. 136, New York: Dodd, Mead and Company, 1919.

[3]Walter B. Cannon, Bodily Changes in Pain, Hunger, Fear, and Rage, p. 311. New York: D. Appleton & Co., 1915.

[4]George W. Crile, The Origin and Nature of the Emotions, passim. Philadelphia: W. B. Saunders Co., 1915.

[5]Carl Murchison, "Frederick Kiesow," A History of Psychology in Autobiography, pp. 177-78. Worcester, Massachusetts: Clark University Press, 1930.

Kiesow, a German from the school of Wundt who settled in Italy and who made valuable contributions to Italian psychology, had read Mosso's books, and had "Induced Wundt to purchase that scholar's much-discussed plethysmograph," for Wundt's Institute.[1] Since the operation of this graphic instrument was highly specialized, Wundt allowed Kiesow to go to Turin in 1894 to acquaint himself with Mosso's ideas and technique, "as Turin was generally regarded as the foremost place for the study of graphic methods."[2] Kiesow held that Mosso's Institute was at the time considered one of the finest, with the newest conveniences and arrangements.[3] In 1908, one of Mosso's students, Zaccaria Treves, became head of the Laboratory of Pure and Applied Psychology, a public institution of the city of Milan, affiliated with the Royal Academy of Scientific Literature of the University of Milan.[4]

In 1894, Mosso's technician, Corino, modified an instrument first introduced in clinical practice by Riva Rocci, called a sphygmanometer, which was used for experimental studies of changes of blood pressure due to mental excite-

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[1] Ibid.

[2] Ibid.

[3] Ibid.

[4] Saffiotti, op. cit., pp. 138-39.
It is true to say here that in his interpretation of Angelo Mosso, Saffiotti was in agreement with other writers.

ment. This new instrument became the basis for the construction of Le mann's plethysmograph (hydrosphygmograph).[1] Lehmann first saw Mosso's apparatus at the Leipzig Institute while Kiesow was working on it. Kiesow claimed that it was chiefly on the strength of Lehmann's results with his new instrument that Wundt later formulated his new theory of emotions.[2] In 1896, an English translation by Kiesow of Mosso's La Paura (Fear) appeared in London. Mosso was one of the Italian men of science whose work did not remain within the confines of his country but diffused throughout the scientific world.[3] Mosso is best known for his work on mental fatigue, fear and the emotions.

It was to measure mental fatigue that Mosso invented the ergograph, which literally translated means "register of work." This instrument measured exactly the work done by certain individual muscles and the changes which were produced during the mechanical work of the muscles, as a result of fatigue. The fatigue curve was found to vary among people and was likewise dependent upon the state of body or mind when the experiment was conducted. As a general rule, a person's fatigue curve remains more or less constant from day to day, but may vary with varying conditions of the body. These experiments with the ergograph

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[1]Alfred Binet and Victor Henri, La Fatigue Intellectuelle, pp. 30-107. Paris: Schleicher Freres, 1898.

[2]Murchison "Frederick Kiesow," op. cit., p. 178

[3]Ibid.

demonstrated that fatigue is related directly to the muscles concerned and is not usually of central origin, as was originally believed.[1]

Mosso believed that brain fatigue is just as real as physical fatigue. He undertook a series of experiments to illustrate that mental work or stress is equally as fatiguing as physical labor, if not more so, and that fatigue is present in a nerve cell of the brain after only a few seconds of work. The ability to employ the brain in prolonged activity is possible, according to Mosso, because of the millions of cells which can take over the work necessary for mental labor. Eventually, of course, the mind will be completely exhausted if the mental work is continued indefinitely without rest. It was observed that in some cases the theory fails when the body is overly fatigued. Mosso pointed out that prolonged concentration on technical subjects or the reading of technical books to the exclusion of all others may lead to recurring fatigue at frequent intervals. On the other hand, the reading of lighter fare or engaging in physical work not employing the brain, often serves to rest the fatigued nerves and muscles.[2]

The ergograph was also used by Mosso to measure fatigue resulting from the strain of class-room lectures. It is well known that even the best speakers are often nervous

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[1]Angelo Mosso, Fatigue. Passim. Translated from the Italian by Margaret Drummond. New York: G. P. Putnams Sons, 1904.

[2]Ibid., pp. 243-45.

before a speech and exhausted after it. Many of them never overcome the malady and suffer from ill health and neuroses as long as they are required to perform before an audience. He concluded from his experiments that there is only one kind of fatigue, namely, fatigue resulting from nervousness and that muscular fatigue can be used as a barometer of nervous fatigue because it is the muscles that are acted upon by the nerve cells.[1]

Mosso asserted that mental fatigue is not the same in all persons, nor does it manifest itself in identical symptoms. However, in general, it was found that fatigue of the muscles as a result of nervous fatigue could be measured by the use of the ergograph in the same way that ordinary muscle fatigue in the finger was measured. A series of tests were run on Professor Aducco, a colleague of Mosso's, to determine the mental fatigue engendered by lecturing to a physiology class. Recordings were made four times a day: 9:00 A.M., 11:00 A.M., 1:00 P.M. and 4:00 P.M. The results indicated that the first day there was little fatigue in spite of the mental work required in delivering of various lectures and formal speeches. However, the prolonged emotion generated as the result of increasing mental activity resulted in increased intellectual fatigue and consequent diminishing of the curve on the ergograph. It was

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[1]Ibid., p. 243.

interesting to note that the excitement aroused by delivery of a formal speech or lecture increased the muscular energy immediately before and for a few hours after the speech. This was usually followed by extreme exhaustion and headaches.[1]

Experiments carried out upon another lecturer, Magliora, indicated a somewhat different behavior. Immediately before his lectures, Magliora exhibited unusual muscular activity, being able to raise a weight of 8 kilograms every two seconds. After his lecture, however, the force of his muscles had so greatly decreased that the fatigue curve exhibited a rapid fall.[2]

Mosso concluded that fatigue produced by lecturing involves both the emotions and the intellect and are inseparable one from the other. That is, powerful emotions weaken physical capacity and concentration of the intellect reduces pain. Mosso contended that fatigue from lecturing does not come from the preparation of the material but rather from the method used in delivery of it. Formality of delivery requires more effort and concentration than does an informal style of presenting the material and causes a more rapid exhaustion of the brain cells and consequently of the muscles. The experiments showed that symptoms of mental fatigue after lecturing may be apparent in a person's writing, breathing,

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[1] Ibid., pp. 246-48.
[2] Ibid., pp. 249-50.

and heart beat. Often a weakness is felt in the legs or the face is flushed, the voice trembles, and headaches occur. Such symptoms may be immediately noticeable or may occur some hours after the fatigue has been induced. A common symptom of mental fatigue is a general feeling of depression usually followed by a sound sleep. Sleep often will serve to restore energy to the fatigued cells, even if it is only a short nap of an hour or two.[1]

In intellectual work a person ordinarily finds that he does not do so well at first, but becomes more adept with a little practice. This is sometimes referred to as the "warming up period." According to Bosso this is also true for physical exercise. For example, strenuous physical exercise is difficult when first undertaken, but becomes easier as the body becomes accustomed to the movement. This is one of the surprising adaptations of the human body; that action does not exhaust its energy but rather serves to make it more fit for work, provided a suitable amount of rest is obtained. This phenomenon is explained by physiologists as follows: some of the in the nervous system exhibit more resistance than other paths, but the repetition of the same action under identical conditions tends to decrease this resistance. Bosso introduced his own hypothesis to explain the augmentation of the initial energy of the brain as a

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[1]Ibid., pp. 252-54.

result of exercise. He believed that the fresh energizing force created was of chemical nature. The chemical products produced stimulate the brain and enable it to function more readily and with less tiring.[1]

Mosso felt that fatigue was the basis of all growth and creation in the arts and sciences and pointed out that there are cases of men, especially geniuses, who do not experience the usual type of fatigue. Persons gifted with remarkable memories or minds that are unusually fertile in particular fields are often capable of operating with rapidity and sureness. Although they experience fatigue, basically the same as that of everyone else, they have so conditioned themselves to recover more completely and with less of the unpleasant after effects that ordinarily beset the average individual. Some examples of men of this type, he claimed, are Raphael, Newton, Galileo, Darwin, and Goethe. All of these men were bound to admit at one time or another during their lifetime that they had each experienced an individual type of fatigue, the symptoms of which were very similar to those of the ordinary person.[2]

Mosso believed that some of the consequences of mental exertion in children are disturbances of vision, cerebral congestion causing headache, nose bleeding and dizziness. Loss of appetite and indigestion are two very prevalent

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[1] Ibid., pp. 280-81.
[2] Ibid., pp. 290-96.

fatigue symptoms, as also are spinal curvature and nervousness. From his experiments Mosso came to the conclusion that prolonged mental exertion may cause permanent injury or disturbances and that prolonged sitting is harmful to the body and should be supplemented with frequent rest periods for playing. Mosso recommended that it is well to vary the courses of study frequently during the day as monotony is more conducive to fatigue than is the study of a number of different courses and that for a good balance between bodily and mental health a person should choose for his vocation type of work that will not require an abnormal amount of mental work.[1]

There are many theories as to the best time of the day or night for the exercising of the intellect. Mosso was of the opinion that the best mental work, resulting in proportionately less fatigue, is accomplished in the morning hours. However, he claimed that there are numerous cases of exception to this principle, since concentrated brain work may result in sleepless nights as a result of excitement some persons have succeeded in reversing the process.[2]

Giulio Cesare Ferrari[3]

Perhaps Ferrari (1879-1972) did more than any other individual to promote the psychological researches of his

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[1]Ibid., pp. 317-18.

[2]Ibid., pp. 320-21.

[3]Carl Murchison, "Giulio Cesare Ferrari," The History of Psychology in Autobiography, II, pp. 83-88. Worcester, Massachusetts: Clark University Press, 1932.

country, especially in the field of pedagogy, and to bring into closer collaboration the psychologists of Italy. This estimate of his contributions as well as the facts that follow are from Ferrari's own accounts. He received his doctorate in 1891 from the University of Bologna and upon graduation accepted a position as assistant psychiatrist to Tamburini at the Insane Asylum of Reggio Emilia. During the same year, Tamburini appointed him editor-in-chief of the only psychiatric review published at the time, Rivista sperimentale di Freniatria.[1]

Ferrari's theories were influenced by Wundt and Binet, and while in Paris, he worked with Binet on Cattell's intelligence tests. At Turin, he met Lombroso who interested him in criminal anthropology. Ferrari's personal interest lay in researches dealing with individual psychology applicable to the insane, studies on blind and rehabilitation of delinquent children. In 1901 he translated William James's Principles of Psychology, which he believed marked the turning point in the history of Italian psychology.[2]

From 1900 to the First World War, Ferrari was in charge of the course in experimental psychology at the University of Bologna. In 1907, he became director of the Insane Asylum at Imola. William James sent Clifford Beer's manuscript of

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[1]Carl Murchison, "Giulio Cesare Ferrari," The History of Psychology in Autobiography, II, pp. 77-88. Worcester, Massachusetts: Clark University Press, 1930.

[2]Ibid.

A Mind That Found Itself to Ferrari, in order to have the experiences described by Beers evaluated by Ferrari.[1]

According to Ferrari, his best and most successful application of psychology was with delinquent children. The work and tests he devised will be discussed in later chapters.[2]

Ferrari's contributions to the development of Italian psychology are similar in many ways to the contributions made by G. Stanley Hall in the development of American psychology. Hall in 1883 founded, at Harvard, what is called the "first psychological laboratory in America",[3] and in 1887 published the first American psychological journal, The American Journal of Psychology.[4] Ferrari in 1889 founded at Bologna the first independent psychological laboratory in Italy,[5] and in 1905 edited the first Italian psychological journal,[6] the Rivista di sicologia applicata alla educazione ed alla psicopatologia,[7] which was the only psychological journal published in Italy from 1906 to 1930, except for a few anthropological and psychiatric journals to which few Italian psychologists contributed. Both men gave impetus to experimental psychology, but contributed chiefly to educational psychology. Ferrari was the greatest supporter of the positivistic

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[1] Ibid.

[2] Cf., pp. 130-34.

[3] Edwin G. Boring, A History of Experimental Psychology, p. 508. New York: The Century Company, 1929.

[4] Ibid., p. 507.

[5] Murchison, "Giulio Cesare Ferrari," op. cit., pp. 68-9.

[6] Ibid.

[7] Cf., p. 12.

psychology school of Italy. He and Hall both believed in the advancement of psychology as a science and both believed that the laboratory should not be removed from living problems of life. Similarly, as many American psychologists in the past were associated with Hall, so many of Italy's psychologists were associated with Ferrari.

Although Ferrari's influence, like Hall's, was mainly outside of experimental psychology, the first independent psychological laboratories in Italy and in America were the result of their efforts.[1] The importance of Ferrari as a psychologist and as a director of a laboratory of psychology offers some assurance that the Rivista, which he edited until his death in 1930, is a reliable index of the Italian psychological program.

Sante De Sanctis[2]

A contemporary of Ferrari, who did much to promote the use of psychology in education was Sante De Sanctis (1862-1935), a psychiatrist, who received his doctorate in medicine at the University of Rome in 1890 with a thesis on aphasia. De Sanctis' contributions as well as the facts that follow are from De Sanctis' own account.

At about 30 years of age, De Sanctis began studying experimental psychology. In his autobiography, De Sanctis

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[1]Boring, op. cit., p. 610.

[2]Carl Murchison, "Sante De Sanctis," The History of Psychology in Autobiography, III, pp. 80-100. Worcester, Massachusetts: Clark University Press, 1936.

asserted that his early career was influenced by his work at the Mental Hospital of Rome. He claimed to have made constitutional and pathological studies, which he believed were indispensible supplements to clinical observation and constituted the necessary preparation for the study of psychology. In his early years De Sanctis explained everything according to the theory of the associationists. He carried on extensive work on psychopathology and psychoneurosis; conducted investigations on the pathology of attention, of sleep, and of dreams; on the classification and pathogenesis of frenzies, tantrums; on the psychopathology of negativism, dementia praecox, mental symptomatology; on the pathology of lucid deliriums, on motor disturbances, and on feeble-minded children. One of his theories on feeblemindedness or mental retardation in children was that they had suffered some organic injury of the basal ganglia or on some spot between midbrain and forebrain where the centers of the autonomic nervous system, the endocrine centers, and the center of muscular tone come together.[1]

According to De Sanctis, his book, Neuropsychiatria infantile, is a collection of observations for the study of child psychiatry. He held that the bulk of his work was mainly devoted to studies on feeblemindedness, and that the organization of clinical assistance for children who are

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[1]Ibid.

feebleminded and unstable, was started in 1899, and was the result of his studies. He maintained that Ebbinghaus introduced the methods and results of De Sanctis' studies to German psychologists and that his studies on attention brought to light a new psychopathic symptom which he called paraprosessia, a disturbance essentially linked with the fact that when too much attention is concentrated on an impulse, the impulse becomes inhibited. This phenomenon, claimed De Sanctis, later was described as symptoms of apraxia by Liepmann, or perserveration by Pick, Liepmann, and Klwist, or as negativism by Kraeplin.[1]

In 1906, De Sanctis founded the institute of experimental psychology at Rome. This institute was one of the original laboratories which had been established by the decree of 1905. He claims to have been the founder, in Italy, of infantile neuropsychiatry and was the first in Italy in 1899 to establish Asili-scuole for mentally deficient children.[2]

De Sanctis held that he had made evaluations of the different levels of intellectual deficiency in the feebleminded by means of his own mental tests which he published in 1910.[3] This method, devised and intended for clinical use for the gradation of mental deficiency was in use for many years, according to De Sanctis, in Italy, Russia, and in North

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[1] Ibid.

[2] "Sante De Sanctis," Enciclopedia Italiana, III, p. 650. Rome: Rizzoli and Company, 1931.

[3] De Sanctis' mental tests are not available to the writer.

and South America. In 191[illegible], he published a book called Educazione dei dificienti, dealing with the medical and pedagogical classifications of idiotic children and the method of education best suited for these children. De Sanctis asserted that from observations and experimentations made by him over a 10-year period (1915-1925), he wrote Neuropsichiatria infantile.[1]

De Sanctis claimed that he not only kept in contact with Italian psychology, but that he was also in correspondence with outstanding world psychologists, among whom were Freud, Throndike, Binet, and Spearman, and that on several occasions these men had asked him to carry on experiments for them. His writings on psychology applied to the science of education comprise 44 publications in volumes, among which were many dealing with the practice of clinical assistance of feeble-minded and unstable children.[2] The value of this work, De Sanctis held, was reflected in the organization of clinical assistance, outside of the hospital, for psychological abnormal children, based on differential psychology and hygiene. In a publication of 1929 entitled "Il problema della educabilita," and in another in 1930 entitled "Il Cinematografo e organizzazione scientifica del lavoro" published by the League of Nations Bulletin, De Sanctis claimed that he established the practical method of

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[1]Murchison, "Sante De Sanctis," op. cit., p. 106.

[2]De Sanctis' volumes on psychology applied to the science of education are not available to the writer.

evaluating the educability and the capacity for learning in abnormal children. In his entire production during the last 30 years of his life on the subject of child psychology, De Sanctis stated that he was influenced by Freud.[1]

Leonardo Bianchi

Another contemporary of Ferrari was Leonardo Bianchi (1846-1926) of Naples, a psychiatrist and Minister of Education, who was responsible for many of the educational decrees and reforms favoring the use of experimental psychology for pedagogical ends.[2] In 1902, during his ministry, according to Colucci, Bianchi accepted the proposition made by the anatomist, Giovanni Antonelli, to establish a department of experimental psychology at the University of Naples medical faculty. Because of his dual role as scientist and public official, Kiesow believed that he was the most "efficacious" defender and promoter of Italian psychology. Moreover, Bianchi made several original contributions in the field of physiological and pathological anatomy. Bianchi, Colucci claimed, frequently referred to the frontal lobes as the seat of intelligence, and that his results were experimentally supported by numerous operations on monkeys' brains. He was close to 80 at his death, but his publication on the mechanism of the brain, published a short time before, was written with, according to Colucci, "youthful freshness and vigor."

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[1]Ibid.

[2]Murchison, "Frederick Kiesow," op. cit., p. 166.

[3]C. Colucci, "Leonardo Bianchi," Archivio italiano di psicologia, V (1927), pp. 209-211.

Congresses, Societies and Decrees

The Fifth International Congress of Psychology in April, 1905, marked the beginning of organized experimental psychology in Italy. The congress was held in Rome on April 26-30, and the committee, nominated by the Congress which had last met in 1900 in Paris, was composed as follows: Luigi Luciani (psychologist), president emeritus; Giuseppe Sergi (anthropologist), president; Augusto Tamburini (psychiatrist), general secretary; Sante De Sanctis (psychologist and psychiatrist), vice general secretary; G. C. Ferrari (psychiatrist), co-secretary; Giovanni Luccio, treasurer.[1]

The congress invited representatives from France, England and Germany, and allowed any scientist or educator to make contributions. Ferrari reported that this congress revealed certain trends, namely that psychology had reached such a development that the next logical step was to coordinate the aims of the study and the methods of research so that it would be on the same basis as the other natural sciences. Ferrari stated that the weakness of Italian experimental psychology lay only in direction and in questions of method.[2]

In order for the fields of psychology to be scientific, Ferrari felt that three characteristics were deemed essential: the analytical, the inductive and the psychological. The old names of materialism and idealism were to be abandoned, and

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[1]Sante De Sanctis, Atti del V. Congresso Internazionale di Psicologia, pp. 2-62. Roma: Forzanni e Compagnia Topografia del Senato, 1905.

[2]Ibid.

introspective psychology was to be differentiated from physiological psychology.[1]

This Congress stimulated so much interest that a few months later the Decree of 1905 was issued by Bianchi, the Minister of Public Instruction, for the founding of new departments of psychology at leading universities. A new department of experimental psychology was established at the universities of Rome, Turin and Naples. De Sanctis, who for many years taught physiological psychology at Rome and who inaugurated the course in experimental psychology there in 1905, was elected director of the newly formed faculty department of psychology at the University of Rome.[2] The year following his nomination De Sanctis, according to Saffiotti, established an experimental laboratory in conjunction to the psychology department.[3] The Faculty of Psychology at the University of Turin was headed by Kiesow, and he with Pelegrini's aid, organized a psychological laboratory in conjunction with the College of Education at the same university. Patrizi, who had received his training at Mosso's psycho-physical laboratory, was chosen director of the experimental laboratory at the University of Naples.[4]

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[1] G. C. Ferrari, "Il V. Congresso internazionale di psicologia in Roma," Rivista di psicologia, I (1905), 233-41.

[2] Murchison, "Sante De Sanctis," op. cit., pp. 83-110.

[3] Saffiotti, op. cit., p. 138.

[4] Ibid.

Another success for the newborn movement was the VI International Congress of Psychology held at Geneva in August, 1909. The Italians who took part proposed the foundation of an association to diffuse psychological theories and direct research, and to give uniform direction to the experimental work of Italian psychologists.[1]

> Among the Italians who met at Geneva in 1909 to take part in the VI International Congress of Psychology,...there arose spontaneously the idea of founding an association which might give impetus to the work of all, who in Italy were interested in studies and experiments of psychology, that unity of direction which constitutes the enviable strength which psychology possesses in other countries...[2]

It was Gemelli and Villa who launched the campaign through Ferrari's Rivista di psicologia to pool the reaction of Italian psychologists toward such an association. The results were a bulletin compiled by De Sanctis, Ferrari and Villa; an annual meeting was suggested to discuss psychological problems in order to illustrate the researches carried on in laboratories and suggestions for papers to be presented at International Congresses.[3]

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[1] G. C. Ferrari, "Bolettino della Societa italiana di psicologia," Rivista di psicologia, VI, (1910), 269-71.

[2] Ibid., p. 270.

...fra gli Italiani raccolti a Ginevra nell' Agosto 1909 per participare al VI Congresso Internazionale di psicologia ...sorse spontanea l'idea di fondare un'associazione che potesse dare all' opera di quanti in Italia si occupano di studi e di ricerche di psicologia quell' unità di indirizzo che costituisce l'invidiabile forza della psicologia di altri paesi...

[3] Ibid.

> ...a circulate signed by S. De Sanctis, G. C. Ferrari and G. Villa was published, as delegates of the meeting in Geneva,...to set forth the general purposes of the association to be founded, among which the most important were the holding of annual meetings in which the most interesting psychological problems would be discussed, the presentation of the researches of the various Italian laboratories and, at the same time the work for International Congresses would be planned.[1]

The question was resumed at a meeting which was held March 31, 1910 at Florence with 53 leading Italian psychologists attending. The Rivista di psicologia was selected as the official publication.[2]

The Italian psychological movement gained momentum in 1911 when the Societa Italiana di Psicologia was founded. It held a convention in October, 1911, at Turin.[3] The second convention of this society held its meeting at Rome in March, 1913. Its president was De Sanctis. The theme stressed at this convention was the importance of psychology and the hope that there might develop in Italy, as in Germany and in America, psychological laboratories enabling Italians to carry on research. The convention was attended by most of the leading Italian psychologists and by many foreign psychologists, including Myers, Cambridge and Pillsbury

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[1] Ibid.
...fu pubblicata una circolare a firma di S. De Sanctis; G. C. Ferrari e G. Villa---quali delegati della riunione di Ginevra---allo scopo di illustrare gli scopi generali della istituenda associazione, principale fra i quali quello di tenere riunioni annuali in cui sarebbero discussi i problemi psicologici piu interessanti, verebbero presentate e illustrate le ricerche dei Laboratori, e si sarebbe preparato in pari tempo il lavoro per i congressi Internazionali...

[2] Ibid.

[3] Saffiotti, op. cit., p. 140.

who represented the United States. Future conventions of this society were suspended because of World War I.[1]

One year later the founders of the "Circolo di studi psicologici" of Florence established another Italian association "Societa italiana di psicologia" in order to carry on psychological studies, conduct experiments, distribute psychological questionnaires, collect and coordinate documents and bibliographical data, encourage and maintain contacts with psychologists of other nations and to favor international exchanges. This society published a bulletin every three months and held monthly meetings.[2]

> ...The founders of the "Circle of Psychological Studies," of Florence, delighted with the success met by their initiative, wish to venture further by founding the above mentioned association with the purpose of carrying on surveys, circulating questionnaires, performing experiments, collecting and coordinating documents and bibliographic data, establishing and effecting close contacts with foreign psychologists, and by favoring international exchanges...The society will hold meetings every month and will publish a quarterly bulletin.[3]

Two years later, in November, 1916, a decree was announced for the reform of educational courses for school

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[1] _____, _____, Rivista di psicologia, IV, (1913), 282.

[2] G. C. Ferrari, "Associazione italiana di studi psicologici" Rivista di psicologia, X (1914), 172.

[3] Ibid., p. 172

...I fondatori del "Circolo di studi psicologici" di Firenze lieti del successo incontrato dalla loro iniziativa l'estendono fondando l'associazione sopraintestata allo scopo di compiere inchieste, diramare questionari, fare esperimenti, raccogliere e coordinare documenti e dati bibliografici, stringere e mantenere contatti con gli psicologi stranieri, di favorire gli scambi internazionali... La società terra adunanze mensili e pubblicherà un Bollettino trimestrale...

teachers (Corsi perfezionamento per i licenziati dalle Scuole Normali). The essence of this reform was the suppression of all the courses which were not educational, since the material was so vast that time did not permit the study of all fields of education.[1] The reform was aimed at cutting down public expenditure during World War I. Psychological studies for teachers was considered superfluous. Ferrari called the decree absurd since it compensated for the lack of psychological studies for teachers by establishing a new course called Storia del risorgimento, which was the history of the recovery of Italian independence from 1831-1870.[2]

> ...it is not difficult, indeed, to demonstrate the absurdity of such a reform while with some common sense and knowledge it would have been possible to suppress the few shortcomings of the pedogogic school.[3]

The passing of this decree seemed to Ferrari anti-liberal and anti-democratic, especially during a time when Italy was at war. Ruffini, who was Minister of Public Instruction at the time, meant to balance the treasury of Italy by abolishing courses in psychological studies at the universities. Ferrari pointed out that it would have been an asset to the treasury if the teachers of Italian youth

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[1] Cf. p. 61 for an account of the first early interest of the government in the training of the teachers in psychology to be applied to teaching methods.

[2] G. C. Ferrari, "Per l'insegnamento della psicologia sperimentale," Rivista di psicologia, XII (1917) 218-21.

[3] Ibid., p. 219.
...non è certo difficile dimostrare l'assurdità di una simile riforma, mentre con un po' di criterio e di cultura si sarrebbero potuti togliere i pochi difetti della Scuola Pedagogica...

would have better psychological training in order to teach the "children of tomorrow," who would be the ones to rebuild the nation after the war. Ferrari pointed out that of all the educational courses, pedagogical psychology should have been the major course, and certainly not one to be withdrawn from the educational curriculum.[1]

Ferrari claimed that De Sanctis also criticized the decree severely. De Sanctis believed that the abolition of educational psychology from university courses implied that the psychology taught to teachers for the past ten years had been wasted. Ferrari stated that, while other nations of the world were progressing, especially North American pedagogic psychological schools, Italy was retrogressing culturally by abolishing educational psychology in her teacher training courses.[2] "...we, in our country, with a decree, undo that little which was accomplished through enthusiasm alone. Oh, Patriotism!"[3] Regardless of this decree, however, psychologists did not stop their psychological researches. The psychological laboratories which were established before the passing of this decree remained open and welcomed psychologists or teachers to conduct educational experimentations. Ferrari also continued his educational courses for teachers and kept

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[1] Ibid.

[2] Ibid.

[3] Ibid., p. 219.
"da noi, con un decreto si disfà quel poco che per solo entusiasmo si era fatto. Oh, il Patriottismo!"

his laboratories at the University of Bologna open. This decree had forbidden any course whatsoever in pedagogical psychology, evan a free one, (one financed by the psychologist who taught it) but the leading Italian psychologists gave their services to teachers still desiring them, inviting them to draw from these "mutilated" pedagogical schools the advantages for which they had been instituted.[1]

Three years after the passing of the above decree and one year after World War I in March, 1919, the Unione italiana dell' educazione populare met in Rome in order to discuss the need for better instruction. The proposals considered were: establishment of kindergarten in every village and the establishment of special institutes for abandoned children or those having poor home environment.[2]

> ...the most timely questions will be treated briefly but efficiently: The creation of kindergartens in every community, of special institutes for children either abandoned or not sufficiently protected in the family circle, of the popular school to extend the elementary school, social and hygenic help, adequate finance of the normal school ...the creation of professional, industrial and agricultural schools and courses according to the needs of the working classes.[3]

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[1] Ibid. pp. 219-221.

[2] G. C. Ferrari, "Convegno sulle urgenti necessita per l'istruzione e l'educazione populare," Rivista di psicologia, XIV (1918), 80.

[3] Ibid., p. 80.

...saranno trattate brevemente ma efficacemente le più ardenti questioni : creazione di asili infantili in ogni borgata, di istituti speciali per i fanciulli abbandonati o non sufficentemente difesi nell' ambiente familiare, della scuola popolare estendendo quella elementare, sussidi sociali ed igienici, congruo finanziamento della scuola normale,...creazione di scuole e corsi professionali industriali ed agricoli secondo i bisogni delle classi lavoratrici...

An aim of the convention was to promote the establishment of industrial and agricultural schools and to introduce courses based on the needs of the workmen and on the educational need of the particular community. Professor Calo, a psychologist, presided and indicated to the convention members the social and moral advantages of providing assistance and education for deficient and abnormal children. He proposed that the State subsidize a large number of schools and institutes for these atypical children, in order that the public elementary schools might be less overburdened and in this way be an advantage to both the atypical and normal children. The government, however, turned a deaf ear to the suggestions of these psychologists and this issue was indefinitely suspended.[1]

Three years later, in November, 1922, the III Congress of Psychology was held at the University of Naples. Many psychologists of Italy and other countries attended. Bianchi inaugurated a convention and spoke on the social and scientific importance of psychology. Colucci, who was nominated president, spoke on the objectivity which psychology had pursued in attempting to solve its educational problems. He believed that his objective development of psychology was affirming itself regardless of all opposition. De Sanctis spoke on the social applications of psychology, stating that it was

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[1] Ibid.

not necessary to follow only theory, but also to make possible the practical applications of these theories.[1]

Since psychology was believed necessary for a better understanding of mental pathology, the members of the convention voted to institute courses in psychology as an introduction to clinical study of nervous and mental disorders in medical schools. It was revealed that the psychological Cattedre, three of which had been established for 15 years, were existing on limited funds and insufficient personnel. It was voted that the conditions of these departments should be improved so that they could act not only as institutes of scientific research, but also as teaching and guiding centers. During the war psychological laboratories located at Rome, Naples and Turin, under the supreme command of the army, contributed great services for the selection of personnel in aviation and in other specialized corps. After the war, these laboratories were neglected by the authorities due to the financial and political state of Italy. Italian psychologists believed that psychology could be utilized to the nation's greatest advantage in peace as well as in war, and it was voted to propose to the ministers of the army and navy that psychological methods should be used in the training of medical officers at the military schools. It was also proposed to the government

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[1]Luca Galdo,"III Convegno italiano di psicologia sperimentale," Rivista di psicologia, XIX (1923), 45-52.

that any reform regarding maximum working hours be based on psychological findings, and that in order to achieve the most satisfactory and economical means of industrial operation the government should nominate commissions, consisting of industrialists, psychologists and workers, in the principle industrial cities of Italy.[1]

The Gentile reform approved by Royal Decree of September, 1923, confirmed to the universities, didactics and administrative autonomy. Articles 2, 19, and 29 of the same decree established the regulation that in the statutes of every university a list of the subjects taught, their order and prerequisits should be determined by every faculty and school. The statutes were to be approved by Royal Decree, upon the advice of the superior Committee of Public Instructions. Any university, however, could ask for modifications of its statute from time to time. This tended to equalize the requirements of the different universities for the granting of diplomas.[2]

Gemelli held that the question of the installation of psychology courses in universities was neglected by this Royal Decree, and as a result the teaching of psychology was left to the initiative of the educational psychologists. At most universities since the installation of the faculty of experimental psychology by Leonardo Bianchi at the Universities

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[1] Ibid.

[2] Agostino Gemelli, "L'insegnamento della psicologia nelle università italiane dopo la riforma Gentile," Rivista di psicologia, XXI (1925), 43-49.

of Turin, Rome and Naples in 1905, psychology had been taught in the department of philosophy. In 1921 at the University of Rome, psychology was taught in the medical school. Gemelli believed that psychology should have been taught as an individual science. In short, he felt that the teaching of psychology at this time had been badly neglected.[1]

To promote the future of psychology, the VI Congress of the Italian Society of Psychology met in November, 1927, at Bologna. Psychologists, philosophers, and psychiatrists attended the meeting, and some presented papers on their various studies.[2] One of the first speakers was Ferrari who pointed out that the greatest enemies of experimental psychology in Italy were the "idealistic" philosophers. This was especially noted by the Fascists removal of the teaching of psychology in the Licei.[3]

The Society voted to send a petition to the Minister of Public Instruction requesting that a faculty of psychology, with a laboratory for scientific research and courses in psychology for teacher training, be instituted in every university. Minister Fedele answered with a letter to Ferrari, dated November 16, 1927, which stated that he had presented

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[1] Ibid.

[2] Siro Contri, "VI Congresso della società italiana di psicologia," Rivista di psicologia, XXIII (1927), 228-31.

[3] Mario F. Canella, "La Psicologia Sperimentale in Italia," Rivista di psicologia, XXIX, (1933) 158-62.

the petitions to the various universities, to the Superior Institutes, and to the Medium Institutes of Instructions. These institutions, however, Contri claimed, turned a deaf ear to these proposals.[1]

The VII National Convention of Psychology and Psychotechnology met at Turin in November, 1929. The convention was attended by educational officials, scolastic officials, as well as psychologists. Professor Pivano, director of the University of Turin, indicated in a speech to the convention that the future of psychology, which had seemed to come to an ignominous end, could be kindled in service for industrial and social psychology.[2]

The Fascist Association of University Professors, who were among the attendents, informed the Convention that the Italian government would look favorably upon any attempts made to develop Italian "culture." The main theme of this convention appeared, believed Ponzo, to be industrial psychology. De Sanctis opened the meeting by speaking on "Principles and Applications of Psycho-physiology to Labor;" Banissoni spoke on "Psychology Applied to Industry;" Correggiari, a psychiatrist, spoke on "Some Difficulties of Psychotechnology in Selecting Personnel for the Workshop;"

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[1]Contri, "VI Congresso della società italiana di psicologia," op. cit., p. 226-31.

[2]Mario Ponzo, "Il VII Convegno Nazionale di Psicologia e Psicotecnica a Turino," Rivista di Psicologia, XXV (1929), 271-79.

Ferrari spoke on "Sub-Conscious Factors in Industrial Fatigue;" and Canuto, a psychologist, spoke on "The Prevention of Accidents by Means of Selection of Workers." It appears that all the speeches made by the Italian psychologists and psychiatrists were related to industrial psychology and psychotechnology.[1]

The reports of this convention on psychology and psychotechnology included discussions and lectures which D'Agostino felt were an index of the progress accomplished in these fields. From the reports it was indicated that industry and society were the fields in which the revived psychological interest could find expression, and that experimental psychology was to be revived in order to improve the impoverished economy of the nation. Experimental psychology utilized for industrial purposes was called psychotechnology. The promoter of this new discipline was the Minister of Corporations who recommended that the laboratories that existed should be used to establish a program for the methodological study of labor problems.[2]

Under the auspices of the International Institute of Educative Cinematography, a society which sponsored motion pictures for international education, an educational convention was held at Rome in April, 1934. The congress was

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[1] Ibid.

[2] V. D'Agostino, "VII Convegno nazionale di psicologia sperimentale e di psicotecnia," Rivista di psicologia, VIII (1930), 57-60.

attended by officials of 43 nations who were interested in intercultural exchange of motion pictures in the field of education, science, social services and in the technical organization and production of the film industry. Calabresi was of the opinion that this was an important meeting not only from a pedagogical point of view but also for promoting intercultural relationships. Calabresi stated that when one speaks of cinematography one inevitably must consider the film from a psychological point of view, since it is the most powerful method of propaganda.[1]

> When we speak of the movies in their different aspects and variety of application, we inevitably consider them from the psychological point of view, not only because of the effects that they produce but especially because of how these effects are produced.[2]

The authoritive recognition by the Government of psychology as a compulsory course in certain curriculums was introduced by S. E. De Vecchi, Minister of National Education, with Decree of November 28, 1935, who made it possible to establish experimental psychology as one of the complementory courses for a degree in medicine, jurisprudence, and philosophy and pedagogy. This decree made

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[1] R. Calabresi, "A proposito del congresso internazionale del cinema di educazione e di insegnamento," Rivista di psicologia, XXX (1934), 120-22.

[2] Ibid., p. 121.
...quando si parla di cinematografo, in ogni, sua manifestazione e in ogni sua possible applicazione, si considera inevitabilmente il film sotto l' asbetto psicologico, non solo per gli effetti che esso raggiunge, ma sopratutto per il modo in cui questi effetti sonno ottenuti.

it possible for the various universities to present a modification of their statutes in order to introduce the teaching of psychology. Although it did not make the teaching of psychology compulsory in all universities, but left the decision in the hands of university officials, it was one of the most important government steps in support of psychological studies.[1]

The following year in April, 1936, the VIII Convention of Italian Psychologists met at Rome. Attendance was unusually large due, perhaps, to the official recognition of psychology in universities. The theme of the convention was applied psychology. Among those who attended were politicians, ecclesiastics, senators and military authorities. The convention was presided over by Colucci, who also was the president of the Italian Society of Psychology.[2]

Augusta Venturi, a psychologist and commissioner of Confederation of the Industrial Laboratories, spoke on "Psychotechnology in the Cooperative State," in which he indicated the movement of foreign countries in this field. He was of the opinion that psychotechnical study should be utilized for the economic structure of the nation as based on Fascist ideals. In order to accomplish this Marzi claimed that collaboration among scientists was needed, and

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[1] _____, "Rivalutazione ufficiale della psicologia in Italia," Rivista di psicologia, XXXI (1935), 281.

[2] Alberto Marzi, "L'ottavo convegno degli psicologi italiani a Roma," Rivista di psicologia, XXXII (1936), 118-26.

above all, the cooperation of Italian psychologists. Another lecture, "Psychotechnology of Industrial Work," was given by Rosario Toscani, head of the labor services of the Fascist Confederation of Industrialists. Toscani declared that Italian industrialists had applied psychology to labor problems, not only to stimulate labor production but also to foster nationalism. Toscani believed that the Fascist Industrial Federation was ready to collaborate and foster the necessary contacts between various psychological centers. Other Italian industrialists and officials delivered similar speeches, on applied psychology and how it could be used to foster nationalism and the Fascist ideals.[1] Guido Della Valle, however, was one psychologist who spoke on educational psychology, "Psychology as a Basis of Pedagogy." He pointed out that the educative ends of experimental education should be distinguished from speculative theory. This was not because it made exclusive use of experimentation, but rather because it made use of the method of induction rather than introspection. Della Valle advised the various officials of the universities that maintained psychological laboratories to promote research on educational psychology and concluded his speech with the following order of the day which he sent to the Minister of Education:[2]

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[1] Ibid.

[2] Ibid., p. 123.

> The VIII National Convention of Italian Psychologists, grateful to his excellency the Secretary of Education because of the greater importance given to psychology in higher learning, and considering that Fascism on the one hand with its different institutions has promoted the development of human personality, on the other has put spiritual values at the center of national life; and considering that in relation to these obvious facts educators and all those who have directive responsibility should have adequate preparation or training in the knowledge of psychic life, votes that: 1. In the faculty of philosophy a course in psychology be made compulsory for those who intend to obtain a doctorate in philosophy; 2. In those universities which have a laboratory of psychology, the teaching of psychology be entrusted to a full time professor; 3. In high schools and especially in teacher's schools, the teaching of psychology be introduced...[1]

There seems to be a certain relationship between the national and international conventions and governmental acts. The earlier conventions and papers were concerned with the establishment of laboratories, techniques of research, psychology as a science, institutions for atypical children, social application of psychology, psychology as

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[1] Ibid., p. 123.

L'VIII Convegno Nazionale degli psicologi italiani riconoscente a S.E. il Ministro dell'Educazione Nazionale per la maggiore estensione data alla psicologia nell'insegnamento superiore: Considerando che il Fascismo da un canto con le sue varie istituzioni ha promosso lo sviluppo della personalità umana e d'altro canto ha posto al centro della vita nazionale i valori spirituali; considerado che oggi s'impone in relazione con questa constatazione la necessità che gli educatori e tutti quelli che hanno azioni direttive abbiano adeguata preparazione anche sulla conoscenza della vita psichica, fa voti: 1) che nella Facoltà di Filosofia l'insegnamento della Psicologia sia reso obbligatorio per coloro che intendono conseguire la Laurea in Filosofia; 2) che in quelle Università che sono fornite di un Laboratorio di Psicologia sia affidato l'insegnamento della Psicologia ad un insegnante di ruolo; 3) che nelle scuole medie e specialmente nelle Scuole Magistrali sia introdotto l'insegnamento della psicologia.

a compulsory course, psychological instruction, and neglect of Royal Decrees to install more psychology courses in Universities, whereas the convention of 1936 was concerned entirely with the use of psychology as a means of fostering the ideals of the Fascist state. In very few of these conventions was there any mention of the direct application of psychology to education. One of the most challenging occurrences in the final meeting was a declaration by a leader of educational psychology, Della Valle, who seemed, behind technical terms, to have challenged the national Italian educational system, and especially the speculative theories of the Fascists.

Italian Psychological Journals

An important indispensable factor in the development of Italian psychology was the activity of the journals in the field of psychology. Until 1905, interest in Italian psychological work was expressed in journals of anthropology, psychiatry and physiology, in particular, the Rivista di filosofia scientifica edited by Morselli, the Rivista sperimentale di freniatria edited by Tamburini, the Archivio di psichiatria e di antropologia criminale edited by Lombroso, the Rivista quindicinale di psicologia, psichiatria, neuropatologia, edited by Sergi, Sciamanna and De Sanctis, and the Rivista di filosofia e scienze affini edited by Marchesini. Binet's Année psychologique had contributed to

exchange of ideas between French and Italian.[1]

In 1905 new journals especially dedicated to psychology began publication. Ferrari, director of the oldest department of experimental psychology in Italy at the University of Bologna, and at the same time director of the Institute of Medical Pedagogy (Medico-Pedagogico Emiliano), founded the Rivista di psicologia. The Rivista di psicologia, applicata alla pedagogia ed alla psicopatologia was published at Bologna, by Zamorani Albertazzi. Its title suggested the scope of studies that were published in it. However, since it was the only journal of the kind in Italy, it welcomed other contributions in allied fields. The fact that most of the psychological works and studies up to this time had been published in editions of almost forgotten periodicals and that Italian psychologists found, outside of Italy, greater hospitality than was offered by the Italians, indicated that the Rivista, assuming that it had no preconceptions and prejudices, was met with favor by Italian psychologists. The Rivista was founded, Ferrari claimed, to offer scientists an opportunity to express their hypotheses, plans, and the results of their studies, and to learn the ideas of others. A special column of the magazine kept the readers posted on current psychological thought in the fields of pedagogy and psychopathology, summarizing articles published in other

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[1]Saffiotti, op. cit., pp. 137-38.

countries and journals that dealt with these subjects. A certain number of pages of every issue were reserved for the history of the progress made by pedagogy.[1]

Ferrari claimed that by examining the original article in the Rivista one can get a picture of the two movements of psychology and pedagogy during the last twenty-five years.

> ...from it (The Rivista) one can get a vivid picture of the two movements of psychology and pedagogy, particularly in Italy, during the last twenty-five years. This weaving line can well be understood through running over the list of original articles.[2]

The journal, Psiche, directed by Enrico Morselli, was first published in 1912 by Morselli, De Sanctis and Villa. Each issue was dedicated to psychology and philosophy; psychoanalysis and the study of the subconscious; sexual psychology; child psychology and pedagogy; and legal psychology.[3] But the beginning of the war proved harmful to the new movement. Some of the journals had to suspend and others had to limit their publication. With the fourth volume the publication of Psiche was suspended, though the hope was expressed that after the war its publication would

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[1]These are the conclusions of the present writer based upon an examination of Volumes I-XXXVIII of the Rivista di psicologia. The conclusions are verified in Saffiotti's, "La evoluzione della Psicologia Sperimentale in Italia." XVI,(1920), 129-53.

[2]Ferrari, "Giulio Cesare Ferrari," A History of Psychology in Autobiography, op. cit., p. 76.

[3]G. C. Ferrari, "Nuovo Giornale," Rivista di psicologia, VIII (1912), 94-96.

be resumed. "...after four years of life the Psiche suspends its publication..."[1] This hope, however, as events proved, was unfulfilled.

A journal that managed, like the Rivista di psicologia, to survive the war was the Archivio di psicologia published from 1920 to the present. This journal collected Italian scientific studies of technical character which, due to their mass, charts, and tables, could not be published in the Rivista di psicologia, especially since such technical material would not have been considered useful for educators and psychologists.[2]

> ...Archivio di psicologia will accept all those scientific Italian studies in the field which on account of their exclusively technical character, their length, the large number of tables...would not find space in this Rivista which is intended also for the general public.[3]

During the war the Rivista had occupied itself with the problems of military psychology, especially with psychology of aviation. After World War I it announced that it would publish only articles dealing with educational, abnormal and applied psychology.[4]

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[1] Ibid., p. 404.
...dopo quattro anni di vita Psiche sospende le proprie pubblicazione...

[2] G. C. Ferrari, "Il nuovo Archivio di psicologia," Rivista di psicologia, XIV (1918), 221.

[3] Ibid.
...Archivio di psicologia, che accoglierà tutti gli studi scientifici italiani della materia, i quali per il carattere esclusivamente tecnico, per la mole, la ricchezza di tavole ...non troverebbero luogo adatto in questa Rivista, anche utile al vasto pubblico. (G. C. Ferrari)

[4] Ibid.

National and international congresses were suspended during the War since most of the leading men and scholars in the field went into the army. With the typical Italian outlook, scientists in Italy felt that the nation had more important problems than those connected with pure academic research.

> It is time to act in war and to think of providing for the war rather than to write or to read abstract studies.[1]

SUMMARY

Educational psychology branched out from experimental psychology because the men that founded the science of psychology in Italy were experimentalists. An important impetus was given to psychological thought in the latter part of the eighteenth century by Giuseppe Sergi, Gabriele Buccola and Simone Corleo. Of the above-named pioneers, Sergi was the only one that believed that the science of psychology was indispensable, not only for the value of the science itself, but for a scientific approach to the badly needed reorganization of schools. Besides being the leader of experimental psychology in Italy, he exerted the greatest influence in the direction of psychology as applied to education. Sergi is given credit for the founding of the

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[1] G. C. Ferrari, "La Sosperisione di Psiche," op. cit., p. 405.
È tempo di agire in guerra e di pensare a provvedere per la guerra, anzichè di scrivere o di leggere studi astratti.

first psychological laboratory in Italy, as established with the Royal Decree of 1889. This laboratory was not an independent psychological laboratory, but was a section of the Institute of Anthropology at the University of Rome. Sergi also was the first to establish a course (1878-79) in psychology for the purpose of training public school teachers in pedagogical psychology. Buccola was the first in Italy (1886) to conduct psychological experiments on lunatics for the study of the problems of normal psychology at the Frenocomio di Riggio Emilia. Although Corleo did not think of psychology as an independent science, but believed it to be part of the study of philosophy, he favored the introduction of experimentation to ascertain philosophical concepts.

One of the leading physiological psychologists was Angelo Mosso, who is famous for his experiments on mental fatigue, fear and emotions. Some of his experiments tested the effects of body position and fatigue on scholastic achievement. His laboratory was considered one of the finest at the time. His assistants, Grandis, Treves and Patrizi, who after Mosso's death founded their own laboratories, were leading psychologists in their own rights.

Giulio Cesare Ferrari, whose theories were influenced by Wundt and Binet, did more than any other Italian psychologist to promote educational psychology and to bring Italian psychologists in closer collaboration by founding the first Italian psychological journal Rivista di psicologia (1905).

He translated William James' Principles of Psychology which he believed gave an enormous impulse to Italian psychological thought. In 1896 he founded the first independent psychological laboratory in Italy, and advanced the ideal that the laboratory should not be far removed from practical problems of life. Although he was an experimentalist, his greatest contributions were made in the field of pedagogical psychology. His contributions to Italian psychology are similar to those made by G. Stanley Hall for American psychology. Another promoter of Italian psychology was the physician Sante De Sanctis whose publications brought him world wide recognition. Ebbinghaus introduced De Sanctis' methods of experimentation to German psychologists. However, the only available English source that mentions De Sanctis is Murchison's A History of Psychology in Autobiography. Although he made valuable contributions in all fields of psychology, his major field was feeblemindedness. He not only organized clinics for therapeutic purposes, but also started, in 1899, special schools for feebleminded children. His tests for evaluating the degree of feeblemindedness, he claims, were used throughout Europe. Another efficacious promoter of Italian psychology during the early part of the twentieth century was Leonardo Bianchi, scientist and public official. He is credited with many original psychological contributions, but is remembered mostly for establishing, during the time that he was Minister of Education, the first

three experimental psychology departments at the universities of Rome, Turin and Naples. He favored the reform of education based on pedagogical psychology. It was at the Fifth International Congress of Psychology in 1905 that he announced his intentions of promoting psychology. Thus, with the Decree of June 16, 1905, psychology was officially recognized by the government. Although various conventions on psychology followed the 1905 convention; nothing seems to have been accomplished by these meetings except for various excellent propositions for the promotion of psychology presented to the government. The officials paid little if any attention to these suggestions until 1910 when Italian psychology received a setback. A decree was issued to replace pedagogical psychology with a course on the history of Italian independence. (Storia del risorgimento.) This decree, which forbade any courses in pedagogical psychology at universities, was met with severe criticism by the psychologists. They tried to counteract the decree by giving their services free and by promoting several conventions and societies in order to revive psychological interest. The war was responsible for another setback of educational psychology by causing the suspension of national and international congresses, and due to a paper shortage, Psiche, a journal first published in 1912 was suspended. However, Ferrari's Rivista and Kiesow's Archivio continued publication.

In 1917 psychological interests turned to military

psychology, and Italy contributed valuable research in the selection of aviators. It was not until 1935 when a decree was issued establishing experimental psychology as a course in medicine, jurisprudence, philosophy and pedagogy, that interest in psychology was again revived--however, the interest was mainly in utilizing psychology for industrial prosperity and for promoting Fascist ideals.

CHAPTER IV

THE MOVEMENT FOR SCIENTIFIC PEDAGOGY

The use of psychological research opened a new branch of pedagogy. The scientific or experimental, on the foundations of what was once called anthropological pedagogy. Although the movement toward scientific pedagogy started in Italy as early as 1873, it did not spread rapidly. There were significant theoretical contributions, like those of Lombroso and Sergi, but their ideas were not widely utilized in the schools.

Paolo Vecchia, a psychologist, made some practical application of his theories. He instituted a course for teachers in pedagogy at Piacenze, Italy, in 1862. He was made inspector, and later, director of normal schools. From 1884 to 1888, Vecchi taught pedagogy at the University of Catania. He also taught at the universities of Naples in 1888 and Rome in 1905.[1]

At first Vecchia followed an idealistic trend in his educational doctrines, but later recognized the need for giving pedagogy a firm psychological and scientific basis. He wrote La scienze dell educazione applicata all'insegnamento primario (1881), followed by Elementi di pedagogia

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[1]N. Marotta, "Un pedagogista-- Paolo Vecchia," Rivista di psicologia, IV (1908), 355-62.

e cenni di storia sui principali sistemi di educazione, in order to illustrate the new pedagogic movement. In these books he expressed the various systems of administration which would meet scholastic, hygienical and economical needs. He also treated such topics as types of teaching positions, their supervision, the duration and intensity of attention without physical fatigue, character training, labor problems, Froebelian methods, and reward and punishment.[1] None of these principles were utilized for national education.

Until 1905 the state had not done much for scientific pedagogy; its contribution could be considered as a negative one. When Bianchi was appointed Minister of Public Education in 1905, scientific pedagogy gained some impetus. At a teachers congress at Cagliari, Bianchi voiced his intention of reforming education and of bringing it up to the scientific standards of the time. He asserted that the kindergarten should not be a place merely to shelter children, but rather a preparatory school to condition the child and to prepare him for the elementary grades. Montessano felt that studies on child psychology and mental development of children had opened up a new field for the application of psychology to pedagogy, but pointed out that the legislation of the time was inadequate. Bianchi believed that reform was necessary and that the government should follow the progress of psychology and organize the educational

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[1] Ibid.

system in relation to the progress of science. Montessano claimed that the apathy of the state in the handling of the public school was reflected by the fact that the institutes of scientific pedagogy in Italy could, in 1905, be counted on the "fingers of one hand."[1]

Montessano was of the opinion that Milan had set a good example for other Italian cities in granting a subsidy of 10,000 lire to the Scientific Pedagogy School of Pizzoli. The Pizzoli school had elementary and advanced courses in child psychology. In 1905, there were 144 students registered for the elementary course and 62 for the advanced course. Ferrari taught pedagogical psychology; Rochi, anthropological pedagogy; Marino, human physiology and anatomy; and Gotti, child pathology and hygiene. Pizzoli examined the students at the end of each course.[2]

Another attempt to diffuse scientific pedagogy was made in Rome at the Scuola Magistrale Ortofrenica, established in 1900 with private funds. However, the funds were insufficient and Montessano felt that Rome should have granted a subsidy to this school, as Milan had to the Pizzoli school. No subsidy was granted and the school continued to operate on limited funds.[3]

Some cities followed Milan's example. Calabria, on

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[1]M. Montessano, "Rassegna Pedagogia," Rivista di psicologia I (1905), 425-29.

[2]Ibid.

[3]Ibid.

the initiative of Professor Scaglione, established, in 1903, a laboratory of pedagogical anthropology which was used by the elementary teachers of the city for conducting anthropological and psychological research. In two years this laboratory had collected psychological case histories of 8,000 students. Other laboratories of experimental pedagogy, similar to the above, were founded in Rovigo, Mantova, and Buzzara.[1]

Although scientific pedagogy was being accepted and promoted in a few Italian cities, the movement had not dispersed throughout the Italian educational system. Most of the progress that had been achieved by 1905 was for the training of elementary school teachers. Italian psychologists felt that child psychology should also be utilized in the kindergarten.

The introduction of child psychology was discussed by Bianchi at the Congresso delle Educatrici dell' Infanzia held at Ancona in September, 1905. The Congress voted in favor of coordination of the kindergartens preparatory schools for the elementary grades. It was recommended that a law be passed which would provide for the institution of a kindergarten in each community; the reform of kindergarten methods based on Froebelian concepts; and the reorganization of all the nation's kindergartens on a common base,

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[1]Ibid.

insofar as education, discipline, hygiene, and the teacher's salary schedule.[1]

The Congress, which was sponsored by some of the leading educators of child psychology, was attended by educators from all parts of Italy. Their aim was to organize all elementary teachers of Italy in order to centralize elementary education. Although several similar meetings followed the Ancona Conference, little was accomplished in the realization of these proposals.[2]

However, Ferrari felt that perhaps as a result of these meetings, more facilities were offered to teachers interested in applying psychology to education. Teachers were urged to attend psychological institutes, and were permitted to borrow instruments from these laboratories to supplement their classroom teachings. They were encouraged to cooperate with school doctors for the detection of visual and auditory defects in the pupils. Ferrari held that this was important because a child with an undetected auditory or visual defect might be seated in the rear of the room, causing school failure which might develop an inferiority complex in the child. The teachers were urged to cooperate with medical authorities by compiling statistical case

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[1]Maria Colli, "Il Congresso delle educatrici dell' infanzia ad Ancona," Rivista di psicologia, I (1905), 419-20.

[2]Ibid.

histories of students, which in turn were interpreted by physicians.[1]

Child psychology was also promoted in a journal, the Nuova Scuola of Milan, founded through the iniative of an instructor, Adone Roberti. Montessano claimed that his was the first teachers' journal in Italy, used exclusively for scientific pedagogy. The magazine contained articles and reports of researches made in child psychology. Montessano claimed that his journal had many subscribers, indicating that scientific pedagogy had aroused an interest in many teachers.[2] Credaro, later Minister of Public education, founded another educational journal in 1908, called Rivista Pedagogica.[3]

When he was appointed Minister of education, Credaro appointed Della Valle co-editor of his periodical. A third educational journal, La Nostra Scuola, was founded in 1913 by a Milanese teacher, Gian Cesare Pico. An educational library was soon established in Milan in 1915, facilitating the availability of psychological books to public school teachers.[4]

Finally the government felt a need for improving the

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[1] G.C. Ferrari, "La pedagogia scientifica e le sue applicazioni pratiche," Rivista di psicologia, III (1907), 161-70.

[2] Montessano, op. cit., p. 426.

[3] G.C. Ferrari, "Rivista Pedagogica," Rivista di psicologia, XIII (1917), 72.

[4] G.C. Ferrari, "Associazione Nazionale per la Biblioteca circolante dei Maestri Italiani," Rivista di psicologia XI (1915), 405-06.

training of teachers in the new pedagogic idea. It approved the Royal Decree of January 1, 1906 which established a curriculum at the universities in order to better prepare teachers for the offices of school inspector and didactic director. This curriculum was offered bi-annually and taught pedagogy and Italian letters. Another curriculum offered annually, presented theoretical philosophy, experimental psychology, school administration and mental hygiene. Upon completion of a year's study, each student was permitted to take an examination for the position of didactic inspector or school inspector.[1]

Ferrari maintained that, on Credaro's initiative, the pedagogical school at the University of Rome added to its curriculum, in 1907, a course in experimental psychology as applied to pedagogy. This course lasted for a two month period and its principles and methods were similar to those taught at the School of Experimental Pedagogy that Pizzoli had founded at Milan. The curriculum was organized by De Sanctis and consisted of three courses; experimental psychology as applied to pedagogical problems, taught by Sergi and De Sanctis; sense organs and motor coordination, taught by Civinini; and abnormal psychology, taught by De Sanctis.[2]

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[1] Giovanni Pascoli, "Il nuovo corso Universitario di perfezionamento per i licenziati dalle scuole Normali," "Rivista di psicologia II (1906), 205-08.

[2] G.C. Ferrari, "Un corso aggiunto alla scuola pedagogica universitaria," Rivista di psicologia, VIII (1907), 160.

Slowly the theories and practices of this new scientific pedagogy began to be recognized by conservative institutions and on the invitation of the Perugian Pedagogical Association, De Sanctis gave a short course in 1909 at the Universita de Perugia, in experimental psychology as applied to pedagogy. Theory was accompanied with practical applications. The lectures included: experimental psychology and modern pedagogy; psychic and the brain; movement and sensibility; attention; imagination; memory; intelligence; sensorial-defects; morality; abnormalities of intelligence and behavior; suggestibility; will and character; physical and mental labor; and mental fatigue.[1] The students were encouraged to participate in experimentations and went directly to public schools to conduct the experiments. The course was supplemented by a trip to an insane asylum.

In 1913 the Salvoni Institute at Milan introduced special preparatory courses for the Scuola Media. This institute carried out a plan of education far in advance of its time. The use of text books was somewhat suppressed in favor of formative materials and memorization was also reduced to a minimum. Although the didactic materials basically equalled those of the government schools in regard to the grammar, arithmetic and geometry, the Salvoni

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[1]Sante De Sanctis, "Corso rapido di psicologia sperimentale in Perugia," "Rivista di psicologia," V (1909), 531.

Institute was not preoccupied with teaching the child cultural subjects or in making the student attain mechanical proficiency in certain abilities. It stressed exercises in which the student could use his capacity of observation, comparison, abstraction, correlation, induction and deduction.[1]

The kindergarten program was essentially Froebelian. Spontaneous activity in play was encouraged. The letters of the alphabet and the spelling of words with mobile letters based on the Montessori method were used. No lesson was to be memorized and all activities were to be considered play. The teaching of arithmetic was left until the last third of the year, and instead of giving students a superficial study of mathematical problems from a text book, mathematical problems were presented in concrete forms, and later in graphs. Individual freedom was granted each child, in expression, as well as in activity and the teachers arranged the games to suit the children. The children's activities were observed daily and records of their progress were kept.[2]

Many of the Italian educators who believed in scientific pedagogy attempted to diffuse the new knowledge in order to raise the standards of the schools. Among these

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[1]L. Salvoni, "Pedagogia e didattica in un istituto di educazione moderno," Rivista dipsicologia, IX (1913), 560-82.

[2]Ibid.

was Giovanni Calo, who was known for his scientific work and as a teacher of education at the Reale Instituto di Studi Superiori di Firenze and the Scuola di perfezionamente per i maestri which was annexed to the Reale Instituto. The new psychological base of pedagogy is well illustrated in his L'educazione degli educatori.[1] Calo had hoped that these publications would help raise the standards of the teaching profession and give it a scientific basis. One section of the book illustrated the physical development of the individual and explained the principles of hygiene and physical education. In the book, Calo presented a minute analysis of mental functions and their development, stressing educational methods to be used at various levels of the individual's development. He believed that these analyses were useful in forming good teaching practices and in clarifying statements related to psychological and pedagogical questions. Calo also believed that teaching should not be all theory, and neither should pedagogical teaching exhaust themselves in useless empirical methods.[2]

Regardless of individual attempts to improve education and to centralize its management, defects of organization, however, still persisted. These were pointed out in

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[1]G.L. Arrighi, "L'educazione degli educatori, Corso di Pedagogia per le scuole normali di Giovanni Calo," Rivista di psicologia, X (1914), 473-74.

[2]Ibid.

an article written by Franzoni which was reviewed by D'Atena in the teacher's periodical Attualita pedagogiche. The greatest problem, according to Franzoni, was lack of organization of the educational programs. Each subject was taught as an end in itself, without considering its relationship to other subjects. This defect of organization, D'Atena felt, was due mainly to unscientific preparation of teachers. Accordingly Franzoni, director of the Teachers' College Carlo Cattaneo of Milan, initiated the publication of two series of Quaderni di Pedagogia. One, Attualita pedagogiche, dealt with the educative and social problems of the school, and the other, Profili di Maestri, presented the educator's point of view.[1]

Very little of any significance is available on the subject of the movement of the new pedagogy after 1918. Italian positivistic psychology and its practical application in the field of education had reached its peak by 1910.

Assagioli pointed this out in 1914 by stating that while in many sciences the Italians had kept abreast with the progress of other nations, in psychology they had lagged far behind. The number of Italians interested in this science was very limited and for the most part psychology was disunited, dispersed and often misunderstood.

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[1]D'Atena, "Unita di programma per L. Franzoni," Rivista di psicologia, XII, (1916), 350-51.

Most of the men studied psychology as a supplementary subject and not as a distinct science. Many factors were responsible, believed Assagioli, for this condition. Above all, was the "shameful educative deficiency" of government officials. A magistrate could "judge" without even knowing the rudiments of psychology. Assagioli pointed out that no one would think of teaching pathology and clinical medicine to students who did not know physiology, and yet at the Italian universities psychiatry was taught to students who did not have any knowledge of elementary psychology. He believed that experimental psychology, which was taught as a laboratory course at a few universities, should be preceded by courses in general psychology.[1]

Another fact, Assagioli claimed, that was responsible for the impediment of psychological progress in Italy, was the hostility with which psychology was confronted by the very men who should have recognized its value and brought it to its greatest utility: the physicians and the psychiatrists. They, with a few exceptions, were, according to Assagioli, the major offenders, since they looked down upon psychologists and psychopathologists. It must be remembered that the men who worked in the field of psychology came from different scientific fields. These conditions were not only true in Italy, Assagioli pointed out, but

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[1]Roberto Assagioli, "Le condizione della psicologia in Italia," Psiche I (1912), 57-63.

also in other foreign countries. We felt, however, that these conditions were not unsurmountable. Pedagogical psychology had developed favorably and was greatly recognized in other countries and in the same field, psychiatry had also made valuable contributions. This fact was disclosed at the International Congress of Psychology, held at Geneva in 1909. At this Congress the Italians were active participants in the above fields.[1]

World War I, although it caused the retardation of educational psychology, proved an intensive force in the Italian renaissance of psychological research and its application to military strategy. Italian psychologists made valuable contributions for the selection of Italian military pilots based on psychological tests. The selection of individuals for special fields in peace as well as in war, Saffiotti believed, was the new aim of psychology.[2]

In order to achieve this new aim of psychology Treves, who had, by his researches on physiological and psychological problems of work and fatigue, made valuable contributions to the development of Italian scientific thought, suggested that special psychological institutions be established in all the major Italian cities in order to find out the cause and effect of muscular and nervous fatigue in work. Treves believed that some day all questions

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[1] Sassoli, "Le Condizione della psicologia in Italia", Psiche, op. cit., p. 63.

[2] Saffiotti, U.U., "La evoluzione della Psicologia sperimentale in Italia," Rivista di psicologia, XVI (1920), 149.

relative to labor, including the professions, would be answered by scientific experiments. Rather than forcing the individual to adjust to the demands of labor, labor should be adjusted to the capabilities of the individual worker.[1]

In 1908 Petrazzani devised a psychological examination in conjunction with a physical examination to determine the ability of an individual to drive an automobile. In 1911 Balchi and Nieddu-Semider, used the same technique to qualify pilots for the Italian army. However, the mobilization of these scientific principles was slow. In May of 1916 Saffiotti presented to the military authorities a psychological program intended to be used in selecting candidates for aviation pilots. His program, he believed, had a double value: first, it offered the Italian military authorities a practical and useful program for the selection of their pilots, and secondly, it gave impetus to Italian scientific culture by attracting attention to the psychological researches conducted for the scientific selection of pilots. As a result of his efforts the first office of psycho-physical research for the selection of aviators and pilots was instituted at Turin in 1917 under the direction of Gradenigo. A year later, two other similar offices were instituted, one at Naples, under the direction of Herlitzka,

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[1] Ibid.

which specialized in marine aeronautic services, and the other at home, under the direction of Saleotte.[1] The Italians seemed to have gained some recognition outside of Italy for their psychological researches on the scientific selection of military pilots, as accounts of various researches on the subject appear in several foreign journals, but insofar as educational psychology, the war seemed to have diverted the interests of Italian psychologists from educational to military psychology.

Perhaps that is why very little of any significance is available on the subject of the movement of the new pedagogy after 1918. Italian psychology and its practical application in the field of education had reached its peak by 1910. With the entrance of Italy into the First World War, studies of educational psychology were abandoned in favor of military psychology. The positivists intended to resume educational studies, since they had not influenced Italian educational systems as a whole, after the war. With the change of regime in 1922 the psychologists of Italy at first looked to the new regime, which had promised to do so much for Italian education, as the means of extending the fruits of their labors to the whole of Italian education. Although the Italian psychologists had fought to break the old bonds of tradition in order to install a modern system of education based on

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[1] Ibid.

objective findings in psychology, they had not met with much success.

SUMMARY

The Italian positivistic psychology reached a peak in 1910. The wave of laboratory "founding" had subsided by 1913, and the only psychological faculties founded at universities after that date were the faculty of psychology established at the University of Palermo in 1920 and the psychology department and laboratory established by Gemelli at the University of the Sacred Heart at Milan.

Some significant attempts were made by individual psychologists to reform education by a scientific application of psychology. Among these was Ugo Pizzoli, who established a school in order to train teachers in psychology. In 1905, at a time when such institutions could be counted on the fingers of one hand, due to the fact that the state contributed no financial support to promote special schools, Milan granted Pizzoli a subsidy to augment the income which originally consisted of a small tuition paid by students. Other cities followed Milan's example. Calabria, Novico, Mantova and Suzzara gave grants to establish laboratories of experimental pedagogy. In 1913 the Salvoni Institute at Milan conducted a Froebelian kindergarten and an activity school for children through the fifth grade. Froebelian concepts were favored

and advanced by individual psychologists in their private schools, but they were not widely adopted. However, some communities sponsored laboratories where teachers, of their own accord, could conduct experiments and learn psychological methods in education. In 1906 the government instituted educational courses including educational psychology at all universities. Educators wrote books and magazine articles in order to raise the standard of the teaching profession and magazines on child psychology were made available to instructors.

In spite of individual attempts to utilize psychology in education, little general progress was made. Until 1918 educators and psychologists personally sponsored special researches and schools which utilized scientific pedagogy, but due to World War I, their efforts were turned to military psychology. After the war the psychologists intended to continue their educational studies, but they met opposition from the new regime of 1922 which brought back humanism as Gentile conceived it, to the Italian schools.

CHAPTER V

DEVELOPMENT OF SPECIAL EDUCATION FOR ATYPICAL CHILDREN

Attention to atypical children was a late development in Italian education. It was not until almost the close of the Nineteenth Century that the kingdom began to develop an educational program for the large mass of normal children. Later on, and mainly through the efforts of educators and psychologists some emphasis was placed on specialized institutions for the training of mentally abnormal children. Asili scuole (kindergartens) for various mental deficients were founded by De Sanctis[1] (1899) and schools for slow learners were founded by Ferrari (1903).[2]

Ferrari's Classification

Ferrari classified atypical children into three categories. In one category he included children that exhibited slow mental development. He believed that if these children were to keep up with normal children in public schools, they would progress as the others, if only at a slower pace.[3]

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[1] Cf., p. 82.

[2] G. C. Ferrari, "La pedagogia scientifica e le sue applicazione pratiche," Rivista di psicologia, III (1907), pp. 161-170.

[3] Ibid.

> ...Of children intellectually abnormal we know very many varieties. We have first a large number of the so-called retarded, that is to say, children who do not present serious lesions but simply a delay in the development or, more often, in the coordination of the various aptitudes and of the various intellectual tendencies. Not obliged to make efforts beyond their ability, carefully awakened first and stimulated later, they succeed easily in keeping abreast with the others and generally do not relapse...[1]

In another group he included those that stopped growing mentally after a short span of normal mental development. As a result they soon are unable to keep up with the progress of their fellow classmates. This condition is sometimes accompanied by hyposexual development in puberty. Sometimes mental development is arrested after a severe attack of influenza or typhoid fever. In the third category he included idiots, imbeciles, and morons.[2] The above groups, Ferrari believed, represent a serious educational problem and require supervision in specialized institutions, where education can be adapted to their limited mental capacity and where they can receive medical care for the pathological

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[1]Ibid., pp. 165-166.

"Di fanciulli intellettualmente anormali noi conosciamo moltissime varietà. Abbiamo anzitutto la grande schiera dei cosidetti tardivi, dei fanciulli cioè, che non hanno gravi lesioni nel loro organisimo bio-psichico, ma semplicemente un ritardo nello svolgimento o, più spesso, nella coordinazione delle varie attitudini e delle varie disposizioni intellettuali. Non indotti a sforzi superiori alla loro potenzialità, prudentemente risvegliati prima eccitati poi, arrivano facilmente a camminare al passo con gli altri, e, per regola, più non ricadono."

[2]Ibid.

conditions underlying their mental deficiency.[1]

This threefold classification of Ferrari was apparently the basis for the practical organizations of educational facilities for the mentally handicapped in Italy. Previously there had been no conception of the necessity of a division between slow learning and grossly mental deficient children. He believed that the idiots, imbeciles, and morons of the third group were the only ones easily recognized in the classroom program and were not usually children recognized by the teacher. Since these children ultimately fail in their school studies, it is important that teachers have an elementary knowledge of the principles of psychology in order that they can readily recognize deviates.

Once recognized, he can be placed under the supervision of especially trained teachers. Borderline mental deficients can be taught to live useful lives if educated in relation to their mental and mechanical abilities. With these points in view, Ferrari devoted his life to the education of feeble-minded children and to the acceptance of psychology as a base for pedagogy.[2]

Ferrari Mental Test for Normal and Deficient Children

In 1897 Ferrari devised a mental test made up of various questions to be asked the deficient child upon his admission

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[1] Ibid., pp. 161-170.

[2] Ibid., p. 170.

to the insane asylum of Bologna and administered again at fixed successive periods during his stay.[1]

A. Personal and objective orientation

1. What is your name?
2. What is your grade in school?
3. How old are you?
4. From what town are you?
5. What is your home address?
6. What day is today?
7. Where are we now?
8. Who am I?

B. Personal consciousness

9. Who is _____ (Name of the child questioned)?
10. What are you thinking about at this moment?
11. Whose hand is this? (Pointing out a hand of the child with a pencil)
12. Whose clothes are these? (Touching the child's clothes)

C. Memory

13. How long have you been here?
14. Who accompanied you here?
15. Where were you for Christmas?
16. What is your father's name?
17. What is your mother's name?
18. Do you know a fable by memory? (In case of the affirmative) Tell it to me.

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[1] G. C. Ferrari, Gabriella Francia, "L'esame psicologico sommario del deficiente," Rivista di psicologia, VIII (1912), 269-88.

D. Affective state

19. Do you fell well?

20. At this moment do you feel happy or not happy?

21. Do you wish to study in a little while?

22. Whom do you like best at your house? (The very best)

23. Do you have many friends? (In case of the affirmative) How many?

24. Is there anyone who makes fun of you?

25. Do they call you ugly words?

E. Reason and judgment

26. What distance might there be from here to _____ (One names a well-known locality and a distance well determined)

27. Would you be capable to go alone from here to your house?

28. What would you do to go to your house?

29. How old do you think I am?

F. Onirica (Dream) life

30. Do you dream at night?

31. Tell me a dream that you remember?

32. Do you have bad dreams sometimes?

33. Tell me one.

G. Moral sentiments (For the boys)

34. If you were to see a friend of yours being beaten unjustly what would you do?

35. Why should one not steal?

36. Is it good or bad to swear?

37. If someone would want to beat you what would you do?

(For the girls)

34. If a friend of yours would spoil a piece of work you were doing what would you do?

35. Why should one not lie?

36. Is it bad or is it good to take revenge?

37. If you were to know that a friend spoke badly of you, what would you say?

H. Cognitive activity

38. Watch me!

39. Get on your feet! (or sit down!)

40. Give me your hand!

41. Touch your nose with your left hand!

42. Pick up that piece of paper (a piece of paper and a pencil are dropped to the floor without making it obvious)

43. Shut the door and go out!

These questions were constructed on the basis of the knowledge that Ferrari had of the children in his care.[1]

De Sanctis' Mental Test

Of the various methods proposed for an evaluation of intelligence that might at the same time be scientifically correct and practical, Graziani, a psychiatrist, at the Psychiatric Institute of Vicenza, claimed that two above all others, between the period of 1906-1916, encountered a favorable response from psychological, pedagogical, and psychiatric students. There were the Binet and Simons test,

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[1] Ibid.

and the Reattivi of De Sanctis.[1] Graziani said that the Binet-Simons Scale in modern psychological thought is not a measurement of intelligence but an instrument to evaluate the mental capacity of a child, and that the Reattivi De Sanctis constituted a simple guide for the evaluation of the different levels of intellectual deficiency for the information of the psychiatrist and the teacher.[2] The method used by De Sanctis was created for the practical gradation of mentally deficients into three groups of low, medium, and high. It utilized six tests which gradually increased in difficulty. Graziani said that the De Sanctis tests were criticized by some psychologists because they doubted that one would be able to judge the grade of mental deficiency from a few answers, that the judgment of the psychiatrist or the teacher might be subjective, and that a single reaction to the test was not sufficient to give an accurate evaluation. An experiment was conducted by Graziani, to compare Binet's and De Sanctis' methods. Graziani had intended to perform his experiments by giving both tests to 400 young men at his institute, but circumstances due to the World War I forced him to conduct his experiments on only 70 subjects. The tests were conducted at the same time every day, in the same room and by the same teacher. Every subject was given one test and a month later was given

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[1]Aldo Graziani, "La valutazione dell' insufficienza intellectuale con la "scala metrica", di Binet e Simon e coi "Reattivi" di S. De Sanctis," Rivista di psicologia, XIV (1918), 81-112.

[2]The tests were not available to the writer.

the other. Of the 70 subjects 28 were women, 42 men; 53 were between 9 and 16, 7 between 7 and 9, and 10 between 17 and 22. Graziani concluded that the Simon-Binet test successfully measured a gradation of intelligence in the normal child, but that in the abnormal child it did not indicate the degree of abnormality, i.e., high or low idiot, high or low imbicile, as did the De Sanctis test.[1]

Giuseppe Montesano, noted for his work with mental deficients, also believed that the De Sanctis test constituted a rapid and easy method of application since each administration lasted only 10 to 15 minutes. Montesano claimed that these tests could be advantageously administered to mentally deficient children because the tests did not utilize writing and reading.[2] Ferrari's and De Sanctis' mental tests seem to be, as far as the writer knows, the only tests devised by Italians to measure intelligence.

History and Development of Schools for Atypical Children

The early realization of the necessity of a well trained personnel, both among teachers of public schools and attendants of public and private institutions for mental deficients, led to the establishment of some special schools for the training of this personnel. The results of the experiments carried on at these schools attracted interest when they were presented

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[1] Ibid.

[2] Giuseppe Montesano, "Per la Protezione dei Fanciulli Deficienti," Rivista di Psicologia, I (1905), 56-61.

at the "Congresso di Freniatria" at Ancona in 1901, and were published by Agostini in the Journal of Mental Science. From such recognition, one would expect that institutions for mentally deficient children would have gained some economic support, but this was not the case. The group that founded them usually started with very slender means. If it had not been for the concerted efforts of the founders, these institutes would have failed.[1]

The Institute of Medical Pedagogy was founded in 1900 by a society organized in Rome. Most of the pupils were from the insane asylum of Santa Maria della Pieta. This asylum paid 40 lire per month to the institute for the support of each child.[2] Since this amount was insufficient to provide for all the expenses, the institute came very close to bankruptcy, but it was saved by becoming incorporated as a part of the asylum. The new administrator transferred the school from a poor building in the center of the city to a better one in country and also provided for an extension in the teaching staff. For the sucsistence of each child the asylum increased its allotment from 40 to 75 lire per month.[3]

The admission of each child to this school was decided upon after an initial period of observation at the asylum

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[1]A. Agostini, "The Practical Direction that Psychiatry can give to Education," Journal of Mental Science, XLVIII (October, 1902), 786-87.

[2]Montesano, op. cit., pp. 56-61.

[3]Ibid.

during which his mental capabilities were determined by a mental test. Upon entrance to the school, the child was given a seriesof mental tests, chiefly those of Binet and Ferrari, to decide his educability. A diary was kept of the child's daily achievement and behavior, his progress and education, and of other pertinent factors. At the end of a month this diary was summarized as an indication of the child's mental growth.[1]

Owing to the fact that it was affiliated with the asylum, the school was forced to take in all categories of mental deficients so that at one time it would contain idiots, imbeciles, epileptics, hystericals, and insane children. Since the school was not equipped to construct a formalized program for children in each category, the separation of these different groups in play and study was partly achieved. However, motor and sensory training was stressed for the idiots and imbeciles, activity programs for the retarded, and moral education for the delinquents. Annexed to each class, and under the direction of a sister or a nurse, was a small workshop adapted to the needs of children in each category.[2]

By 1907 Italy had a number of institutions for mentally defective children. Ferrari and others were of the opinion that the existing institutions, notably the Asili-scuole and the Istituti per deficienti could adequately handle the

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[1] Ibid.

[2] Ibid.

great mass of borderline abnormals provided these specialized services were made available throughout the country. Some psychologists found that the slow learners, after about a year in the scuole aggiunte, could be brought back to the community school room, if admitted to grades in which the work was adjusted or scaled to their mental abilities. This plan was similar to that proposed by Froebel in Germany. In this way a mentally retarded child would receive his education under the same conditions as other children. Ferrari, however, advocated that mentally deficient children should not be returned to the school room, but should attend the type of Asili-scuole fostered by De Sanctis, where they would be taught mechanical labor.[1]

Montesano pointed out that the various mental deficiencies revealed by children while in attendance at primary schools indicates that there is a large category of subjects that demonstrate difficulty in learning only while under the compulsion of the classroom; whereas outside the school, they do not show much deviation from the normal. On the other hand, some students progress easily in the elementary grades and somewhat slower in the secondary schools, but after a period of adjustment regain their lost time.[2]

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[1] G. C. Ferrari, "La pedagogic scientifica e le sue applicazioni pratiche," Rivista di psicologia, op. cit., p. 164.

[2] Giuseppe Montesano, "La valutazione e l'educazione dell' intelligenza nelle scuole per tardivi," Rivista di psicologia, V (1909) 498-513.

Montesano was militant in his belief that the duty of the teacher, besides that of giving lessons, included also the general welfare of the student. The teacher should be taught to recognize the symptoms of retardation and know the modern methods of dealing with them. Here the physician and instructor should compare their findings for the student's benefit. The case history of each child should include not only his scholastic achievement but also his home environment. Every student, he believed, should be given a mental test to determine the limits of his intelligence and his power of concentration and should be examined for suggestibility and for his capability to overcome obstacles. In his school for mental deficients at Rome, Montesano used various colored pictures and requested each subject to give his interpretation of these pictures on the basis of first impressions and detailed examination. He took account of the ease with which the subject recognized the pictures, the time employed, the frequency or lack of pause, inflections or timidity, the details omitted, and erroneous interpretations. This method is similar to the Rorschach Test. After this first examination, many other similar tests were given from time to time to see the progress made by the student after therapeutic treatment. A record of the results of every test was kept and at the end of the year an evaluation of the child's progress was made.[1]

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[1] Ibid.

Montesano, after two years of experimentation, concluded that the concept of individuality in retarded students is very marked. He criticized Binet and Simons for stating in their book, Les enfants anormaux, that there are "simple and limited types" in retarded children. In fact, at the Pedagogical Congress at Naples in 1903, he lectured on the difficulties encountered in grouping mental deficients for therapy, since each child showed marked individual differences. Montesano stressed that each child should be looked upon as an individual, and individual therapy should be prescribed for each.[1]

Another institute for deficient children was founded at Milan in November, 1914 with Professor Agostino Gemelli, Catholic priest and a psychiatrist, as director, which was called the Istitute Nazionale medico pedagogico di Milano. It handled boys suffering from nervous disorders and defects of speech and of hearing. Among its facilities was a well equipped psycho-pedagogical laboratory.[2]

Also at Milan in 1914, an Asili-Scuola, after the method proposed by De Sanctis, was founded, as a result of the activities of the S.I.P.A. (Società Italiana per la protezione degli anormali). In January of the same year, the Zaccaria Treves school was also founded in Milan. The chief promoters

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[1] Ibid.

[2] G. C. Ferrari, "Istituto Nazionale medico-pedagogico in Milano," Rivista di psicologia, XI (1915), 80.

of the school were De Sanctis, Ferrari, and the members of the S.I.P.A.[1]

The founding of the Treves Milan community school in 1914 was the first step that an Italian community had taken toward what Albertini called a "Nationale" system of assistance to abnormal students. The school was located on the outskirts of Milan in the section of Porta Magenta, at the time the center of a rural district. The building, a one floor brick and stone structure, had a large piece of farm land surrounding it. Its rooms were large and airy, with a meeting place for the children, a workroom, three teaching rooms, a library room, also used as a teachers' room, a large gymnasium, a refectory, a bathroom, a dressing room, toilets, a large room for reunions and conferences, and a medical examination room. The furniture was simple and adapted to the child. In the study room, the little tables and chairs and other furniture, and even the teacher's equipment, was movable so that on sunny days the whole class could transfer outdoors. This technique of orienting the school house and program with the physical makeup and emotions of the children, though common today, was a radical departure at that time even in specialized institutions. The school took children of both sexes between the ages of 6 to 16 as transfers from the elementary public schools of Milan.[2]

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[1]Alfredo Albertini, "La scuola comunale autonoma Zaccaria Treves per la cura e l'educazione degli anormali psichichi, a Milano," Rivista di psicologia, XI (1915), 138-45.

[2]Ibid.

The selection of the pupils was made by a commission composed of the director of the laboratory of experimental psychology and the medical director of the community school and by the doctor and didactic director of the school from which the child had been sent. The physical and intellectual development of each pupil was the "yard stick" of the special instructions designed to bring out individual aptitudes. Instruction was individualized as much as possible and it was always based on integration with everyday life. During the day the child was kept busy at all times although this was never carried to the point of fatigue. Mental and physical work, proportional to the individual's potentiality, formed the basis of his education. The doctor guided the educator in his classroom assignments as to the application of hygiene, and in therapeutic exercises. Special attention was paid to behavior and language difficulties. The subjects of the first three elementary grades were taught, but no attempt was made to require completion of these units by those who could not grasp the established work.[1]

The students were divided into the two categories of deboli di mente (mental deficients) and of instabili (unstable). Members of a third group, misti (the unstable mentally deficient), were assigned to one of the above groups according to their degree of mental deficiency or unstability. The two major groups were then subdivided into smaller groups,

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[1] Ibid.

in order to make each learning group as homogeneous as possible. A record was kept of each child's progress. The staff was recruited from teachers of the public school system who had shown special aptitudes in handling these children.[1]

In 1919, at a convention in Naples of the Società Italiana pro anomiali, De Sanctis offered a price of 1,000 lire which the assembly unanimously voted to call Premio De Sanctis, for the best essay on Organizzazione del lavoro nelle scuole e negli istituti per anormali.[2] The offer did not evoke the expected response. At a succeeding meeting in 1920 at Geneva, the society discussed the lack of interest of the public regarding the problems of the mental deficients and the special education of the instructors of these children. It was decided that the best way to make the public conscious of these needs was to make each member of the organization an organ of propaganda. At Palermo, a new branch of this organization was promulgated by Saffiotti, chairman of the psychology department at the University.[3]

At the Francesco Roncati Provincial Hospital at Bologna, directed by Ferrari, a school for deficient children was established in January 1921.[4] Forty boys and twenty-eight girls

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[1] Ibid.

[2] L. Campi, "Societa Italiana pro anormali, Rivista di psicologia, VIII (1912). 350-51.

[3] G. C. Ferrari, "Convegno della Società Italiana pro anormali a Genova," Rivista di psicologia, XVII (1921), 75-77.

[4] Gabriella Francia, "Assistenza ed educazione nella sezione deficienti," Rivista di psicologia, XIX (1923), 84-96.

varying in age from 7 to 15, and classified as idiots, imbeciles, post-encephalitic psychotics and deteriorated epileptics were housed in this institution. Eight of the children had normal intelligence but were emotionally unstable.[1] The nigh grade morons were taught school subjects while others of lesser capabilities carried out chores in the hospital. Each child was given the Binet test and was then assigned work appropriate to his mental age.[2] No activity either scholastic or manual, lasted longer than two hours. Manual labor consisted in pasting, cutting, and making simple things from cardboard. These served both as exercises for motor coordination and for the building of practical things.[3]

Writing and reading were taught in two sections. The first, or preparatory part, consisted in having the child associate printed words with corresponding objects. Having at its disposal an alphabet made up of cut-out letters, the child was then encouraged to arrange these letters to correspond to the printed word, and finally to construct the word without the printed model. In this way all the letters of the alphabet were recognized as parts of words, not memorized as individual letters. The second part consisted in teaching the child to work independently without the help of the teacher. Mathematics was taught as a game, using concrete

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[1]Ferrari, "Giulio Cesare Ferrari," A History of Psychology in Autobiography, op. cit., pp. 80-85.

[2]Ibid.

[3]Ibid.

material instead of abstract symbols. Sometimes instructors took children shopping with them. The children were given liberty of movement in playing, in reading books, and in making things they desired. They were not "sent" to school, said Francia, Ferrari's assistant, but they considered it a "privilege" to be in school. In fact, one of the methods of punishing the child for serious misbehavior was to keep him from school. The atmosphere of the schoolroom was more like a work shop. Children worked in groups and some carried on their own individual projects. The only discipline problems arose with the emotionally unstable inmates. When one of these would become excited he was punished by being put to bed until he was calm, or he would have some privilege taken away.[1]

Another meeting of the "Convegno della S.I.P.A." was held at Naples November, 1922. Ferrari examined Italian school legislation and commented that the Royal Decree of July, 1922, outlining educational expenditures, contained no provision for the help of feebleminded children. The convention voted to present a resolution to the Italian legislature proposing the establishment of facilities for the care of the deaf and dumb, blind, and psychotics. It was pointed out that the government had never kept its promises in favor of such legislation. A group of the leading pedagogical psychologists was nominated, including Ferrari,

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[1] Ibid.

Colucci, Scuri, and Saffiotti.[1] They proposed to the Minister of Public Instruction an appropriation for the establishment of a school for blind, and deaf and dumb children. The Commissioner held that the cost of the maintenance of these institutions was low in comparison to what it cost the state to maintain insane asylums, penal institutions, and houses of correction.[2]

Perhaps the unconcern of the legislative body was influenced by the fact that such education encountered a difference of opinion among psychologists and educators, more so among the former than the latter. The skepticism and the difference of opinion were perhaps fruits of misunderstanding and disillusionments provoked by excessive enthusiasm and exaggerated promises.[3]

Ferrari in an article in 1923, stated that the new Fascistic government of Italy, in its reorganization of educational provisions and social prophylactics, should not neglect the handicapped youth (retarded, intellectual deficients, and delinquents). He hoped that the Gentile reform, which had at its disposal plenipotentiary powers, would not ignore the

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[1]Luca Galdo, "Convegno della S.I.P.A. a Napoli," Rivista di psicologia, XIV (1923), 102-04.

[2]G. C. Ferrari, "La pedagogia scientifica e le sue applicazione pratiche," Rivista di psicologia, III, op. cit. 167-70.

[3]Maria Bertolani Del Rio, "La colonia-scuole Antonio Marro nell' istituto psichiatrico di Reggio Emilia," Rivista di psicologia, XIV (1923), 154-55.

problem. By law, Italy obligated each community to gather in its asylums the advanced mental deficients of their community. Due to the fact that this law put the obligation of taking care of these abnormals to each province, which had to draw on its local treasury to support these institutions, the assistance of these deficients varied from community to community and even the criteria of deficiency varied from place to place. Ferrari wanted the government to pass uniform laws for the care of these children. Ferrari proposed a standardization of criteria for classifying handicapped children as follows:

Anyone should be considered handicapped if he were physically or intellectually deficient, or if he exhibited delinquent tendencies. The physical deficients included the blind, and the deaf and dumb; the mentally deficients included morons, imbeciles, and idiots; and in the delinquent group were included children of normal mental development who had character traits that brought them to wrong action or who could conform to social life. In this last category were included those with delinquent tendencies caused by organic disorders as well as those produced by environment.[1]

The care given to these children, Ferrari claimed, was very inadequate. According to a study made by Montesano in 1913, the hospitalized idiots and imbeciles in Italy numbered

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[1] G. C. Ferrari, "I minorati psichici giovani," Rivista di psicologia, XIV (1923), 113-23.

only about 18,000. Idiots and imbeciles were mostly housed by religious orders and in the insane asylums located at Milan, Bologna, Ancona, and Reggio Emilia. A few were in private institutions. Ferrari proposed to the Mussolini-controlled state that more of these institutions receive national support and advocated that these should be located in rural districts since Ferrari found that the best possible life for these people was in agriculture.[1] Mussolini, ever an advocate of centralized control, supported Ferrari's request in part, but modified manual tasks and training to suit the plans of the Fascist state.

The Colonia Scuola Antonio Marro, annexed to the Psychiatric Institute of Santo Lazzaro near the Insane Asylum of Reggio-Emilia, was another institute for deficients. Established in 1926, for boys and girls between the ages of 15 and 16 years, it housed mostly low grade morons. This school was planned and organized by Professor Giuseppe Guicciardi who was also director of the Psychiatric Institute. The colony was surrounded by spacious grounds on which two separate buildings housed the boys and girls respectively. Co-education was practiced in singing, exercises, entertainment, and walking. The educational methods used at this school stressed the learning of a manual trade. The psychiatrist of the institution examined the children and suggested

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[1] Ibid.

therapeutic measures and Psychosomatic medicine was practiced on each child. Because at this time Kretchmer's body types were becoming popular, the institution made use of his method of diagnosing and understanding the relationship between body and mind. The method of education employed was based on individual differences on the same order as the schools that Ferrari and De Sanctis directed.[1]

One of the drawbacks was inadequate personnel. One nurse had to care for at least twenty children of both sexes. Because the school was located in an insane asylum the personnel was not trained for teaching. The hospital forbade the children from using the kitchen or the laundry for practical lessons. But in spite of all these disadvantages it was felt that the children were more advantageously taken care of than they had been considered as inmates. Investigators believed that the major problem of society was not that of housing imbeciles and idiots, but that of training morons who could thereby be more useful to society and to themselves.[2]

Teacher Training for Mentally Deficient Children

An example of the organization and the methods of educating mentally deficient children is to be found in the school conducted by Professor Bonfiglio in 1900, and later by

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[1]Maria Bertolani del Rio, "La colonia-Scuola Antonio Marro nell' Institute Psichiatrico di Reggio Emilia," Rivista di psicologia, XIX (1923), 154-61.

[2]Ibid.

Montesano. In 1905 this school had no special subsidy from the government or from sources other than the fees of 12 lire a year paid by students. The municipal government supplied a hall for conferences and the administrators of the local insane asylum put at the disposal of the school all the material available at the medical institute of pedagogy. The teachers of the school worked gratuitously. The small income from the students served to buy scientific apparatus, such as instruments to measure the growth of the child, graphic apparatus, anatomical models, and slides of microscopic sections of anatomy.[1]

Even so, the laboratory was considered to be limited in its possession of scientific apparatus and the training of the students was supplemented by visits to university centers. Simple and practical methods of teaching, more in keeping with the activities of community elementary schools, were studied. The duration of the course taught by Montesano was eight months and the students attended classes for eight hours per week. Since the time spent by the students in the community normal school was very meager, the short concentrated course in theory gave the students a number of clear general ideas in preparation for more specialized methods. The instruction stressed several fundamental topics: general biology, morphology, psychology, anatomy, psychology and pathology of language, and methods for teaching deficient children.[2]

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[1]Giuseppe Montesano, "Per la protezione dei fanciulli deficienti," Rivista di psicologia, I (1905), 56-61.

[2]Ibid.

Every student made a complete case history of a child under the guidance of the professor and the assistants, and at the end of the year, he went through a short apprenticeship. To receive a diploma a practical and theoretical examination was required before a commissione composed of a delegate chosen by the Minister of Education, and instructor in the school, and a professor from a university. The school graduated approximately 60 students per year.[1]

It seems clear that very little more was done for the training of teachers for the mentally deficient until 1926 when a training school was founded by a royal decree at the Catholic University of the Sacred Heart, Milan. Later in 1938, it offered a program to acquaint teachers with the results of studies on abnormal children in courses labeled, diagnosis, classifications, methods of teaching, and assistance and care. The school offered a diploma to those who, upon examination, completed the program satisfactorily.[2]

In addition to the organization of schools for the deficient and for the education of teachers, the movement to provide for mentally deficient children stimulated a research interest. To diffuse the knowledge of techniques for the recognition of deficients and of special methods employed, Ferrari published a bulletin under the auspices

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[1] Ibid.

[2] _____, _____ "VIII Corso di perfezionamento per la preparazione del personale insegnante ed assistente degli anormali," Rivista di psicologia, XXXIV (1938), 135-36.

of the Roman Association for the Medical and Pedagogical Care of Poor Abnormal Children. This bulletin first appeared in 190[illegible] and was published every three months until 1923, for the purpose of acquainting teachers with the special methods and practices of Montesano and of the Asili-Scuola organized by Professor De Sanctis.[1] As far as the evidence indicates, from 1926-1938 almost nothing was done to provide educational facilities for mentally deficient children except the addition of a few courses to an already established school.

Education of Juvenile Delinquents

As early as 190[illegible] the reformatories in Italy were subdivided into Istituti di correzione paterna, in which children were placed at the request of their parents; Istituti di educazione correzionale, for youth under 18 who were vagabonds and prostitutes and who did not have parents; Istituti di educazione e di correzione, for subjects under 9 who committed crimes punishable by sentences less than one year. These institutions were lax in the application of the newer theories of rehabilitation. The therapeutics methods supposedly in use by them were up-to-date but they were largely nullified by the bureaucracy in charge and through the constant change of personnel. Largely due to the lack of facilities, in spite of the evidence of case histories and medical examinations, some of the psychotic incurables were kept with those capable of educative therapy. Isolation

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[1] Ibid.

cells still existed as a principal means of punishment and the institutions were located in congested industrial centers rather than in rural areas. The greatest help these reformations could offer was to teach the children a trade and keep them away from bad companions during adolescence.[1]

Ferrari proposed that power for the administration of these institutes should not be given to the state, the providence, or the community, but rather to the provincial physician who would see that the money was properly utilized to guarantee adequate provisions for these unfortunate children. Above all, Ferrari felt that the reformatory should be under the supervision of an educator who would represent the authority and interest of the state. Ferrari hoped that the new Fascist regime, that had done so much for the physical education of the people, would not abandon this "moral equity" and "social prophylactic."[2]

In 1905 Colucci, professor in experimental psychology at the Royal University at Naples and leader of the reform of schools for delinquent children in Italy, advocated the reformation of schools for delinquent children. He believed that a reformatory should not be a place of vengeance and punishment, but a place for humane treatment, based on a complete program of education. He felt that the child's past environment, his family and his physical and mental state

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[1] G. C. Ferrari, "I minorati psichici giovani," Rivista di psicologia, XIX (1923), 113-23.

[2] Ibid.

should be studied before any therapeutic measures were applied. He proposed the use of testing methods according to the different age levels of the child and the case history of the individual and the family and his conduct at the reformatory, and the changes made there, augmented by data from somatic and physical functions and anthropometric measurements in order to give a complete picture of the child's physical condition and mental set.[1]

As a result of the application of this formula, Colucci reported that of the children in the reformatory of Naples, 134 were found to be victims of "neuropathic" heredity. He found that 33 were alcoholics, 36 were tubercular, 51 were epileptics, and 35 children were homicidal cases. Colucci discovered that the family history of almost every child revealed either epilepsy or alcoholism in at least one relative.[2]

Colucci felt that the children of the reformatory, either for pedagogical or social purposes, should be divided in the following order: Those capable of correction through education; the dangerously degenerated; the incorrigible; the controllable mental deficient; and deliquent children below twelve. Colucci pointed out that anti-social children should be segregated. He suggested schools for the training

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[1]G. Colucci, "La psicologia ad uso dei riformatori," Rivista di psicologia, I (1915), 19-25.

[2]Ibid.

of teachers for these children and also argued that more institutions be erected where problem children could be rehabilitated. Of the 239 children studied, he further found that 118 were definitely incorrigible, 68 had normal intelligence, 16 had superior to average intelligence, and 37 had very little intelligence. Also, he felt that if a delinquent child were well handled at an early age he has a better change to rehabilitate himself. The proper orientation and guidance was therefore of the utmost importance. For younger children he advocated agricultural farms. In this way education and mental hygiene could be established, simultaneously. Colucci concluded that for older children industrial work could have the same therapeutic value, as agricultural schools had for younger groups, since that it would give the child a feeling of usefulness.[1]

It was through Ferrari in 1907 that these theories were put in practice. He utilized Colucci's methods for the education of delinquent children at the Insane Asylum of Imola. This asylum, at the time that he became director contained thirty mentally retarded children. Ferrari, and his assistant, Professor Gabriella Francia, whom Ferrari called "the most intelligent women" he had ever known, tried to instill a feeling of usefulness in the children through occupational therapy. Ferrari considered it better to train mentally deficient children to do some useful kind of work

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[1] Ibid.

than to give them formal school instruction.[1]

Ferrari spoke of the problem of mentally deficient and delinquent children to Count Rasponi, then president of the Bologna court. Ferrari believed both delinquent children and criminals were mentally ill. But he knew that the majority of these sick folk would not be judged by physicians, but by lawyers and judges who were not acquainted with the psychological manifestations of mental diseases. Rasponi told Ferrari he did not believe minors caught in the "coils" of the law should be confined with adults in the Bologna prisons, and suggested to Ferrari that he take these minors into the sections established at the Imola Insane Asylum and use a practical education as a therapeutic for delinquent children. Ferrari accepted this proposition and carried it one step further. He suggested to Rasponi that he send not only the children already in the hands of the law, but those who by their behavior denoted that they, too, would become offenders. He rented a large house set in a public park, and gathered forty children of both sexes, whom Count Rasponi had collected from prisons and foundling homes. Ferrari's assistant, Francia, accepted the direction of this colony. She was aided by one nurse and two elderly patients from the Imola Asylum. The latter taught the children to do the work and house work.[2]

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[1]Murchison, "Giulio Cesare Ferrari," A History of Psychology in Autobiography, op. cit., pp. 90-91.

[2]Ibid.

Thus the delinquent tendencies of the children in Ferrari's Colony were oriented towards useful ends by diverting the excess activity along harmless channels. No distinction in sex was made in respect to study, food, or amusement, except in dormitories and lavatories. The cardinal point of the system was according all the children equal treatment. The regulations of the institution were explained to the children, but, after they were explained, there was no reprimanding or preaching. Corporal punishment was excluded and in serious cases the only punishment was temporary confinement. After living with these delinquent children Ferrari concluded that environment was an important contributing factor in so-called "criminal tendencies". He maintained that environment, policemen, and "muddled and blind judges" gave rise to "criminal tendencies".[1]

As evidence of the success of this enterprise, Ferrari recorded an account of the life of eighteen children sent to him by the courts as "criminals". Of these eighteen subjects, only two cases again ran afoul of the law after release and one of the boys won three silver medals for extraordinary valor in World War I. Two of the rehabilitated children died in action; the rest lived honest lives. [2]

In other Italian towns private initiative had substituted

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[1] Ibid.
[2] Ibid.

for the lack of action by the government. In 190[illegible] another educator, Raffaele Maietti, started a "refuge" in Rome for so-called "lost children," which included those abused by the parents, delinquents out of jail, or children whose families could not support them. With very meager sources, Maietti tried to give these children a new lease on life. Most of the financial aid came from sale of crafts and wooden objects made by the children. Maietti rehabilitated 193 children in three years.[1]

The rehabilitation program was simple but practical. Upon arising in the morning some children cleaned the house, others worked on wooden objects, some were taught crafts, and those who wished could attend school. The government sent children to Maietti's home upon their release from jail but provided no financial aid. Francia pointed out that the municipal government of Rome spent 40,000 lire to repair the lamps on the street broken by children but did not think of giving 1,000 lire to Maietti, who would at least have saved the government 5,000 lire in the cost of glass alone. This is an example of the disinterest shown by the state for the welfare of delinquent children.[2]

In 1910, however, the problem attracted the attention of the state authorities and a royal commission was appointed for a study of the causes and remedies of juvenile delinquency.

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[1]Gabriella Francia, "Rifugio Maietti," Rivista di criminologia, VIII (1912), 264-66.

[2]Ibid.

Ersilia Majno and De Sanctis were appointed by the commission to compile the reports. They concluded that the causes of juvenile delinquency were poverty, illiteracy, alcoholism, excessive work, and an industrialization that took the mother from the home. Child labor was also a determining factor in juvenile delinquency. The child received a psychological wound from the fact that the long fatiguing hours of work brought no emotional compensation from the family. According to Majno, who specialized in the education of juvenile delinquents, children abandoned by their parents should be placed in institutions that would give correctional assistance to the children. Majno proposed that these institutions be supported by the state. She also proposed that institutions existing in industrial centers be moved to rural districts for the physical and moral health of the children.[1]

Gemelli, in his book, Le Dottrine Moderne della Delinquenza,[2] criticized the theory of the existence of a criminal type and the doctrine of delinquency based on the anthropological degeneration of man. He claimed that heredity was responsible for biological degeneration and that even individuals who have degenerated biologically were not necessarily delinquent since he felt that the degeneration of the nervous tissue can cause some individuals

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[1]G. C. Ferrari, "Contro la delinquenza giovanile in Italia," Rivista di psicologia, VI (1910), 426-32.

[2]Agostino Gemelli, La dottrine moderne della delinquenza, passim. Milano: Vita e Pensiero, 1920.

to commit acts considered delinquent. He disagreed with Lombroso that criminals are born, and believed that in some cases a delinquent may manifest symptoms of physical degeneration, but in the majority of cases the delinquent is neither insane nor degenerate. In 1938 Gemelli wrote another book, *Metodi compiti e limiti della psicologia nella studio e nella delinquenza*, in which he expounded the use of psychology in the prevention of delinquency. He believed that although psychology could bring to light some aspects of delinquency it should not have the last word in the serious problem of its nature and cause. He advocated the coordination activity of different schools of thought in order to examine this problem from different points of view.[1]

De Sanctis, besides enumerating the causes of delinquency, set up a remedial program. Among the causes of juvenile delinquency, De Sanctis believed, were industrialization, unfavorable environment of family and home which impeded the physical and psychological development of the child, and crowded tenement districts in which children were forced to play in alleys and streets. He claimed that the only way to abolish child delinquency was through special education against alcoholism by means of propaganda in the schools and by instruction in sex hygiene for the child and adolescent. He advocated that epileptics, not hospitalized, be educated in special institutions, that extensive researches both on

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[1] Ibid.

normal and subnormal children be conducted, and that public and private institutions participating in the training of the children be coordinated so that educational theories and practices could be advantageously related.[1] However, the changing regime in Italy in 1922, forced Italian psychologists to put their "work to one side."[2]

Education of the Blind, Deaf and Mute

As early as 1905 Ferrari reported on studies of the psychological reactions of the blind and proposed a method through which they could be studied objectively in spite of the many obstacles that the blind presented to the examiner. Ferrari attempted to find the effect of the disability upon the psychology of the blind. The examination of the subjects consisted in a psycho-physical examination. The physical examination proved no obstacle, but the psychological examination was very difficult, since the examiner encountered a defensive attitude on the part of the blind subject. He felt that the blind vainly attempted to affirm that they were not different from any other person. This attitude so influenced their responses that they could not be used in an objective evaluation of their psychological makeup.[3]

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[1] G. C. Ferrari, op. cit., p. 432.

[2] Murchison, "G. C. Ferrari," A History of Psychology in Autobiography, op. cit., pp. 84-91.

[3] G. C. Ferrari, "L esame psicologia sperimentale dei ciechi," Rivista di psicologia, I (1905), 42-44.

The examiner found that the intellectual faculties of attention and memory, and above all, musical memory, of the blind were particularly developed. He thought they were not very imaginative, which followed logically since they never perceived any object that their imagination could fully grasp. However, Ferrari claimed that they seemed to accept their fate in a resigned manner. At the end of this investigation Ferrari came to the conclusion that mental tests, adapted to the blind, are insufficient to throw light on the psychological makeup of the blind. He felt that their seemingly high intelligence was due perhaps to the power of attention that they were capable of exercising without visionary distraction.[1]

Another group of physically handicapped subjects received attention by Ferrari, who after his fundamental work on psychological and educational problems of the blind, undertook to investigate the same questions in the congenital deaf and "dumb" patients. As subjects, Ferrari used 24 deaf and "dumb" individuals from the ages of 10 and 19, dividing them into two groups. The first group comprised children from 10 to 14 years, the second group from 14 to 19 years of age. Twenty-two normal hearing subjects ranging from 10 to 19 years of age used as a control group were divided also into the same age groups. The tests used in the experiment included the recall of colors, geometric figures, space and time, and

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[1] Ibid.

ciphers and words. The last section of the test, memory of words, utilized principles similar to those advocated by Binet and Henri on auditory memory.[1] The test was divided into two sections, the first part was a recall of one syllable words in five series of seven each, while the second dealt with all 35 words.[2]

Ferrari concluded that in color recall, the deaf and "dumb" equalled the normal subjects. They were less exacting than the control group on space and time, more exacting in recalling geometric figures and ciphers, and for the recall of observed words. It was revealed that the deaf and "dumb" showed a greater ratio of accomplishment and progressed more rapidly with the advancement of age than did the normals. Ferrari found little difference between the memory span of the child born with an auditory defect and one who acquired it later, except that the one who had acquired it later showed a slightly higher recall in the memory of ciphers and words. The experimenter concluded that on the whole, in memory at least, the deaf mute is inferior to the normal, and that this may be attributed to the fact that no compensatory sense organ exists to replace the auditory nerve.[3]

A community school for the education of the deaf was founded at Milan on the suggestion of the psychologist

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[1] G. C. Ferrari, "Ricerche comparative di psicologia sperimentale sui sordomuti - La memoria," Rivista di psicologia, II (1906), 62-64.

[2] Ibid.

[3] Ibid.

Albertini. He conducted special classes for instructors of the deaf and deaf-mutes.[1]

From the evidence available to the writer, it seems clear that with the advent of World War I little was done for the rehabilitation of deaf, mute and mental deficient children. Educational studies were suspended for military and industrial studies. It was not until 1925 during the Mussolini regime that interest in the welfare of these children was rekindled. It was Nicolas Pende, a clinician of Genoa who instituted mental hygiene reforms for mental deficient, delinquent, deaf, mute, and "gifted" children. For many years he had campaigned for the creation of foundations and institutes where educators, psychologists and physicians could study the growth of both the normal and abnormal child. Pende exercised considerable influence on the Gentile reform in the elementary school. He was responsible for the establishment of a program in the medical faculty at the University of Genoa which concerned itself with child abnormalities, the results of which were to be applied in establishing the State's program for elementary education. In November 1925 the course was given official sanction by the Minister of Education and Pende was made director. The program proposed to the Minister of Education by Pende was as follows:[2]

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[1] G. C. Ferrari, "Scuola comunale per gli anormali dell' udito," Rivista di psicologia, XV (1919), 240.

[2] Ibid.

1. University Centers for the study of the development of abnormal children whose defects were either acquired or constitutional.

2. Specialized schools and medical-pedagogical institutes for the education of subnormal children.

3. Internships and auxiliary educative "orthogenic" institutions.

For the above-mentioned institutions Pende proposed:

a. That in every city with a medical faculty, the institution should function as a dispensary. If annexed to a medical clinic, the institution should be provided with modern methods of analysis (morphological, functional, biochemical, psychological). In this way an individual in his process of physical and mental development could have access to a complete physical examination to establish his psychosomatic-biological type. This dispensary was to function under the direction of the medical clinician, and the following collaborators: a psychopathologist, a physiopathologist, specializing in development, an otorinolaringoiatria, an oculist, a dermatologist, a gynecologist, and an orthopedic surgeon. At these dispensaries, at least every six months, examinations would be held for every student in elementary and secondary schools who declared the need of medical care. Every subject, examined by the dispensary would be given periodical check-ups.[1]

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[1] Ibid.

b. In every university, at least twice a year, a laboratory course for educators, physicians, social workers, and parents should be held. This course should cover such topics as growth and development and give enough background to the students so that they would be able to recognize constitutional abnormalities. The graduates of normal schools were required to furnish a certificate indicating that they had followed this course and passed an examination before they be allowed to teach at specialized schools for abnormal children.

c. A specialized group of social workers taught to recognize physical deviations of children and to suggest the proper therapy, were to be at the disposal of every community. Every mother was required to closely watch the growth and development of her family.

d. A mobile commission was proposed to periodically visit universities and large cities in order to pick outstanding students to compete in examinations for the positions in the university dispensaries.[1]

Pende suggested the establishment of three types of special institutions which were to located near university centers:

1. Special classes for retarded or subnormal students who, with special guidance, could be returned to their regular class.

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[1] Ibid.

2. Special classes for the gifted children.

3. Medical-pedagogical institutes each specializing either in care of mentally deficient, physically weak or deformed children. The doctors and teachers of these institutions were to work as collaborators.[1]

He also requested institutions for delinquent children. These institutions were to function as educational schools for the teaching of trades to delinquent boys between the ages of 7 and 14 years.[2]

Pende's program met with success. People contributed large sums of money to be used for the establishment of a large institute at Genoa. The Fascist regime who proposed to encourage the regeneration of Italian youth, and who had established the Balilla, the Geovani Italiani and the Avanguardisti, special youth movements organized for the physical development of poor children favored and promoted Pende's program. The Fascist proposed to solve the problem of delinquency by special youth clubs. Added to their works was the Dopo-lavaro movement, which they claimed fostered education and brought the family nuclei closer together. The O.N.M.I (l'opera Nazionale per le Maternita e per l'Infanzia) had as its aim the abolishment of juvenile delinquency which Fascist leaders believed was caused by poor environmental conditions and a loose family nucleus.[3]

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[1] Ibid.

[2] Ibid.

[3] G. C. Ferreri, "L'O.N.M.I. e i fanciulli cosidetti criminali," Rivista di psicologia, XXVIII (1932), 239-42.

With the establishment of these youth groups by the Fascist, the psychologists hoped that the new regime would understand that educational psychology was an essential tool of progress for the amalgamation of the Italian people through the schools.

The hope with which the psychologists looked up to the new regime, however, was quickly stifled. The new regime, with the appointment of Gentile as Minister of Education, was not in favor of scientific education. It kindled the old controversy between philosophy and psychology and took sides with the speculative school. The "Idealistic reaction against science" became a threat to the future of psychology in Italy. From 1922 to 1932 the new regime forced the sciences to play a subordinate part in the classical schools, except in the training of technicians and experts for industry. During this period the struggle between humanistic and scientific education led to a dilemma as to whether school should be humanistic or scientific, with a specialization in psychology and educational methods. With the death of Ferrari in 1932, the struggle abated in favor of a humanistic education, modified by modern development of science, but this science was related to industrial psychology. No sweeping order to close these departments came from the regime, but as each leader of the positivist movement died, the Fascist government closed his laboratory and psychological department.

SUMMARY

The period between 1905 and 1912 was productive in researches on atypical children, including mentally deficient, retarded and physical abnormals, such as deaf and "dumb," and the blind even though only a handful of men occupied themselves with the problem of atypical children. Though the results of their work as applied in schools showed beneficial results, the state was slow to utilize the findings.

The problem of education of the blind, and the deaf, and the dumb was not as difficult as the education for mentally deficient, since it was easier to convince the authorities of the social value of instructing adequately these blind, deaf, and dumb according to their respective intellectual capacity. The mentally deficient child constituted the really serious problem and it was for him that Italian psychologists exerted their greatest effort, not only to means of effective teaching, but also to obtain legislative action for their protection. They believed that the retarded child, whose mental retardation was due either to a slower physical development or to an environmental cause, should be brought up to the level of the normal child with a year through special education. The cases of the imbecile and the idiot were very different. These unfortunates could not be educated to fit into a normal environment since they were limited in their ability

to obtain useful instruction. They could, however, receive and utilize a certain amount of training, but remained, in great part, incapable of independent work. In order to properly classify the amount of mental deficiency in these children, De Sanctis initiated a mental test. During the period between 1908-1[illegible], it encountered as favorable a response from psychologists as did the metric scale of Binet and Simon. In an experiment conducted by the psychiatrist Graziani, to evaluate the two methods, it was found that the Binet-Simon test measured the gradation of intelligence in the normal child, but did not ascertain the degree of abnormality of the mentally deficient child as did the De Sanctis model.

The development of schools for atypical children was slow and laborious. In order to train teachers and personnel in the education of atypical children, special courses were established by individual psychologists. In 19[illegible], the organization and results of these courses attracted the interest of the scientific world when they were presented at the Ancona Congress published in the Journal of Mental Science. Such recognition, however, did not bring any financial support from the government.

In 1907 Italy had a number of institutions for mentally deficient children sponsored by private groups. However, these services were not made available throughout the country. Ferrari proposed a plan, similar to that announced by Froebel

in Germany, by which a slow learner could be rehabilitated into the community school after about a year in a special school. The mentally deficient child was not to be returned to the classroom but retained at special industrial schools. These suggestions were disregarded by government officials.

Toward a solution to the problem of juvenile delinquency none was accomplished. In 1900 delinquents were in various reformatories, depending on conditions imposed by law. These institutions were supposed to rehabilitate the children, but, with the constant change of personnel and the bureaucracy in charge, little therapeutic work was accomplished.

Colucci, who was the leader of the movement for scientific reform schools for children, proposed that the reformatory be a place of rehabilitation, based not on punishment, but rather on a psychological program of education. He conducted an experiment to prove his theories, and later, Ferrari established a school at Bologna for minors that had been confined with adult criminals in the same prisons. Ferrari financed his own project, as did another psychologist, Raffaele Maietti, who started a school for "lost children" similar to the one established by Ferrari at Bologna. In 1910 these projects attracted the attention of the state authorities and a commission was appointed to study the causes and remedies of juvenile delinquency. Although statistics and reports were presented to the government, very little was done to improve the conditions of the reformatories. Ferrari and De Sanctis, who helped the commission gather their

facts and set up a remedial program, blamed the changing regime of 1922, which, according to Ferrari, forced the psychologists to "put their work to one side." In 1923, Ferrari, who looked to the Mussolini government as a source of the realization of his ideals for the centralization of Italian education, suggested uniform laws and a standardized criterion of classification and education of delinquent children. Mussolini supported Ferrari's request, but adapted it to the training of youth for the good of the Fascist state.

CHAPTER VI

EDUCATIONAL PSYCHOLOGY DURING THE FASCIST REGIME

Following the decline of the Renaissance and until the middle of the nineteenth century, Italy remained a geographical expression, and was split up into a number of small, independent states. Italy's topography was the influencing factor in causing its late development. The people were isolated from neighboring communities by the high mountain ranges.[1] Held in bondage by foreign intervention which checked her political, economic and social development, Italy could not develop into an independent nation. Nationalism, in comparison with its influence on nations of Europe, was a less powerful force in Italy. It was the aim of the Fascist regime to employ a strongly centralized universal school system so that through nationalism there would be a general development of individual power, physical, mental and moral, and so that Italy would be able to realize its full military and economic strength. According to Gentile the spirit of nationalism had to be fostered by a strongly centralized education, based on what he termed "idealistic philosophy" or

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[1]Margot Bentze, Pre-Fascist Italy. pp. 11-61. New York: W. W. Norton and Company, 1939.

[2]L. Minio-Paluello, Education in Fascist Italy. pp. 1-2. New York: Oxford University Press, 1946.

"humanism."

> . . . personality then is nationality, and therefore neither the school nor science possesses a learning which is not national.
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> And for this reason therefore our educational reforms which are inspired by the teachings of modern idealistic philosophy demand that the school be animated and vivified by the spiritual breath of the fatherland.[1]

It was after World War I that Italy directed new attention to her educational needs in order to foster and advance the spirit of nationalism, which ironically, instead of leading her to progress, led to her downfall in World War II.

Appointment of Giovanni Gentile as Minister of Education

The Italian philosopher and educator, Professor Giovanni Gentile, was appointed Minister of Public Instruction on October 31, 1922, by Benito Mussolini, when the latter became premier of Italy. On December 3 of that same year an act was passed by the Chamber of Deputies, at Mussolini's request, which so extended the discretionary powers vested in the Minister that he was allowed an almost unlimited freedom in putting his ideas into practice. Gentile remained in office for twenty months before submitting his resignation on July 1, 1924. During his short term as minister, he reorganized the Italian

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[1]Giovanni Gentile, The Reform of Education, p. 36. New York: Harcourt, Brace and Company, 1922.

school system.[1]

Of the two major aspects to Gentile's educational reforms, the first was the philosophical, or as he termed it, the spiritual aspect, representing a change from materialism to idealism. The second aspect concerned itself with the fundamental changes in the administrative organization of the schools.

The Educational Philosophy of Gentile

The reforms of education during the Mussolini regime were not prepared by the Fascist leaders themselves, but by a group of teachers that advocated a return to humanism in education, which they termed "idealistic philosophy of education," led by Gentile. Fascism merely adopted this reform to suit its own needs and, under Gentile, spread its code through the educational system.

The teacher, according to the Fascist educators, should help to build the personality of the child upon the talents he exhibited early in elementary grades. All attempts at self-expression were to be encouraged by the teacher in an effort to help the pupil enrich his mind and broaden his mental horizon. To the "idealist," the rough attempts of the pupil were more instructive than the corrections of the teacher, and allowed for the fullest de-

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[1]Howard R. Marraro, The New Education in Italy. pp. 14-16. S. F. Vanni, Inc., 1936.

velopment of the personality and potentialities of the pupil.[1] Instead of demeaning the artistic talents of the pupils, teachers in the schools, as changed by the Gentile reform, were to make use of aesthetic exercises of the classroom as a means of disciplining the expressive powers of the child. That is, singing, drawing, modeling, playing are all varieties of the speech which help the child to speak with clarity and precision.[2]

Minio-Paluello asserted that through a critical revolution of the history of thought and especially of Italian philosophy, Gentile developed a system of actual "idealism" or a humanistic conception of education. Gentile's theory, according to Minio-Paluello, was that since man is mind and process and not object or nature, the science which studies the education of man (that is, the science of the formation of the mind) can be neither naturalistic nor empirical.[3] Gentile claimed that science must identify itself with philosophy, which is the science of the whole development of the mind as freedom, rather than limiting itself to analyzing the mind as a "thing." He also claimed that he favored freedom of education, because a school without freedom is "lifeless."[4] Exactly what he

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[1] Ibid., pp. 18-19.
[2] Ibid.
[3] Minio-Paluello, op. cit., p. 68-69.
[4] Gentile, op. cit., p. 38.

meant by this "freedom" was never clearly stated. He believed that freedom should be the result of education and that children are properly raised when they can take care of themselves.[1]

> . . . education undoubtedly assumes the task of developing freedom, for the aim of education is to produce men: and man is worthy of this name only when he is master of himself, capable of initiating his own acts, responsible for his deeds, able to discern and assimilate the ideas which he accepts and professes, affirms and propagates, so that whatever he says, thinks, or does really comes from him. Our children are said to be properly raised when they give evidence of being able to take care of themselves without the help of our guidance and advice. And we trust that we have accomplished our task as educators when our pupils have made our language their own and are able to tell us new things originally thought out by them. Freedom then must be the result of education.[2]

He believed it was the teacher's duty to stimulate and arouse interest in his pupil, but to leave initiative and direction to the pupil. The teacher is to help only when the student is blocked in his mental process, and after guiding him through the difficult passage, resume the role of a passive instructor.[3]

> The educator must awaken interests that without him would forever lie dormant. He must direct the learner towards an end which he would be unable to estimate properly if left alone, and must help him to overcome the otherwise unsurmountable obstacles that beset his progress. He must, in short, transfuse into the pupil

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[1] Ibid.
[2] Ibid.
[3] Ibid., p. 37

> something of himself, and out of his own spiritual substance create elements of the pupil's character, mind, and will.[1]

According to Gentile, schooling began when a man for the first time became aware of the existence of a store of accumulated culture.[2]

> . . . the realistic and the idealistic. By the former we are led to imagine that man's spirit is empty, and that no nourishment can come to it except from the outside world, from those external elements which he can acquire because they exist prior to the activity by which he assimilates them. The latter, admitting only what is derived from the developing life of the spirit, can conceive of culture solely as an immanent product of this very life, and separable from it only by abstraction.
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> It is evident that the ordinarily accepted view of educators today is realistic rather than otherwise. The ideal and therefore the historical origin of the school itself is intimately connected with the realistic presupposition. For the school begins when man for the first time becomes aware of the existence of a store of accumulated culture which should be protected from dispersion. Grammar, for instance, exists before the notion of teaching it arises. Men already possess a language when they make up their minds to teach it to their children. Self-taught and inventive genius, by new observation and discoveries, gives rise to new disciplines: and men, discovering the value of such disciplines, determine to institute a school where they may be cultivated and handed down to the coming generations. In general then, first comes knowledge; then the school as a depository of it.[3]

Fundamental Changes in Administrative Organization of the Schools

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[1] Ibid.
[2] Ibid., pp. 75-76
[3] Ibid.

The Gentile Reform, Marraro wrote, aimed to suppress superfluous schools. It aimed, according to the Fascists, to revise the entire curriculum to prepare the pupil not only for the succeeding grade, but to give him a well rounded education to prepare him to meet the demands of the world should he be compelled to leave school. A limitation was placed on the number of students receiving free state secondary education. The number of free schools was also limited. This sifting was accomplished by competitive examinations. Only students who demonstrated by this examination that they were worthy of a higher education were allowed to continue their studies. One can easily see what abuses arose from this system. Marraro and others maintained that the whole of Gentile's reform met with much opposition from the masses, but the desire of the people seemed not to interest or affect the administration. The new order made the state supreme and the individual subordinate.[1]

It was the state which determined the courses of study and granted certificates and diplomas. The few private institutions that existed also followed the courses issued by the state in order to prepare their students for the state examinations. The new educational system was bureaucratic and lacked elasticity. The only aim of the

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[1]Marraro, op. cit., passim.

elementary schools was teaching the three R's. Latin was introduced, and was compulsory in all secondary schools, with the exception of the complementary school which followed the elementary school but did not lead to the university. History was given a prominent place in the curriculum, especially the history which taught old Roman nationalism. Philosophy was also emphasized. The curricula of the secondary schools were based on direct knowledge of the classics and that of the universities stressed general culture. Degrees and diplomas were granted after completion of the different courses. Previous to Gentile's reform all university graduates could practice their profession after graduation, but under the reform persons with degrees had to pass a state examination. The examining commission was appointed by the Minister of Public Instructions.[1]

That the schools needed radical change was recognized by all. Ferraro seems to have described the matter accurately when he said that Gentile's method of solving the problem of change was by a reformation of the spirit of the teachers. He believed teachers should learn that education was no mere matter of empirical rules, or even of organization, but that it was a spiritual activity involving the continuous re-creation of the individual

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[1] Ibid., pp. 203-31.

teacher by himself. According to Gentile school began when a man for the first time became aware of the existence of a store of accumulated culture. In this sense culture is "what we ourselves are making; it is the life of our spirit." Gentile claimed that he gave the teacher great liberty in working out the new ideals of Italian education, so that the teachers would be able to adapt the schools to the various requirements of their sections.[1]

Gentile's idea of liberty and freedom for the teacher was not very clear. He spoke of liberty and freedom and at the same time set down specific and dogmatic rules by which this freedom could be accomplished. For example, the Royal Decree of March 11, 1923, declared text books not in the "Bollettino ufficiale" of the ministry could not be used. All the text books used in the entire educational system were to be examined by the education supervisor. Appeals could be made to the ministry by publishers desirous of introducing a new book into the school system. The book also had to meet the approval of the supervisor of the region in which the publisher resided.[2] Another example of his "freedom" is illustrated in the methods employed by the Fascists in picking university

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[1] Ibid., pp. 18-20.
[2] Ibid., pp. 202-63.

professors. The teaching staff of the universities consisted of full, adjunct, or substitute professors appointed by examinations. After passing the examination the final choice rested with the Minister of Public Instruction. University professors were dismissed by the cabinet if found guilty of what the fascists termed, "political manifestations" not in accord with government policies. Talks on Italian patriots were stressed and Mussolini's picture was to be displayed in every room.[1] Such was the "liberty" afforded teachers and professors under the fascist regime.

Idealism versus Positivism

As early as 1850, when experimental methods were gaining popularity with scientists, a group of Italian philosophers objected to the realistic approach to education taken by the new scientists. The philosophical school believed that culture, philosophy and tradition should be stressed in the school and the glory of the Italian Roman Empire should be revived in order to unify the people. These philosophers called themselves "the idealists."[2] The scientists who favored experimentation and the suppression of nationalism in favor of democracy in order that all

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[1] Ibid.

[2] James Mulhern, A History of Education. pp. 571-577. New York: The Ronald Press Company, 1946.

of the people should benefit from new sciences, were called the "positivists." According to Kulpern they believed in objective research as the basis of all new educational reform. "The positivists emphasized knowledge for its own sake, were rationalistic, and placed science on a pedestal."[1]

During the early part of the twentieth century, the "positivistic" movement was confronted by an organized group of idealists. Through articles in periodicals, like La Critica established in 1903, and in numerous publications, the idealistic philosophy revised the results of the positivistic literature and, Kandel believed, after twenty years of continuous propaganda completely reformulated Italian culture.[2]

From 1850 until the reform of education by the Fascists, the struggle between the idealists and positivists continued. As early as 1911 Gentile expressed his disbelief in scientific pedagogy. Guido Della Valle published a book in 1911 called, Le leggi del lavoro mentale, which he gave to Gentile to read. Contrary to the author's expectations, Gentile criticized the book severely.[3] The book was based on the laws of mental work statistically

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[1]Ibid., p. 377.

[2]Isaac L. Kandel, Comparative Education. p. 451. New York: Houghton Mifflin Company, 1933.

[3]Guido Della Valle, "Lavoro mentale e pedagogia sperimentale," Rivista di psicologia, VII (1911), 191-201.

calculated and on experimental pedagogy. Gentile stated: "this book must have cost the author a laborious sum of fatigue."[1]

In an open article to the Rivista, Della Valle attacked Gentile on the criticism of his book. Della Valle stated that Gentile had not taken the trouble to read the 700 pages for fear of fatigue. Gentile's five pages of critical analysis covered only ten pages of the seven hundred and these did not express, according to Della Valle, the fundamental character of the book. Della Valle did not attack Gentile solely because he criticized his book for he admitted that criticism is a very useful weapon in detecting false ideas or for searching for new ones, but he held that Gentile's criticism accomplished neither of these ends. Della Valle seemed to feel that Gentile did not understand the new trends of modern scientific pedagogy and referred him to a few articles from which he could learn the concepts, principles, and methods of scientific pedagogy.[2]

The positivist educator, believed the Gentile idealists, began by eradicating all the ideas that the child had learned before being admitted to school. According to the idealists, the positivist educator maintained that the beliefs, emotions, and notions of the young pupil consisted of wild fancies and fairy tales; that the child's

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[1]Ibid., p. 102
[2]Ibid.

religious beliefs were destructive of scientific interest; that his character had been weakened by an over-fond mother; that his speech consisted of some form of dialect that was a deterrent to the correct learning of languages; and that the normal childish proclivities toward whistling, singing and drawing pictures were obstacles to the acquisition of sound knowledge. All moral and artistic tendencies were considered to be caprices in the child mind and were supplanted with a body of knowledge which the teacher was alleged to possess for the purpose of transfer to the young minds. The factual scientific data provided were supposed to weaken the belief in the supernatural; to discourage dialect and the attachment to local traditions; to correct the effects of tender maternal teaching by the use of cold, unemotional doctrines; and, finally, to imbue the childish mind with the idea that over the home and high above the fatherland there was that humanity to whose cause he must exclusively identify himself.[1]

Gentile believed that the positivist teacher by stressing scientific truth and information had neglected the emotional development of the child, which was a very important aspect of teaching. His idea was that the methods used by the positivist teacher were to utilize science to transform the savage, superstitious child into an

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[1]Kandel, op. cit., pp. 456-57.

enlightened being. Gentile taught that through insight and understanding the child discovers truth, and that the teacher, therefore, instead of changing that truth must respect it and build upon it.[1]

Although Gentile discarded positivism in its entirety, he claimed to have accepted many of its tenets and to have acknowledged the deep trace which it had left on Italian culture. He declared that positivism had succeeded in awakening a culture which had remained stagnant for almost a century. In the fields of historical and natural research Italy had been great in the seventeenth century and in the first half of the eighteenth century. In the latter half of the eighteenth century, however, the cycle had run its course and erudition and the experimental sciences gave way to the normal aftermath of decadence, though he believed that positivism had engendered a reawakening in the Italian people to the need for a renaissance of native culture that would enable Italy to resume her rightful position in the civilized world.[2]

At first educators believed that a fortunate occasion, perhaps the only similar one in the history of Italy, appeared when Mussolini appointed a minister of education who had the power to reform all schools of the kingdom.

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[1] Ulhern, op. cit., p. 577.
[2] Ibid.

Unfortunately for the psychologists this minister was a philosopher and his theories were humanistic and not scientific. Descamps said that in order not to disturb the imaginary harmony of his thought, Gentile neglected not only the need for well trained teachers, but also child psychology. He ignored experimentation in the area of learning.[1]

Descamps pointed out that although in America, Belgium, and Switzerland studies were conducted to find the best utilization of time for students of primary schools, the most appropriate distribution of subjects according to the age in which inclinations and interests of certain things arise in order to understand them, the division of the school according to the different levels of intellectual development of its students, and how to study the attitudes of scholars, Gentile did not bother with what he considered to be minor details.[2]

The preceding critical analysis of contemporary pedagogy was aimed at Gentile. Maresca said that the positivist believed the Gentilian universe was a dead universe. For them the Gentilian philosophy was incapable of solving the problems of the world. According to the psychologists, the Gentilian philosophy could not solve realistic

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[1]L. Descamps, "L'auto education a l'ecole," Rivista di psicologia, XXI (1925), 50-52.

[2]Ibid.

problems, because it did not see true man, nor was it able to solve pedagogical problems.[1]

Suppression of Educational Psychology During and After World War I

In a previous chapter the decrees that influenced educational psychology in Italy were discussed. In order to show how the suppression of educational psychology was gradually accomplished, the decrees passed affecting it during and after the First World War and the psychologists reactions to them will be reviewed.[2]

With the decree reforming the Corsi di perfezionamento, per i licenziati della scuola normale aimed at cutting down public expenditure during World War I, educational psychology was one of the courses considered superfluous. A new course was established in its place called Storia del resorgimento, which was the history of Italian independence (1831-70). Ferrari and De Sanctis severely criticized the decree, stating it was an absurd way to economize by replacing an important course with a superfluous one on history. De Sanctis pointed out that in other countries, especially in North America, psychology was progressing, but that in Italy it was being stifled under the badge of patriotism. However, the laboratories established before the passing of the decree

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[1]Mariano Maresca, "La Pedagogia stada se?" Rivista di psicologia, XVII (1921), 83-84.

[2]Cf. pp. 85-103.

remained open and Ferrari continued his educational psychology courses at the University of Bologna.

In order to keep interest in psychology alive, the psychologists participated in various conventions. In 1919, the Unione Italiana dell' Educazione Popolare met at Rome. The aims of this convention were to promote kindergartens, special institutions for homeless children, and industrial and agricultural schools. It suggested that the state subsidize schools for these purposes. The government, however, did not follow this suggestion.[1] Another convention, the Congress of Psychology, was held at Naples in 1922. Various proposals were made to the government to utilize psychology for educational and industrial ends, but as usual the government paid little attention to these suggestion.[2]

At a convention of the Italian society for psychology held at Bologna in November, five years later in 1927, Ferrari pointed out that the greatest enemies of experimental psychology in Italy had been the "idealistic" philosophers. Because of them, the teaching of psychology had been abolished in the Licei. The universities of Rome and Naples, however, still carried psychological faculties. It was also noted that the current minister

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[1]G. C. Ferrari, "Congreso", op. cit., p. 144.
[2]Luca Baldo, op. cit., p. 45

of Education, Fedele, was considering the establishment of courses in psychology for teacher training so that experimental psychology would form the basis of learning, since it is indispensible to education.[1] Ferrari proposed that elementary courses in psychology should be taught to all teachers of elementary and high schools, whatever their specialty. The minister of public instruction answered the petitions in a letter to Professor Ferrari dated November 18, 1927, in which Minister Fedele stated that he had presented the petitions to the various universities, to the Superior Institutes, and to the Medium Institutes of Instruction. But the university officials would do nothing to displease the government since, as previously stated, any member of the faculty could be dismissed if he did not keep in accord with government policies.[2]

Ferrari believed that experimental psychology should be taken away from the philosophy faculty and be attached to the faculty of medicine or faculty of science. At this time (1927) the psychological laboratories in Italy were operating with limited equipment and personnel, and Ferrari believed this science should not be abondoned if the future of the nation were to be considered.

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[1]Siro Contri, op. cit., pp. 22-31.
[2]Ferrari, op. cit., p. 184.

He believed all students could profit by psychological study, since most of them would eventually become teachers.[1]

The psychology faculty at the University of Padova had been founded by Benussi in the School of Philosophy and Literature at that university in 1919. When Benussi died in 1927 it was abolished in favor of a course in the history of art. The teaching of psychology was continued, but it was not accompanied by a laboratory course. Psychological experimentation, during Gentile's regime, gave way to traditionalism.[2]

A year later, at a reunion of Italian psychologists, the status of the study of psychology in Italy was not encouraging. The science was not taught in high schools and ignored in universities.[3]

The new orientation of Italian culture in 1923 influenced by idealism, was opposition to the ideals of psychology. Gemelli felt that psychology had a positive, scientific experimental task. Ferrari, in a lecture, stated that he believed there would be no place for psychology in the renovated Italian culture. This was the

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[1]G. C. Ferrari, "L'insegnamento della psicologia sperimentale nelle università e nelle scuole medie Italiane," Rivista di psicologia, XXIII (1927), 178.

[2]G. C. Ferrari, "La cattedra di psicologia a Padova," Rivista di psicologia, XXIV (1928), 60.

[3]Agostino Gemelli, "A proposito dell'insegnamento della psicologia nelle scuole medie e nelle università," Rivista di psicologia, XXIV (1928), 18-25.

pessimistic point of view that Ferrari exhibited on the future of Italian psychology. Father Gemelli, upon hearing this speech by Ferrari, agreed that psychology was a science, but he did not believe psychology had necessarily to be accompanied with experimentation. Although he agreed with Ferrari that his pessimistic view of the future of Italian psychology was justified, because it was an isolated science in Italy, Gemelli believed that the future of psychology was not entirely hopeless. There were still good psychological laboratories in Italy in which new movements could be followed. At Rome there was De Sanctis, at Turin, Kiesow and Ponzo, at Padova, Benussi carried on the positivistic tradition, at Florence, Calventura was educating through methods of experimental research and conducting experiments on Gestaltism, at the University of the Sacred Heart, Milan, Gemelli welcomed any young experimenter who wished to use his laboratories, and at Naples, Colucci continued his experiments on psychophysiology.[1]

The way to assure a future for psychology, according to Gemelli, was not by a pessimistic attitude toward it, but by putting in great effort in the Italian laboratories and by propagandizing the results. He pointed out that perhaps it was not the fault of the Italian public that it did not accept psychology, but

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[1] Ibid.

perhaps the fault of the psychologists themselves for not publishing more copies of this work, and that every book he had written on psychology had sold rapidly. The only way to overcome the barrier, Gemelli felt, was by propagandizing science so that it would once again return to its proper status in the education of youth. Gemelli concluded by saying that he felt Ferrari gave this lecture in a moment of pessimism, in which he was himself defeated by an apparent triumph of "idealism." In spite of Ferrari's view, Gemelli believe this same man who had fought so many battles for the triumph of psychology would again rekindle the "old fighting spirit."[2]

On the death of Professor Mingazzini, psychiatrist and experimenter of the medical faculty at the University of Rome, De Sanctis was called to give a speech commemorating Mingazzini on his work on nervous and mental diseases. Previously, De Sanctis had given such an eulogy for Benussi at the University of Padova. Gallant though it had been, it was still insufficient to maintain the Padovan laboratory, for, in 1927, the laboratory was replaced by a course in the history of art. Profiting by this experience, De Sanctis took this speaking opportunity to use every ironic and cultural argument he could think of for the maintenance of the faculty of experimental

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[1] Ibid.
[2] Ibid.

psychology at Rome. In spite of some obvious resistance the idea proposed by De Sanctis was approved.[1] Ferrari considered this a memorable day for experimental psychology in Italy. Not since the founding of three psychological faculties established by the decree of 1905, sponsored by the Minister of Education, Leonardo Bianchi, had Italian psychology received a greater impetus.[2]

Industrial Psychology

Since efforts to sustain an interest in educational psychology were failing, the leaders of that science, in order to keep some aspect of psychology alive, turned their talents to a field which they knew would receive government support: industrial psychology.

At the VII national convention of psychology and psychotechology, which met at Turin in 1928, Professor Pivano, rector of the University of Turin, indicated that psychology, which had seemed to come to an ignominous end, could be revived for industrial and social psychology. The Fascist Association of University Professors, also in attendance, stated that the Italian government would support industrial psychology.[3]

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[1] Ibid.

[2] G. C. Ferrari, "Una memorabile giornata per la psicologia sperimentale in Italia," Rivista di psicologia, XXV (1929), 315.

[3] Mario Porzo, "Il VII convegno nazionale di psicologia e psicotecnica a Torino," Rivista di psicologia, XXV (1929), 271-79.

The report of the convention of the organization which met the succeeding year reviewed psychological studies that were followed in Italy. D'Agostino, believed that the discussion and lectures presented an accurate index of the progress in psychology.[1] He claimed that this was a very comforting thought for the participants as they remembered how much they had fought to affirm psychology as an experimental science and how many obstacles were overcome in order to make it autonomous. Industry and society were the fields in which psychology was to find expression. Experimental psychology was to make its greatest contribution to the economy of the nation, and a new term was adopted for it, "psychotechnology." The promotion of this new discipline was in the hands of the Minister of Corporations. The laboratories were to be used to establish a program for the study of labor.[2]

Notwithstanding the restriction of courses in subjects which the government did not believe fundamental, the Superior Council for Instruction announced that the course in experimental psychology at Rome would re-open in 1931. During this time when psychology was in a

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[1] V. D'Agostino, "VII convegno nazionale di psicologia sperimentale e di psicotecnica," Rivista di psicologia, VIII (1930), 57-60.

[2] Ibid.

perilous decline, the reopening of a course in experimental psychology was a good indication for the future of psychology.[1]

Ferrari taught a course in psychotechnology at the Superior Institute of Economic and Commercial Science. It was attended by students of the institute, by students from abroad, and by industrialists who showed interest in the principles of the new science of labor.[2]

At the Catholic University of the Sacred Heart three new courses in psychology were established in 1932 in the new department of applied psychology, which was a department of the new faculty of political, economic, and commercial sciences instituted with the Royal Decree of October, 1931. They consisted of a course in applied psychology, one in psychotechnology, and one in industrial psychology. Gemelli resigned from the chairmanship of the department of experimental psychology to assume the directorship of the newly installed industrial psychology. Professor Galli became the new director of the experimental psychology department which had been vacated by Gemelli.[3]

1G. C. Ferrari, "Concorso alla cattedra di psicologia sperimentale nella R. università di Roma," Rivista di psicologia, XXVI (1930), 334.

2G. C. Ferrari, "Un corso di insegnamento della psicotecnica," Rivista di psicologia, XXVII (1931), 70.

3Mario A. Canella, "La psicologia sperimentale in Italia," Rivista di psicologia, XXIX (1933), 158-62.

It appeared, according to Canella, that with the Royal Decree of February, 1933, although the universities received allotments from the government to enlarge the schools and their libraries, the faculty of experimental psychology was never favorably considered in any of these appropriations. Canella pointed out that this must have greatly pleased some philosophers, but that the sacrifice of experimental psychology was an injustice that placed Italian university teaching and Italian culture in a deprived condition. With the retirement of Professor Riesow from the University of Turin, that faculty of experimental psychology began to degenerate.[1] At Bologna, the laboratory which had been directed by Ferrari for twenty-five years was closed for a period of one year after his death, although reopened under the direction of Patrizi. The course in experimental psychology was elected by students of literature, philosophy, and medicine. It was a course in physiological psychology, but it was again placed under the auspices of the faculty of philosophy. At Florence the modern laboratory of experimental psychology still flourished under the direction of Conventura, and at Padova after the death Benussi in 1927, the laboratory was directed by Musatti.[2]

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[1] Mario A. Canella, "La psicologia sperimentale in Italia," Rivista di psicologia, XXIX (1933), 153-62.

[2] Ibid.

While psychology was gaining momentum in other foreign countries, in Italy it was greeted with indifference and incomprehension. Very often spiritualism and psychology were considered synonymously. When a person declared that he studied psychology people thought him insane. Such ignorance in Italian culture, according to Canella, was due mostly to "idealistic" teaching. The idealistic philosophers with Gentile as their leader, claimed that they wanted to promote Italian culture, but the difficulty was that each of these philosophers totally ignored the scientific method, experimental researches, psychological analysis, and the natural and biological sciences. Canella felt that idealistic conception of culture had only a philosophical and literary basis, and that a culture without psychology was sterile, short-sighted, coarse, degenerate, and too academic. To give an example of the curious and anti-scientific mentality of the Italian idealistic philosophers, Canella pointed to the article on Freud by an Italian psychoanalyst, De Ruggiero, which Croce criticized in his journal, Critica. Croce, who according to Canella, identified "philosophical truth with his affective need of comforting convictions," declared; "psycho-analytical science translates everything into obscene language."[1]

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[1]"La scienze psicoanalitica traduce tutto in linguaggia pornografia."

Croce stated that he devoted only seven days to Freudian literature and not one day more as he was being overwhelmed by nonsense! However, Banelle pointed out that De Sanctis believed Freudian literature opened up the mind more than any speech that had ever been delivered at any congress. The idealists saw everything as a philosophical conception," varnishing the old schemes with idealism."[1]

According to Banelle, culture based on scientific development was the most adequate for the mentality of the time. Banelle believed that psychology was a truly pragmatic science ready to destroy or deflate principles that yesterday seemed untouchable and that the scientists refused to become a part of the fascistic world because they were at odds with the cultural life it advocated.[2]

According to Gemelli, the Catholic University of the Sacred Heart at Milan was the only Italian university free from the idealistic virus. In 1934 the university maintained two departments in psychology, one in the faculty of literature and philosophy which was experimental psychology, and the other in the faculty of commercial, economic, and political sciences, which was applied psychology. It also maintained a well-equipped, psychological laboratory and a department of pedagogy in which applied psychology progress was utilized. Gemelli

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[1] Banelle, op. cit., p. 181-82.

[2] Ibid.

claimed that this university had the best equipped laboratory and department of psychology in Italy.[1]

Recognition of Psychology as a Pure Science

S. E. De Vecchi, Minister of National Education, in the royal decree of November, 1935, established experimental psychology as one of the complementary courses for the degree in medicine, jurisprudence, philosophy and pedagogy. This was an authoritative recognition of psychology as a pure science.[2] The unknown author of this article claimed that this decree was passed in order that Italian universities would not be rated second to the great European, American and Asiatic schools. It made it possible for the various universities to present a modification of their statutes in order to introduce the teaching of psychology. The application for permission to teach psychology was to be made to the government before January 31, 1936. The decree did not make teaching of psychology compulsory in all universities, but left the decision in the hands of the university officials.[3] However, this was one of the most important government steps in support of psychological studies.

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[1] Agostino Gemelli, "La psicologia nell' università Cattolica di Milano," Rivista di psicologia, XXIX (1933), 256.

[2] _____, "Rivalutazione ufficiale della psicologia in Italia," Rivista di psicologia, XXXI (1935), 281.

[3] Ibid.

The recognition of psychology to this extent free from the control of philosophy and based on experimentation, was accomplished after some forty years of relentless effort by a small group of Italian psychologists. Although the Fascist government favored experimentation in psychology, this included only two phases of the science; industrial and military. The original aim of the psychologists had been to utilize findings in psychology to build a democratic Italy through the educative system, but since this was impossible, after 1922 they preferred to turn their efforts towards some other field of psychology rather than to entirely abandon the science.

SUMMARY

The Fascist regime aimed to kindle a spirit of nationalism in the Italian people, who for many years had remained isolated from neighboring communities by the high mountain ranges, by fostering a strongly centralized universal education. It was with this view in mind that Benito Mussolini appointed a brilliant philosopher and educator, Giovanni Gentile, as Minister of Public Instruction on October 31, 1922. The Italian psychologist who for nearly half a century had labored for a centralized system of education in order to unify the people, at first looked favorably at Mussolini's choice,

but later bitterly opposed his reform. The controversial issue was the type of education to be administered by the central educative office. Gentile was a philosopher, and education for him was identical with philosophy. He stressed the child's spiritual development which was accomplished through religious instruction. Religion was made compulsory in all public schools. Under the reform, university graduates could practice their profession only after passing a state examination prepared by a commision appointed by Gentile. Although he advocated freedom for teacher and student, instructors were to consult an official bulletin before using a text, and the text and lessons were uniform in all public schools. Above all, any instructor from a university or public school found guilty of political views not in accord with the Fascist administration was dismissed. The Gentile reform stressed philosophy and tradition, while the positivistic psychologists favored experimentation and the suppression of nationalism in favor of the individual. Gentile criticized scientific pedagogy as early as 1911 when he attacked a book on the laws of mental work by a positivist. Gentile believed that scientific pedagogy was barbaric, and that it neglected the spiritual development of the child. The positivists claimed that Gentile was a dreamer and ignored child psychology just as he ignored all realities of life. Although the psychologists made various attempts

to revive child psychology by establishing private schools, the idealists passed several decrees which suppressed psychology in favor of humanistic subjects, especially courses on the history of the Roman Empire. Since the idealists controlled the political machine, they were successful in stifling science. The psychologists tried to propagandize science through their own efforts and means, especially at universities. Finally they were successful in convincing the government that psychology was an established science in other civilized countries and if it were neglected in Italy it would be a reflection of the backwardness of the new regime. Although they had to give up their work and efforts for a recognition of educational psychology, they sustained an interest in the science by promoting industrial and military psychology which the Fascist state utilized for its own aim.

CHAPTER VII

SUMMARY AND CONCLUSION

This study has sought to describe the work of Italian scholars in educational psychology. It may be stated as a documentary study of the rise and development of educational psychology in Italy.

Little is to be found in any language, Italian included, which surveys the contributions of Italian psychologists and educators to a scientific pedagogy. There are a few guides of secondary nature concerning the early status of psychology in Italy. The paucity of literature on the subject seems to have been the result of two factors; first, that the Italians published very little in German, French, or English, and second, that few attempts have been made by Italian psychologists to review the history of their field. A knowledge of the works of Italian psychologists, with a few exceptions, has been confined to Italian scientific circles.

After an extensive search and through correspondence with Italian educators and psychologists, both in the United States and Italy, the author found several descriptions of the work carried out in educational psychology in Italy from 1905 through 1939. From these and from the original materials contained in the following Italian and French sources, this investigation has been developed.

1. The Rivista di psicologia applicata alla pedagogia ed alla psicopatolgia, edited by G. C. Ferrari and available from its first volume published in 1905 through 1939. No journal that reported the work of all Italian psychologists existed before this publication. The original articles on educational psychology found in this journal are of primary importance for this investigation.
2. The Archivio italiano di psicologia, first edited in 1920 by Agostino Gemelli, a Catholic friar, and after 1922 edited by Frederick Kiesow, a German trained by Wundt who settled in Italy. This was the second psychological journal published in Italy. However, only a few of its articles deal with educational psychology. The Archivio collected articles of Italian scientific studies in experimental, differential, social, and comparative psychology from its founding to 1939.
3. Psiche was edited by Morselli, De Sanctis and Villa. Only four volumes were published (1908-1912).

Other sources include the Enciclopedia Italiana, edited by Giovanni Gentile (1929-38); laws, decrees and regulations

published by the Minister of Public Instruction; annuaries of leading Italian universities; and the French Annee Psychologique, which yielded a few Italian articles. Added to the above were numerous English and American sources which are listed in the bibliography.

The arrangement of this investigation has been determined largely by the fact that important psychological advances seem to have been the result of a laborious series of steps made by different researchers over long periods of years. Thus, the history of Italian educational psychology is, in effect, the history of the work of the men who fostered the science. The present investigation brings out the relationship of the positivistic movement to the development in educational psychology from about 1850 to 1939, and has sought to answer the following questions.

1. When did the study and teaching of educational psychology have their beginnings in Italy?
2. To what extent did concepts and practices of psychology in other countries affect the psychological basis for pedagogy in Italy?
3. For what purpose and by what groups was it sponsored?
4. Who were some of the leading educational psychologists in Italy and what were their contributions?

5. Did educational psychology affect teacher training in Italy?
6. How was the product of the laboratory research utilized in school practice?
7. How was the scientific approach to educational methods modified as a result of the change from constitutional monarchy to dictatorship?

MAJOR QUESTIONS ANSWERED BY THE PRESENT INVESTIGATION

Beginnings of the Study and Teaching of Educational Psychology in Italy

Italy, until 1890, because of political, sociological and economic reasons, had no organized research in psychology. It was the development of anthropological studies during the second half of the nineteenth century, chiefly due to researches on individual differences and the effects of bodily conditions on mental progress of children, that gave impetus to the study of educational psychology in Italy.

Thus, the foundation of the study of educational psychology in Italy was laid by anthropologists, who sought not only to describe physical traits and characteristics, but behavior patterns as well. It was they who promoted the naturalistic approach to the study of man. Anthropologists branched off into fields of functional, endocrinological and physiological differences, and later extended their findings to heredity, criminality, insanity, and eudcation.

Three anthropologists are credited with laying the foundation of the study of educational psychology in Italy; Cesare Lombroso, Achille De Giovanni and Nicola Pende. Cesare Lombroso (1836-1909) was one of the leading criminal anthropologists of the last century. He maintained the theory that some people are born criminals because they possess physical and mental characteristics which, according to anthropological measurements, mark them as special types. His method involved a description of the individual by observation and clinical measurement, included data on the individual's physiological and psychological makeup and on his responses to environment, and required a study of the individual's habits. He extended his researches to the field of education and came to the conclusion that criminals that had exhibited delinquent characteristics since their early years were victims of faulty education. For juvenile offenders he advocated Froebelian educational methods in order to overcome the criminal tendencies.

A contemporary of Lombroso, Achille De Giovanni, a physician, introduced anthropological method to medicine. He classified individuals into types according to common fundamental characteristics, and studied the etiological factors that supposedly influenced the development of their personalities. De Giovanni elaborated a doctrine of temperaments and their predisposition to diseases and pointed

out that this tendency to disease could be combated during childhood if the organism were wisely guided in its development. His work helped bring collaboration between medicine and anthropology for the study of the individual, thus laying the foundation for psychiatry.

A student of De Giovanni, Nicola Pende (1880 -), investigated constitutional differences, and introduced the study of endocrinological, physical and functional aspects of personality. He anticipated Kretchmer's and Sheldon's constitutional body types. He utilized his knowledge to establish mental hygiene reforms in the schools of Italy during the Fascist regime. He advocated foundations and institutes to study a child's growth and his physical and mental abnormalities as well as special institutions for delinquent children in order that trades might be taught to delinquent boys between the ages of seven and eighteen.

It was not until pedagogical anthropology gained momentum in Italy that attempts were made to introduce the results of observations and experiments in the school. The leading advocates of pedagogical anthropology were Giuseppe Sergi and Maria Montessori.

As early as 1886 Giuseppe Sergi proposed the study of students by anthropological methods. Sergi envisaged the theories of Lombroso, De Giovanni, and Pende in use to redirect those with personality deviations into useful channels by the school. Thus, it was through Sergi that anthropology

brought into relief practical principles of educational psychology; mainly the necessity of relating instructions to the needs and mental capacity of the child. He emphasized a scientific approach to problems of psychology and utilized the experimental method in his researches. Besides being the leader of experimental psychology in Italy, Sergi is given credit for the founding of the first psychological laboratory in Italy, as established by the Royal Decree of 1889. This laboratory was not an independent psychological laboratory, but was a section of the Institute of Anthropology at the University of Rome. The first independent psychological laboratory in Italy was founded by G. C. Ferrari at Bologna in 1896. Sergi also was the first to establish a course (1878-79) in psychology with the purpose of training public school teachers in pedagogical psychology.

Maria Montessori (1869 -), though not an experimentalist, applied anthropological methods to the study of childhood. Her concepts were not original, but rather were inspired by John Locke, Emile Rousseau and Frederick Froebel, and she used the methods of Jean Itard and Edward Sequin in the education of mentally deficient children. Although her movement was not widely accepted by the Italian experimentalists, it gained wide acclaim in other countries, especially the United States. However, she may be considered

as one of the pioneers of Italian educational psychology, if only for the founding of her Casa dei bambini and for personally training the teachers employed to teach at her school.

In the preceding paragraphs the development of educational psychology by the application of anthropology and physiology was summarized. However, educational psychology was considered a branch of experimental psychology, since the scholars who promoted educational psychology in Italy were from the experimental school. Therefore, the progress of scientific pedagogy is closely allied with the progress of experimental psychology and any success achieved by the experimentalists was a force for the promotion of psychological pedagogy.

Professor Leonardo Bianchi, a well known psychiatrist and minister of education in Italy, was responsible for many of the educational decrees and reforms in favor of positivism, especially in regard to the application of psychology to education. He was honorary president of the V International Congress of Psychology held at Rome in 1905. He was responsible for the promulgation of the Royal Decree of 1905, which established three independent faculties of psychology. One was installed at the University of Rome under the able direction of Sante De Sanctis, psychiatrist, who made valuable contributions to psychological studies, especially in the field of the study of mentally deficient

children. He was also the founder of the first asili-scuola for the education of mentally deficient children. At the University of Turin the direction of the new faculty was given to Frederick Kiesow, from the school of Wundt, who settled in Italy, and later, in 1922, became the editor of the Archivio italiano di psicologia. The third faculty was established at the University of Naples, and the directorship was given to Patrizi, student of Mosso, and to Colucci, who is famous for his reforms of the methods of dealing with delinquent children.

Thus, with the Decree of June 18, 1905, psychology was officially recognized by the government. This decree established psychology as a formal university study.

To What Extent Did Concepts and Practices of Psychology in Other Countries Affect the Psychological Basis for Pedagogy in Italy?

The countries that perhaps influenced the psychological basis of pedagogy in Italy were Germany and the United States. However, the influence from these countries was negligible. Italian psychologists seemed to have favored and utilized Frederick Froebel's principles of education. This is the only tangible example of German influence upon Italian educational psychology. It may be assumed, however, although it cannot be demonstrated, that German psychology influenced Italian technical psychology through the work of

Frederick Kiesow, a German from the school of Wundt, who settled in Italy and made valuable contributions to Italian industrial and military psychology. Directly, or indirectly, he must have influenced Italian psychological thought, although in his writings he credits himself chiefly with the introduction of Mosso's methods and instruments at Wundt's Leipzig laboratory.

> I had read Mosso's books, and had induced Wundt to purchase that scholar's much-discussed plethysmograph for the Institute.[1]

Giulio Cesare Ferrari claimed that his translation in 1901 of William James' Principles of Psychology was favorably received by the Italians, and stimulated interest in psychology.

> ...the enormous impulse given to psychology here (Italy) by my translation of the "Principles of Psychology" of the great American psychologist, William James. I believe, however, that this publication marked a turning point in the history of Italian psychology.[2]

However, he seemed to be of the opinion that most of the psychological work carried on in Italy was original and entirely of Italian inspiration.

> I could not say whether there are reasons of ethnic psychology to explain the fact, or whether it is merely a matter of mental habit, but it is very true, nevertheless, that, although he accepts what is useful and good in all philosophies, and in all orders of thought, the Italian always and in all cases, retains much of his psychological individuality,--- from outside he accepts ordinarily only the initial stimulus.[3]

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[1] Kiesow, "F. Kiesow," op. cit., p. 177.
[2] Ferrari, "Experimental Psychology in Italy," op. cit., p. 227.
[3] Ibid.

Groups that Sponsored Italian Educational Psychology

The development of educational psychology in Italy was closely connected with the development of philosophical thought. Psychology was considered, until the latter part of the nineteenth century, to be synonymous with philosophy. The term psychology was often applied to problems which belonged to philosophy and metaphysics. It was not until an effort was made to approach educational psychology from a physiological and experimental point of view that it achieved an identity apart from philosophy. Thus, it may be said that the first group to sponsor educational psychology in Italy were the philosophers. Many scholars from the philosophical school applied psychology and, to some extent, experimentation to ascertain certain philosophical theories. This group contributed indirectly to educational psychology by conducting some experiments which sometimes yielded valuable research material. They, however, never credited psychology as being important enough to become a separate science, but believed it to be an important subsidiary to the study of philosophy. Some of these scholars furnished experimental laboratories and conducted objective researches.

The effort to divorce psychology from philosophy as a recognized field gave rise to a heated controversy between the followers of spiritual philosophy and the so

called "positivists", a group of scientists comprised mostly of anthropologists, physiologists and physicians who believed that traditional philosophical theory restrained experimental progress. Progressive educators, realizing the value of experimental psychology as a cementing medium of the lax and inadequate educational system, supported the positivists.

Purpose for which Educational Psychology in Italy was Sponsored

Educational psychology in Italy was sponsored for the purpose of democratizing the Italian nation through education of its youth. Educational psychology was also sponsored in order to relate instructions to the actual needs of the individual child and to scale the work to his intellectual and physical capacity. It was to be utilized in order to promote a scientific approach to the badly needed organization of Italian schools. This included centralization of the educational system, special institutions for atypical children, teacher training centers for special education, laboratories, institutes and mobile health units. Through educational psychology the Italian nation was to have a unified system of education that would bring better understanding among its people.

Leading Educational Psychologists in Italy and their Contributions

Italian contributions in psychology were numerous. However, only the men who contributed to what is defined here as educational psychology, are listed below.

Cesare Lombroso (1836-1909) an anthropologist, made contributions to educational psychology by stimulating a psychological approach to personality problems and by proposing corrective

education for delinquents. Lombroso believed that delinquents were victims of a continuing bad education. For juvenile offenders Lombroso suggested Froebelian educational methods for overcoming criminal tendencies. If the tendencies were deep rooted, he did not hesitate to advocate life confinement of the criminal in an appropriate institution. He was recognized by his contemporaries as an effective disseminator of ideas and eventually his criminal anthropology gained favor in scientific circles. He became a positivist in the new school of inductive psychology by supporting his conceptions by objective anthropological and biological investigations. Modern psychologists discredit most of his work, especially his assertion that there are "criminal types" which can be recognized by certain psychical characteristics. However, psychological and social approaches which he initiated, and which were still in their infancy, are generally accepted.

Achille De Giovanni, a contemporary of Lombroso, established a broad physiological base for his investigations. He considered the individual in his entirety, as a functioning organism, and regarded all deformities as signifying a predisposition to certain forms of illness. In his Morphology of the Human Body, De Giovanni elaborated a doctrine of temperaments and their predisposition to disease. He distinguished three morphological combinations, the normosplancnic, the microsplancnic, and the macrosplancnic, corresponding to Sheldon's mesomorph, ectomorph, and endomorph

constitutional body types, respectively. The chief result of De Giovanni's work was to establish the concept of an internal factor of predisposition to disease analogous to that of Lombroso to crime, and that this predisposition could be redirected through education.

Nicola Pende, a leading constitutional psychologist and endocrinologist, did much to promote mental hygiene in the schools of Italy. A student of De Giovanni, he anticipated Kretchmer's and Sheldon's body types. During the Gentile reform of education he succeeded in establishing a system of health education based on mental hygiene. At his request provisions were made to establish institutes of child study, both physical and mental, and trade schools for delinquent children.

Giuseppe Sergi was the first (1886) to introduce anthropological methods into pedagogy. It was through Sergi that anthropology brought into relief practical principles of educational psychology; mainly the necessity of relating instruction to the actual needs of the child and consideration of the influence of differing mental backgrounds upon the achievements and environments of an individual.

In 1873 Sergi published the first note of his Principi di psicologia sulla base delle scienze sperimentale. It is to be noted that his book appeared one year before Wundt published his Grundzeige der physiologischen Psychologie, which is considered a masterpiece on experimental psychology. However, Sergi wrote his book quite independently of the German

psychologist with whose work he first became acquainted in 1875.

Sergi introduced (1878-79) the first course in psychology in Italy. This was set up to train public school teachers. The Royal Decree of December 15, 1889 authorized the establishment of the first laboratory of experimental psychology, which he directed. However, this laboratory was to be a section of the anthropology department and was not considered an independent psychological laboratory. In this laboratory Sergi carried on extensive research. He promoted the anthropological study of childhood with a view to the creation of a scientific method of educating, not only the intellect, but the entire physical and mental organism of the child.

Maria Montessori promoted the anthropological study of childhood with a view to creating a scientific method of training the child. Her address to the First Italian Pedagogical Congress at Turin in 1898 resulted in the request by the minister of education for a lecture course to teachers of Rome on the education of feeble-minded children. This led to the development of the State Orthophrenic School, of which she was in charge from 1898-1900.

Her book, The Montessori Method, is based on principles and practices utilized in her Casa dei bambini. She utilized Itard's and Sequin's methods of education. The value of her work is that she found a definite interpretation and a more

direct application of these principles to school practice. Three of Montessori's fundamental principles are as follows; education through the senses, the principle of individuality, and the principle of freedom. The claims that the observation of the individual child and the adaptation of each to his individual needs were the most important basis of education.

Montessori emphasizes the principle of self-activity. She calls it "the principle of auto-education" and invented for its expression an elaborate system of auto-sensorial didactic apparatus.

Her didactic material included education of the thermic (temperature), tactile (touch), stereognostic (muscular and tactile), taste, smell, vision (form and vision), chromatic, baric, and sound senses.

The individual work plan was one of the most valuable features of the Montessori school. The didactic apparatus was self-corrective in order to eliminate teacher direction, but this characteristic limited the use of the material and stifled, rather than encouraged, spontaneous expression. She devised various buttoning and fastening apparatus, which she claimed belonged to "the practical life type of activities, and various 'inset cut out letters' which she used to produce 'spontaneous writing'". She had very little appreciation for play technique.

Although she based her initial approach to the study of education on sense training, she devised complicated

didactic apparatus which did not give the pupil any spontaneous play. The latter is characterized by much detailed instruction which conveys the impression that she reversed the major fundamental concept, the individual work plan. Perhaps it can be stated that Montessori made no original contribution to childhood education. Her greatest service lies in her emphasis on the scientific conception of education.

Gabriele Buccola was the first in Europe to make use of lunatics for the study of the problems of normal psychology. Although his contributions were not in the field of educational psychology, his work gave impetus to that science. In 1896 he and Tamburini organized a laboratory of experimental psychology at Reggio Emilia Psychiatric Institute in Italy. Buccola introduced the same precision of method that characterized psychometry in the study of mental disease, presenting in a new light phenomena of the psychical processes of perception and of reaction. He also experimented with the effects of cocaine on the reaction of the pupil and the diverse effects of cocaine on the nervous system. His work, La legge del tempe nei fenomeni del pensiero is considered a classic contribution in the field of psychometry.

Simone Corleo, though not so closely related to educational psychology as some others, established a small laboratory at the University of Palermo in 1889. He was a philosopher, but utilized experimentation to ascertain certain

philosophical theories. His contribution was mainly the founding of the laboratory at Palermo, which later was utilized for pedagogical experiments.

Angelo Mosso is noted for his studies on sleep and fatigue, but also did research on blood vessels, blood respiration, aspects of human physiology in altitude, and for the use of a number of devices for measuring physiological data, especially the ergograph and the plethymograph. Mosso was the first to recognize bodily reactions as expressions of psychological manifestations. The experimental proof of this was given in his book, La Paura (fear), published in 1889, which became a classic of its kind. In 1889 Mosso announced the results of some original experiments on the effects of emotions on the contractions of the bladder. In this connection he stated that the seat of the emotions lies in the sympathetic nervous system. His contributions to educational psychology were his experiments on mental fatigue during study and lecture.

Ugo Pizzoli in 1898 founded a laboratory of scientific pedagogy at Crevalcore. He established in 1905 a school to train teachers in psychology. At this time the state contributed no financial support to promote special schools. However, Milan granted Pizzoli a subsidy to augment the income which originally consisted of a small tuition paid by the students.

Zaccaria Treves worked with Mosso. He took over in 1908 the laboratory of scientific pedagogy which Pizzoli had founded in 1898. He founded the Zaccaria Treves community school in 1914 at Milan, which advanced and practiced the Froebelian system of education.

Guido Della Valle of the University of Naples was a renowned educator who was considered a pioneer in the studies of applied psychology, since he stressed the importance of experimental method in education. He listed a criteria of pedagogy based on psychology and advised universities that contained psychological research centers to utilize them for pedagogical investigations.

Enrico Morselli was from the philosophical school, although he believed in experimental psychology. His contribution to educational psychology was the founding of the psychological journal Psiche in 1912, which carried articles on child psychology and pedagogy. This publication, however, lasted only four years.

Giulio Cesare Ferrari did more than any other individual to promote psychological research of Italy, especially in the field of pedagogy. His personal interest lay in researches dealing with individual psychology. He made several studies on blind and delinquent children. He translated William James' Principles of Psychology, which he believed marked the turning point in the history of Italian psychology. In 1896 he founded the first independent

psychological laboratory at Bologna. He was founder and editor of the most significant journal of psychology in Italy, Rivista di psicologia.

Ferrari classified deficient children into three categories, the great number who do not have any serious lesions, but simply present a slow development or, more often, a slow coordination of their intellectual abilities, a second group which stops growing intellectually after a short span of normal mental development, and a third group consists of individuals in various well-recognized groups such as idiots, imbeciles and morons. This threefold classification was the basis of the practical organization of educational facilities for mentally handicapped in Italy. His best and most successful application of educational psychology was with delinquent children.

Leonardo Bianchi, a psychiatrist and later minister of education, was responsible for many of the educational decrees and reforms favoring the use of experimental psychology for pedagogical ends. Because of his dual role as scientist and public official, he became the most efficacious defender and promoter of Italian educational psychology. He also made several original contributions in the field of physiological and pathological anatomy, especially on temperature of the brain and functional compensation. He is credited with many other original psychological contributions, but is remembered mostly for establishing,

during that time when he was minister of education, the first three experimental psychology departments at the universities of Rome, Turin and Naples. He favored the reform of education based on pedagogical psychology. It was at the Fifth International Congress of Psychology in 1905 that he announced his intention of promoting psychology. Thus, with the decree of June 18, 1905, psychology was officially recognized by the government.

Sante De Sanctis began his early studies with experimental psychology and had a special interest in the direction of individual or differential psychology. He explained everything according to the associationist theory. He carried on extensive work on psychopathology and psychoneurosis and conducted investigations on the pathology of attention, pathology of sleep and of dreams, the classification and pathogenesis of frenzies and of tantrums, and the psychopathology of negativism, and the pathology of motor disturbances and feebleminded children.

The bulk of De Sanctis' work constituted studies on feeblemindedness. The organization of clinical assistance open for children who are feebleminded and unstable was started in 1899 and was the practical result of his studies. Ebbinghaus introduced the methods and results of his studies to German psychologists. The studies on attention made by De Sanctis brought to light a new symptom which he called paraprosessia, a disturbance linked with the fact that when

too much attention is concentrated on an impulse, the impulse becomes inhibited. Another series of studies on the expression of thought was completed at about 1911.

In 1906 De Sanctis founded the Institute of Experimental Psychology at Rome. This institute was one of the original three which had been established with the decree of 1905. He was the first in Italy to establish Asili-scuole (1899) for mentally deficient children. The evaluation of intellectual deficiency in the feeble-minded, not only on the mental age, according to Binet-Simon and American scales, was made by De Sanctis by means of mental tests in 1910. This method was devised and intended for measuring gradation of mental insufficiency.

In 1915 De Sanctis published a book called Educazione dei dificienti, concerning the pedagogical classification of idiotic children and the psychology, pedagogy, and care of mentally deficient children. From the observations and experimentations made over a ten year period (1915-1925), he published a volume, Neuropsichiatria infantile, and from this he made his report in 1929 at a convention held at Rome on the problems of education for children. His writings on psychology applied to the science of education, comprise forty-four publications in volumes and memoirs, among which are many that deal with clinical assistance to feeble-minded and unstable children. The value of this work was reflected in the organization of clinical assistance made outside of the hospital for psychologically ab-

normal children, based on differential psychology and hygiene. In his entire production during the last thirty years of his life on the subject of child psychology the influence of Freud is apparent.

C. Colucci, a leading figure in educational psychology, was president of the Italian Society of Psychology and presided over many of the important conventions of psychologists. Although little is available of the work he carried out in educational psychology, his contemporaries mention him time and again as a pioneer in the psychology of deviates and for his outstanding work for improving conditions of reform schools.

Francesco De Sarlo, one of the first Italian experimentalists, was originally from the philosophical school and during his lifetime never divorced psychology from philosophy. However, he believed that a science of facts can be taught only by a demonstration of facts, and with this ideal in mind set up an experimental laboratory at the Institute of Higher Learning at the University of Florence.

Umberto F. Saffiotti was a pedagogical psychologist. He favored experimentation in pedagogical psychology and was a lecturer at several Italian universities. In 1912 he founded an association for the study, education, and assistance of abnormal children. He also published a journal entitled Infanzia Anormale.

Frederick Kiesow, a German from the school of Wundt, settled in Italy and made valuable contributions to Italian

psychology. Although he was not an educationist he contributed to the advancement of psychology in Italy by working with leading educational psychologists and by favoring their objective. It was he who induced Wundt to purchase Mosso's plethymograph for the Leipzig laboratory. In 1894 Kiesow went to Turin to study the use of this instrument. Since Mosso's laboratory was considered one of the first in Europe, Kiesow remained in Italy, and in 1922 edited the second Italian psychological journal, the Archivio di psicologia. He was head of the Turin psychology department, one of the first psychological departments established in 1905. Many of Kiesow's students became psychologists in their own right. His contributions, however, were mostly in the field of industrial psychology, but he can be considered as having made a valuable contribution to educational psychology if only for the impetus he gave general psychological thought in Italy.

A. Franzone, director of Teachers College Carlo Lenca in Milan, initiated two educational periodicals to promote a centralized organization of scientific pedagogy. One, Attualita pedagogiche, dealt with the educative and social problems of the schools; the other, Profili di Maestri, illustrated the new educational psychology of progressive educators.

Agostino Gemelli. a Catholic friar and psychiatrist, was responsible for the establishment of a psychology

department in Italy during the fascist regime. His experimental school of psychology at the University of the Sacred Heart at Milan carried out most of the work done in psychology during the fascist period. For many years he worked with the pioneers of psychology for the advancement of that science in Italy and, although he was originally from the philosophical school, he favored experimentation and the application of a scientific pedagogy to educational problems. His contributions to educational psychology were in the field of delinquency. In 1914 he founded and directed the Institute Nazionale Medico Pedagogica at Milan for boys with nervous disorders.

Luca Galdo, an educational psychologist, promoted the Unione italiana dell' educazione popoloce. This organization held various conventions in order to point out to the people their social and moral obligation for providing assistance and special education to deficient children. He proposed that the State subsidize a large number of schools for these children in order to relieve the elementary school and to help conditions for both the normal and abnormal child.

Aldo Grazioni, a psychiatrist at the Psychiatric Institute of Vicenza, conducted an experiment with delinquents at this institute in order to evaluate the Binet-Simons test and the De Sanctis mental test. From controlled experiments he concluded that the Simon-Binet test successfully measures a gradation of intelligence in the normal

child, but that in the abnormal child it did not specify or point out the degree of abnormality as did the De Sanctis model.

Giuseppe Montesano was noted for his work with mental deficients. He founded a school and an organization for the protection of deficient children. He founded the Medical Pedagogy Institute for mentally deficient children who, for lack of better quarters, had been housed at the insane asylum of Santa Maria della Pieta. He also taught courses in psychology for prospective teachers.

Gabriella Francia, an assistant of Ferrari, was in charge of the school for delinquent children established by Ferrari at Bologna in 1921. She not only helped Ferrari with the management of the school, but conducted several experiments to advance scientific pedagogy.

Giuseppe Guicciardi, director of the Psychiatric Institute of Santo Lazzaro near Bologna, organized the Colonia scuola Antonio Marro in 1926 for boys and girls between the ages of 15 and 16 who were considered mentally deficient, but who would respond to therapy. This therapy was based on a psychological principle. Psychosomatic medicine was practiced on each child. At this time Kretchmer's body types were popular and the institute made use of his methods in diagnosing and understanding the relationship between body and mind.

Raffaele Maietti, an educator, started in 1909 a refuge

in Rome for "lost children". These included children abused by parents, delinquents out of jail, or children whose families could not support them. With meager sources, he tried to give these children a new lease on life. He rehabilitated 193 children in three years through psychological application of occupational therapy.

Professor Scaglione persuaded the authorities of Calabria to grant him subsidy with which he instituted a pedagogical laboratory with a museum annexed to it. The educational material at this laboratory was used by the elementary school teachers of Calabria. In two years the museum collected data on 8,000 students.

M. Salvoni founded and directed The Salvoni Institute at Milan. It had been founded in 1878, but since it had existed on limited funds, it was near collapse when Milan granted it a subsidy in 1913. A Froebelian system of education was used at this school, and the individual study plan was stressed. The activities of the children were observed and daily records of their progress were kept.

Adone Roberti, an educator, founded in 1905 the first teachers' journal in Italy, which promoted scientific pedagogy. The Nuova Scuola, as it was called, abounded in articles and reports on child psychology.

Minister of Education Credaro founded an educational journal dedicated to scientific pedagogy, entitled Rivista Pedagogica. He was also responsible for the addition to

the education school of the University of Palermo in 1907 of a course in experimental psychology applied to education. In 1920 he opened and directed the psychology department at the University of Palermo. He believed that psychology's greatest contribution had been in the field of education.

Paolo Vecchia as early as 1862, instituted a pedagogical course for teachers at Piacenza, Italy. He was made inspector and later director of normal schools. In 1884 he taught pedagogy at the University of Catonia, in 1888 at the University of Naples, and 1905 at the University of Rome. At first he followed an idealistic trend, but later recognized the need of a psychological basis for education. He wrote several books which systematized a scientific pedagogy based on Froebelian methods.

Alfredo Albertini founded a school in 1918 at Milan for the education of the deaf. He directed the school and also conducted classes to teach the personnel methods of instruction for the deaf and deaf-mutes.

Many other educators and psychologists tried to advance scientific pedagogy in Italy, but the above mentioned scholars contributed most significantly to the objective.

Educational Psychology as Utilized in Teacher Training.

Giuseppe Sergi was the first to establish a course (1878-79) in psychology for the purpose of training public school teachers in educational psychology. However, due

to the disinterest of governmnent officials, the course lasted only one year. From Sergi's time until 1916, various propositions were made to the State to utilize psychological findings by informing public school teachers, through university courses, of the new methods of instruction based on the science of psychology. The officials paid little if any attention to these suggestions, until 1916 when a decree was issued cancelling all educational psychology courses offered at universities. The authorities stated that due to World War I, public expenditure had to be curtailed. Since psychology was considered by them a superfluous course, it was the first to be cancelled.

This decree was met with severe criticism by the psychologists who tried to counteract it by giving their services free to any teacher or student desirous of learning the new pedagogy. They believed that the psychologist's task was that of furnishing psychological knowledge to the educator, whether it be for knowledge of normal or abnormal students.

The indifferent attitude of the state toward problems of psychology was not a new one. From 1900 teacher training courses in educational psychology were sponsored by individual psychologists and were held at their private laboratories or at homes purchased by them for teaching purposes. Due to lack of funds and provisions the classes were limited. Tuition was low in order to encourage

teachers to attend these classes, and in many cases it was entirely dispensed with. Due to the fact that the men who held these courses were also the promoters of psychology, they had to divide their time among several activities, leaving little time for teaching. As has been pointed out, the apathy of the state in handling progressive schools was reflected by the fact that teacher training centers in scientific pedagogy could, in 1905, be counted on the fingers of one hand.

Milan, however, granted a subsidy to a school founded by a psychologist, Ugo Pizzoli, As many as 206 students were registered during 1905. Here future teachers studied the principles of scientific pedagogy. A post graduate course was also offered. Other principal cities followed Milan's example and granted subsidies to schools that the psychologists were attempting to operate on limited sources. However, the goal set by the progressive educators was never achieved. Only a handful of teacher training courses were offered. With the Gentile reform of education, the psychologists, who blamed the failure of their purpose on the decentralized educational system looked to the reform for the realization of their objective. Although Gentile centralized the educational system, he discarded educational psychology in favor of a humanistic education.

Utilization of Laboratory Researches in School Practice.

Although significant attempts were made by individual psychologists to reform education by an application of educational psychology, the state, however, never utilized the results of laboratory researches in general school practice. The schools that utilized psychological findings were founded by psychologists. These schools were mostly for underprivileged or feeble-minded children, and the only source of income was either from the psychologists' private funds, as was usually the case, or a small subsidy from the local community, or an insane asylum. Similar to the Montessori Casa di bambini, the Salvoni Institute at Milan, named after its founder, offered a Froebelion kindergarten and a progressive type of education for children through the fifth grade. Froebelian concepts were advanced by psychologists in their private schools, but little was accomplished to disperse these ideals to public schools. Ferrari purchased a large home in which he successfully educated delinquent children. At the Imola Insane Asylum he succeeded in applying therapeutic methods to feeble-minded children.

Although they gave freely of their services and funds, the Italian psychologists were not able to persuade the government officials to see the value of their work and to apply it to public schools. During World War I, Italian psychologists, as in other countries, turned their efforts toward winning the war. They put aside educational psy-

chology, which they intended to continue after the war, in favor of military psychology.

The Modification of the Scientific Approach to Educational Methods as a Result of the Change from Constitutional Monarchy to Dictatorship.

The recognition of psychology as a science, free from philosophical interpretations and based on experimentation, was accomplished after some forty years of relentless effort by a small group of psychologists. Their original aim had been to utilize psychological findings to build a democratic form of government through education. Through a centralized education they intended to unify the Italian people who had remained isolated by Italian topography, The fascist regime also aimed to unite the people through a strongly centralized system of education. At the beginning of the Gentile reform the psychologists, who saw the possibility of the realization of their ideals in the new regime, offered suggestions for the re-education of Italian youth. However, the psychologists and the leaders of the new reform had only one ideal in common: the centralization of the Italian educative system. The purpose for which this centralization was to be utilized was a focal point of controversy. The Fascists wanted to kindle a spirit of nationalism based on militarism; the psychologists wanted only to ameliorate the condition of the student and to

democratize the Italian nation. Since Gentile was a philosopher, education for him was identical with philosophy. He stressed the child's spiritual development which he believed was best accomplished through religious instruction. Thus, under Fascism, religion became compulsory in all public schools. The Gentile reform stressed philosophy and tradition, while the psychologists favored experimentation and the suppression of nationalism in favor of the individual. Gentile called scientific pedagogy "barbaric", and suppressed courses in educational psychology at all universities. No sweeping order came to close the laboratories, but as each psychological director died, a ceremony honoring his services to his nation would mark the closing of his laboratory. Although the psychologists made various attempts to revive child psychology by establishing free courses and private schools, they were no match for the fascist political machine. Educational psychology was stifled by humanism. Finally, the psychologists gave up their work and efforts for recognition of educational psychology, but succeeded in interesting the fascist state in other phases of psychology, industrial and military.

APPENDIX I
TABLE I

NUMBER OF TITLES IN DIFFERENT LANGUAGES

DATE	ENGLISH	GERMAN	FRENCH	ITALIAN	RUSSIAN	ALL OTHERS	TOTAL
1894	550	375	265	82		40	1312
1895	489	474	325	80		26	1394
1896	770	695	492	182		95	2234
1897	785	694	704	221		61	2465
1898	759	916	713	209		61	2558
1899	714	812	785	223		50	2584
1900	718	808	851	209		41	2627
1901	744	897	1015	279		51	2985
1902	771	923	759	147		28	2628
1903	767	661	513	164		17	2122
1904	804	1735	692	202		12	3445
1905	651	1380	523	160		13	2727
1906	1026	1389	584	140		6	3145
1907	773	1523	541	144		14	2995
1908	1069	1664	643	126		30	3532
1909	1037	1195	673	131		31	3067
1910	800	1767	450	151		18	3186
1911	1022	1574	445	116		45	3202
1912	969	2102	435	159		27	3692
1913	853	1364	363	123		37	2740
1914	1016	1120	383	88		35	2642
1915	1589	619	254	125		47	2634
1916	1682	526	126	83		2	2419
1917	2153	88	233	117		67	2658
1918	1126	218	67	157		18	1585
1919	1464	331	273	252		21	2341
1920	1769	765	195	202		39	2970
1921	1544	432	293	141		20	2430
1922	1837	1701	341	170		28	4077
1923	2015	1011	326	270		33	3655
1924	1772	1459	290	335		45	3901
1925	2082	1214	380	506		28	4210
1926	2374	1650	454	559	448	22	5507
1927	2805	1507	541	451	475	19	5798
1928	2679	1677	394	217	504	16	5487
1929	2725	2283	356	347	592	89	6392
1930	2690	2658	396	331	396	99	6570
1931	2834	2616	584	276	288	194	6792
1932	3089	1063	471	680	320	192	5824
1933	3783	948	456	399	412	288	6286
1934	3540	1099	345	362	423	284	6053
1935	3611	1082	486	104	224	420	5927
1936	3660	1160	410	121	223	488	6062
1937	3744	1159	404	161	148	447	6063

TABLE I (CONT.)

NUMBER OF TITLES IN DIFFERENT LANGUAGES

DATE	ENGLISH	GERMAN	FRENCH	ITALIAN	RUSSIAN	ALL OTHERS	TOTAL
1938	4028	1455	433	119	236	422	6693
1939	4229	1216	434	131	123	274	6557
1940	4460	811	264	196	74	470	6275
1941	4349	463	139	69	76	356	5452
1942	4330	328	78	25	60	245	5066
1943	3836	147	35	10	47	248	4323
1944	3642	87	33	2	27	135	3926
1945	3216	55	74	41	32	121	3539
Totals 1894-1945	18676	24587	12408	3460		785	59916
Av. 1926-35	3013	1658	448	372	409	162	6064
High 1926-35	3783	2658	584	680	592	420	6792

TABLE II

PERCENTAGE OF TITLES IN THE DIFFERENT LANGUAGES

DATE	ENGLISH	GERMAN	FRENCH	ITALIAN	RUSSIAN	U. S. A.	ALL OTHERS
1894	41.92	28.58	20.20	6.25			3.05
1895	35.08	34.00	23.31	5.74			1.87
1896	34.47	31.11	22.02	8.15			4.25
1897	31.85	28.15	28.56	8.97			2.47
1898	29.77	31.90	27.87	8.17			2.39
1899	27.63	31.42	30.38	8.63			1.94
1900	27.33	30.75	32.40	7.96			1.56
1901	24.92	30.05	34.00	9.31			1.71
1902	29.34	35.12	28.88	5.59			1.07
1903	36.15	31.15	24.18	7.73			.70
1904	23.34	50.45	20.09	5.86			.26
1905	23.87	50.61	19.18	5.87			.47
1906	32.62	44.17	18.57	4.45			..18
1907	25.79	50.82	18.05	4.87			.46
1908	30.26	47.11	18.20	3.57			.86
1909	33.81	38.96	21.94	4.27			1.01
1910	25.11	55.46	14.12	4.74			.57
1911	31.92	49.16	13.90	3.62			1.40
1912	26.24	56.93	11.78	4.31			.73

TABLE II (CONT.)

PERCENTAGE OF TITLES IN THE DIFFERENT LANGUAGES

DATE	ENGLISH	GERMAN	FRENCH	ITALIAN	RUSSIAN	U.S.A.	ALL OTHERS
1913	31.13	49.78	13.25	4.49			1.35
1914	38.46	42.39	14.50	3.33			1.33
1915	60.33	23.50	9.64	4.75			1.78
Av. 1894-1915	31.87	39.62	21.14	5.94			1.43
1916	69.5	21.8	5.0	3.4			.3
1917	81.0	3.3	8.8	4.4			2.5
1918	71.0	13.7	4.2	9.9			1.2
1919	62.5	14.1	11.7	10.8			.9
1920	59.6	25.8	6.6	6.8			1.2
1921	63.6	17.7	12.1	5.8			.8
1922	45.3	41.7	8.7	4.2			.7
1923	55.2	27.7	8.9	7.2			.9
1924	45.4	37.4	7.4	8.6			1.2
1925	49.5	28.9	9.0	12.0			.7
1926	43.1	30.0	8.2	10.2	8.1		.4
1927	48.0	26.0	9.0	8.0	8.0		0.0
1928	48.8	30.6	7.2	4.0	9.2		.3
1929	42.6	35.7	5.7	5.4	9.3		1.4
1930	41.0	40.5	6.0	5.0	6.0		1.5
1931	41.7	38.5	8.6	4.1	4.3		2.9
1932	53.0	18.3	8.1	11.7	5.6		3.3
1933	60.2	15.1	7.3	6.3	6.5		4.6
1934	58.5	18.2	5.7	6.0	7.0		4.7
1935	60.9	18.3	8.2	1.8	3.8		7.1
1936	60.4	19.1	6.8	2.0	3.7	47.0	8.1
1937	61.7	19.1	6.7	2.7	2.4	50.1	7.4
1938	60.2	21.7	6.5	1.8	3.5	48.5	6.3
1939	64.5	18.6	7.4	2.0	1.9	53.8	7.7
1940	71.5	12.9	4.0	3.1	1.2	57.9	7.1
1941	79.8	8.5	2.6	1.3	1.4	68.1	6.5
1942	85.5	6.5	1.5	.5	1.2	75.6	4.8
1943	88.7	3.4	.8	.2	1.1	79.5	5.7
1944	92.8	2.2	.9	0.0	.7	84.8	3.4
1945	90.6	1.6	2.1	1.2	.9	78.2	3.4

APPENDIX II

[illegible] OF THE MONTESSORI SYSTEM

The following is a detailed list and summary of the Montessori didactic material categorized according to the specific educational value of each apparatus.[1]

I. Education of the thermic sense (temperature)

Didactic material

a. A set of little metal bowls (filled with water at different degrees of temperature)

b. Thermometer for testing

They are designed a set of utensils which are to be made of very light metal, and filled with water. These have covers, and to each is attached a thermometer. The bowls touched from the outside give the desired impression of heat.

Also put the children put their hands into cold, tepid, and warm water, to exercise what the film most divertingly. I should like to repeat this exercise with the fact, but I have not had the opportunity to make the trial.[2]

II. Education of the tactile sense (touch)

Didactic material

a. A rectangular wooden board divided into two equal rectangles; one covered with sand paper; the other covered with smooth paper, or wood polished until a smooth surface is obtained.

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[1] Maria Montessori, The Montessori Method. pp. 165-214, New York: Frederick A. Stokes, 1912.

[2] Ibid., p. 177.

b. A tablet like the preceding, the surface covered with alternating strips of smooth paper and sandpaper.

c. Collection of paper slips. These vary from fine cardboard to coarse sandpaper.

The limitation of the exercises of the tactile sense to the pulpless tips of the fingers, is mentioned necessary by practical life. It must be made a necessary phase of education because it prepares for a life in which man exercises and uses the tactile sense through the medium of these finger tips. Hence, I have the child wash his hands carefully with soap, in a little tepid and in another tepid water. Then I show him how to dry and rub his hands gently, in this way preparing for the regular bath. I next teach the child how to touch, that is, the manner in which he should touch surfaces. For this it is necessary to take the finger of the child and to draw it very, very lightly over the surface.[1]

III. Education of the Stereognostic sense (muscular and tactile)

Didactic material

a. Bricks of Froebel (Froebel's third and fourth gift blocks)

b. Cubes of Froebel

After this the child is told to place the cubes to the right, the bricks to the left, always feeling them, and without looking at them. Finally the exercise is repeated by the child blindfolded. Almost all the children succeed in the exercize, and after two or three times, are able to eliminate every error. There are

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[1] Ibid., p. 115

twenty-four of the bricks and cubes in all, so that the attention may be held for some time through this "game" - - but undoubtedly the child's pleasure is greatly increased by the fact of his being watched by a group of his companions, all interested and eager.[1]

IV. Education of the Taste Sense

Didactic Material

a. Solutions

1. Acid

2. Sweet

3. Bitter

4. Salt

As to taste, the method of touching the tongue with various solutions, bitter or acid, sweet, salty, is perfectly applicable. Children of four years readily lend themselves to such games, which serve as a reason for showing them how to rinse their mouths perfectly. The children enjoy recognising various flavours, and learn, after each test, to fill a glass with tepid water, and carefully rinse their mouths. In this way the exercise for the sense of taste is also an exercise in hygiene.[2]

V. Education of the Sense of Smell

Didactic Material

a. Flower

b. Various food odors

The olfactory sense in children is not developed to any great extent, and this makes it difficult to attract their attention by means of this sense. We have made use of one test which has not been repeated often enough to form the basis of a method. We have the

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[1] Ibid., p. 188.

[2] Ibid., p. 191.

child smell fresh violets, and jessamine flowers. We then blindfold him, saying, "Now we are going to present you with flowers." A little friend then holds a bunch of violets under the child's nose, that he may guess the name of the flower. For greater or less intensity, we present fewer flowers, or even one single blossom.

But this part of education, like that of the sense of tastes, can be obtained by the child during the luncheon hour;--when he can learn to recognize various odours.[1]

VI. Education of the Sense of Vision

a. Dimension

Didactic Material

1. Solid Insets: Three solid blocks of wood. Each is 55 centimeters long, 8 centimeters wide and 5 centimeters high. Each series contains ten cylinders. These are to be handled by means of wooden or brass button fixed in center of the top.

In the first set of the series, the cylinders are all of equal height (55 millimetres) but differ in diameter. The smallest cylinder has a diameter of 1 centimetre, and the others increase in diameter at the rate of 1 centimetre. In the second set, the cylinders are all of equal diameter, corresponding to half the diameter of the largest cylinder in the preceding series -- (27 millimetres). The cylinders in this set differ in height, the first being merely a little disk only a centimetre high, the others increase 5 millimetres each, the tenth one being 55 millimetres high. In the third set, the cylinders differ both in height

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[1] Ibid., p. 190

and diameter, the first being 1 centimetre high and 1 centimetre in diameter and each succeeding one increasing 1 centimetre in height and diameter. With these insets, the child, working by himself, learns to differentiate objects according to thickness, according to height, and according to size.[1]

2. The Tower: Three sets of blocks (large pieces)

(a) Thickness: objects that vary from thick to thin. Ten quadrilateral brown prisms, of equal length.

A child mixes them, scattering them over the little carpet, and then puts them in order, placing one against the other according to the variations of thickness, observing that the ends still correspond exactly. Then the blocks, from the first to the last, form a species of stair, the steps of which grow [illegible] to. [illegible] with the thickest [illegible] the largest. The control of the exercise is not certain, as it is in the solid [illegible] result. There, the large cylinders could not enter the small openings, the taller ones would not remain up on the top of the block, etc. In this way of the thin stair, the child [illegible] mistakes in order, since if the steps, the stair is irregular, that is, there will be a thick step, before which the step which should have ascended, decreases.[2]

3. The Broad Stair

(a) Length: Ten four-sided rods -- each side being 2 centimeters.

The first rod is 1 metre long, and the last 2 decimetres. The intervening rods decrease, from first to last, 1 decimetre each.

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[1] Ibid., p. 14.
[2] Ibid., p. 18

Each space of 1 decimetre is painted alternately red or blue. The rods, when placed close to each other, must be so arranged that the colours correspond, forming so many transverse strips -- the whole set when arranged has the appearance of a rectangular triangle made up of organ pipes, which decrease on the side of the hypotenuse.

The child arranges the rods which have first been scattered and mixed. He puts them together according to the graduation of length, and observes the correspondence of colours. This exercise also offers a very evident control of error, for the regularity of the decreasing length of the stairs along the hypotenuse will be altered if the rods are not properly placed. This, too, will be easily observed by the child.

This most important set of blocks will have its principal application in arithmetic, . . .[1]

4. The Long Stair

(a) Size: Ten rose-colored wooden cubes.

The largest cube has a base of 10 centimetres, the smallest, of 1 centimetre, the intervening ones decrease 1 centimetre each. A little green cloth carpet goes with these blocks. This may be of oilcloth of cardboard. The game consists of building the cubes up, one upon another, in the order of their dimensions, constructing a little tower of which the largest cube forms the base and the smallest the apex. The carpet is placed on the floor, and the cubes are scattered upon it. As the tower is built upon the carpet, the child goes through the exercise of kneeling, rising, etc. The control is given by the irregularity of the tower as it decreases toward the apex. A cube misplaced reveals itself, because it breaks the line. The most common error made by the children in playing with these blocks at first, is that of placing the second cube as the base and placing

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[1] Ibid., p. 193

the first one upon it, thus confusing the two largest blocks. I have noted that the same error was made by deficient children in the repeated trials I made with the tests of Dr Benetis. At the question, "Which is the largest?" the child would take, not the largest, but that nearest it in size.

Any of these three sets of blocks may be used by the children in a slightly different game. The pieces may be mixed upon a carpet or table, and then put in order upon another table at some distance. As he carries each piece, the child must walk without letting his attention wander, since he must remember the dimensions of the piece for which he is to look among the mixed blocks.

The games played in this way are excellent for children of four or five years: while the simple work of arranging the pieces in order upon the same carpet where they have been mixed is more adapted to the little ones between three and four years of age. The construction of the tower with the nine cubes is very attractive to little ones of less than three years, who knock it down and build it up time after time.[1]

b. Form and visual - tactile - muscular perception

Didactic material

1. Plane geometric insets of wood containing:

(a) Six triangles

(b) Six polygons

(c) Six circles diminishing in size

(d) Six quadrilaterals containing one square and five rectangles

(e) Four plane wooden squares and two frames (contain a rhomboid and a

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[1] Ibid., pp. 114-18

trapezoid)

The idea of these insets goes back to Itard and was also applied by Seguin. . . . The game consisted in placing in these openings the corresponding wooden figures which, in order that they might be easily handled, were furnished with a little brass knob. . . . In many later experiments with normal children, I have, after many trials, completely excluded the plane geometric insets as an aid to the teaching of colour, since this material offers no control of errors, the child's task being that of covering the forms before him.

I have kept the geometric insets, but have given them a new and original aspect. The form in which they are now made was suggested to me by a visit to the splendid manual training school in the Reformatory of St. Isabel in Rome. I saw there wooden models of geometric figures, which could be set into corresponding frames or placed above corresponding forms. The scope of these materials was to lead to exactness in the making of the geometric pieces in regard to control of dimension and form: the frame furnishing the control necessary for the exactness of the work.

This led me to think of making modifications in my geometric insets, making use of the frame as well as of the inset. I therefore made a rectangular tray, which measured 30 x 25 centimetres. This tray was painted a dark blue and was surrounded by a dark frame. It was furnished with a cover so arranged that it would contain six of the square frames with their insets. The advantage of this tray is that the forms may be changed, thus allowing us to present any combination we choose. I have a number of blank wooden squares which make it possible to present as few as two or three geometric forms at a time, the other spaces being filled in by blanks. To this material I have added a set of white cards, 10 centimetres square. These cards form a series presenting the geometric forms in other aspects. In the first of the series, the form is cut from blue paper and mounted upon the card. In the second

box of cards, the contour of the same figures is mounted in the same blue paper, forming an outline one centimetre in width. On the third set of cards the contour of the geometric form is outlined by a black line. We have then the tray, the collection of small frames with their corresponding insets, and the set of the cards in three series.

I also designed a case containing six trays. The front of this box may be lowered when the top is raised and the trays may be drawn out as one opens the drawers of a desk. Each drawer contains six of the small frames, one containing a rhomboid, and the other a trapezoid. In the second, I have a series of one square, and five rectangles of the same length, but varying in width. The third drawer contains six circles which diminish in diameter. In the fourth are six triangles; in the fifth, five polygons from a pentagon to a decagon. The sixth drawer contains six curved figures (an ellipse, an ovoid, etc., and a flower-like figure formed by four crossed arcs) . . . .

This exercise consists in presenting to the child the large frame or tray in which we may arrange the figures as we wish to present them. We proceed to take out the insets, mix them upon the table, and then invite the child to put them back in place. This game may be played by even the younger children and holds the attention for a long period, though not for so long a time as the exercise with the cylinders. Indeed, I have never seen a child repeat this exercise more than five or six times. The child, in fact, expends much energy upon this exercise. He must recognise the form and must look at it carefully.[1]

2. Plane Geometric forms

(a) Cards upon which are drawn in black, narrow outlines of the same figure.

(b) Cards containing blue patterns, the size of the inset found in "1".

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[1] Ibid., pp. 145-47.

c. Education of the Chromatic Sense

Didactic Material

1. Pieces of bright-colored stuffs

2. Balls covered with wool of different colors

3. Small flat tablets, wound with colored wool or silk.

4. Two boxes of eight compartments each, containing 64 color tablets. These are of red, green blue, orange, violet, black, brown and orange, presented in a series of eight shades and tints.

For the earliest of these exercises, we select three strong colours: for example, red, blue, and yellow in pairs. These six tablets we place upon the table before the child. Showing him one of the colours, we ask him to find its duplicate among the pairs placed upon the table. In this way, we have him arrange colour-tablets in a column, two by two, pairing them according to colour.

The number of tablets in this game may be increased until the eight colours, or sixteen, are given at once. When the strongest tones have been presented, we may proceed to the presentation of lighter tones, in the same way. Finally, we present two or three tablets of the same colour, but of different tone, showing the child how to arrange these in order of gradation. In this way, the eight gradations are finally presented.[1]

III. Education of the Baric Sense (Weight)

Didactic Material

a. Little wooden tablets of wisteria, walnut

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[1] Ibid., pp. 241-2.

and pine; six by eight centimeters; ½ centimeter thick.

b. Weight of tablets; 24, 18 and 12 grammes.

These tablets should be very smooth; if possible, varnished in such a way that every roughness shall be eliminated, but so that the natural color of the wood shall remain. The child, observing the colour, knows that they are of differing weights, and this offers a means of controlling the exercise. He takes two of the tablets in his hands, letting them rest upon the palm at the base of his outstretched hand. Then he moves his hands up and down in order to gauge the weight. This movement should come to be, little by little, almost insensible. We leave the child to make his distinction purely through the difference in weight. Leaving out the guide of the different colours, and closing his eyes. He learns to do this of himself, and takes great interest in "guessing."[1]

VIII. Education for the Discrimination of Sounds (Hearing)

Didactic material

a. Thirteen bells, hung on a wooden frame.

The set consists of a double series of thirteen bells and there are four hammers. Having struck one of the bells in the first series, the child must find the corresponding sound in the second. This exercise presents great difficulty, as the child does not know how to strike each time with the same force, and therefore produces sounds which vary in intensity. Even when the teacher strikes the bells, the children have difficulty in distinguishing between sounds. So we do not feel that this instrument in its present form is entirely practical.[2]

b. Pizzoli's series of little whistles.

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[1] Ibid., p. 137.
[2] Ibid., p. 204.

c. For gradation of noises -- small boxes filled with different substances (sand or pebbles). The noises are produced by shaking boxes.

d. Voice

In the lessons for the sense of hearing I proceed as follows: I have the teachers establish silence in the usual way and then I continue the work, making the silence more profound. I say, "St! St!" in a series of modulations, now sharp and short, now prolonged and light as a whisper. The children, little by little, become fascinated by this. Occasionally I say, "More silent still -- more silent." I then begin the sibilant St! St! again, making it always lighter and repeating "More silent still," in a barely audible voice. Then I say still in a low whisper, "Now, I hear the clock, now I can hear the buzzing of a fly's wings, now I can hear the whisper of the trees in the garden."[1]

IV. Musical Education

Didactic Material

a. Drums and bells

b. Whistles varying in volume and pitch

c. Stringed instruments.

d. Voice

e. Silence and whisper tests of accurate hearing.

For the musical education we must create instruments as well as music. The scope of such an instrument in addition to the discrimination of sounds, is to awaken a sense of rhythm, and, so to speak, to give the impulse toward calm and coordinate movements to those muscles already vibrating in the tense and tranquillity of immobility.

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[1]Ibid., p. 205.

> I believe that stringed instruments (perhaps some very much simplified harp) would be the most convenient. The stringed instruments together with the drum and the bells form the trio of the classic instruments of humanity. The harp is the instrument of "the intimate life of the individual." Leonard places it in the hands of Orpheus, folk-lore puts it into fairy hands, and romance gives it to the princess who conquers the heart of a wicked prince.[1]

V. Method and Didactic Material used for Developing Writing

a. First Period: Exercises to develop the muscular mechanism in holding and using the pen or pencil

Didactic Material:

1. Metal insets
2. Colored pencils
3. Outline drawings.
4. Small wooden tables

Method

The child takes the metal insets and their frames and uses them in the following way: He takes the metal frame, places it upon a sheet of white paper, and with a colored pencil draws around the empty center. When the frame is taken away the child sees the figure in outline. He then places the inset over the figure he has drawn and follows the same of this inset with a different

[1] Ibid., pp. 206-07.

colored pencil. Next the child fills in the figure. This is done until many designs have been made.

. . . there is revealed to us a duplicate form of progression:

First. Little by little, the lines tend less and less to go outside the enclosing line until, at last, they are perfectly contained within it, and both the centre and the frame are filled with close and uniform strokes.

Second. The strokes with which the child fills in the figures, from being at first short and confused, become gradually longer, and more nearly parallel, until in many cases the figures are filled in by means of perfectly regular up and down strokes, extending from one side of the figure to the other. In such a case, it is evident that the child is master of the pencil. The muscular mechanism, necessary to the management of the instrument of writing, is established.[1]

b. Second Period: exercises to establish the visual-muscular image of the alphabetical signs and the muscular memory of the movements necessary to writing.

Didactic Material

Cards on which single letters of the alphabet are mounted in sandpaper.

The cards upon which the sandpaper letters are mounted are adapted in size and shape to each letter. The vowels are in light-coloured sandpaper and are mounted upon dark cards, the consonants and the groups of letters are in black sandpaper mounted upon white cards. The grouping is so arranged as to call attention to contrasted, or analogous forms.[2]

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[1] Ibid., pp. 273-74.
[2] Ibid., p. 275.

'ethod

1. 'rst Step: ssociation of the visual, muscular and tactile impressions with letter sounds are made.

The directress presents to the child two of the cards upon which vowels are mounted (or two of the consonants, as the case may be). Let us suppose that we present the letters i and o, saying, "This is i! This is o!" As soon as we have given the sound of the letter, we have the child trace it, taking care to show him how to trace it, and if necessary guiding the index finger of his right hand over the sandpaper letter in the sense of writing.[1]

The child then traces as he is shown the direction of movement by which the sound is formed. With closed eyes, the child later traces.

2. Second Step

Perception. The child should know how to compare and to recognise the figures, when he hears the sounds corresponding to them.

The directress asks the child, for example, "Give me o! -- Give me i!" If the child does not recognise the letters by looking at them, she invites him to trace them, but if he still does not recognise them, the lesson is ended, and may be resumed another day. I have already spoken of the necessity of not heralding the error, and of not insisting in the teaching when the child does not respond readily.[2]

3. Third Step

Language. Blowing the letters to lie

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[1] Ibid., p. 272.
[2] Ibid., p. 277.

> for some inserts upon the table, the directress asks the child, "What is this?" and he should respond; o, i.
>
> In order that the consonants, the directress pronounces only the sound, and as soon as she has done so unites with it a vowel, pronouncing the syllable thus formed and alternating this little exercise by the use of different vowels. She must always be careful to emphasize the sound of the consonant, repeating it by itself, as, for example, m,m,m, m, me, mi, m,m. When the child repeats the sound he isolates it, and then accompanies it with the vowel.[1]

c. Third Period: Exercises for composition of words

Didactic material

Alphabets

The process is carried out by means of the use of letters cut out and classified in distinct sections of a box the child arranges on a table, the letters which constitute familiar words.

This process is as follows: The child selects his letters from the box. He then arranges these letters in succession to represent a word. He puts the letters in their places in the box, guided by the size of the compartments and by the letters which are also placed there. In this exercise a quick-recognition of letter combinations.

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[1] Ibid., p. 277.

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