DR. MONTESSORI GIVING A LESSON IN TOUCHING GEOMETRICAL INSETS

THE

MONTESSORI METHOD

SCIENTIFIC PEDAGOGY AS APPLIED TO CHILD EDUCATION IN "THE CHILDREN'S HOUSES" WITH ADDITIONS AND REVISIONS BY THE AUTHOR

BY

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I place at the beginning of this volume, now appearing in the United States, her fatherland, the dear name of

ALICE HALLGARTEN

of New York, who by her marriage to Baron Leopold Franchetti became by choice our compatriot.

Ever a firm believer in the principles underlying the Case dei Bambini, she, with her husband, forwarded the publication of this book in Italy, and, throughout the last years of her short life, greatly desired the English translation which should introduce to the land of her birth the work so near her heart.

To her memory I dedicate this book, whose pages, like an ever-living flower, perpetuate the recollection of her beneficence.

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"Introduction." by Henry W. Holmes
From: *The Montessori Method* (1912)
[http://digital.library.upenn.edu/women/montessori/method/method.html] by Maria Montessori, translated by Anne Everett George. New York: Frederick A. Stokes Company, 1912.

INTRODUCTION

AN audience already thoroughly interested awaits this translation of a remarkable book. For years no educational document has been so eagerly expected by so large a public, and not many have better merited general anticipation. That this widespread interest exists is due to the enthusiastic and ingenious articles in *McClure's Magazine* for May and December, 1911, and January, 1912; but before the first of these articles appeared a number of English and American teachers had given careful study to Dr. Montessori's work, and had found it novel and important. The astonishing welcome accorded to the first popular expositions of the Montessori system may mean much or little for its future in England and America; it is rather the earlier approval of a few trained teachers and professional students that commends it to the educational workers who must ultimately decide upon its value, interpret its technicalities to the

country at large, and adapt it to English and American conditions. To them as well as to the general public this brief critical Introduction is addressed.

It is wholly within the bounds of safe judgment to call Dr. Montessori's work remarkable, novel, and important. It is remarkable, if for no other reason, because it represents the constructive effort of a woman. We have no other example of an educational system–original at least in its systematic wholeness and in its practical application–worked out and inaugurated by the feminine mind and hand. It is remarkable, also, because it springs from a combination of womanly sympathy and intuition, broad social outlook, scientific training, intensive and long-continued study of educational problems, and, to crown all, varied and unusual experience as a teacher and educational leader. No other woman who has dealt with Dr. Montessori's problem–the education of young children–has brought to it personal resources so richly diverse as hers. These resources, furthermore, she has devoted to her work with an enthusiasm, an absolute abandon, like that of Pestalozzi and Froebel, and she presents her convictions with an apostolic ardour which commands attention. A system which embodies such a capital of human effort could not be unimportant. Then, too, certain aspects of the system are in themselves striking and significant: it adapts to the education of normal children methods and apparatus originally used for deficients; it is based on a radical conception of liberty for the pupil; it entails a highly formal training of separate sensory, motor, and mental capacities; and it leads to rapid, easy, and substantial mastery of the elements of reading, writing, and arithmetic. All this will be apparent to the most casual reader of this book.

None of these things, to be sure, is absolutely new in the educational world. All have been proposed in theory; some have been put more or less completely into practice. It is not unjust, for instance, to point out that much of the material used by Dr. Walter S. Fernald, Superintendent of the Massachusetts Institution for the Feeble-Minded at Waverly, is almost identical with the Montessori material, and that Dr. Fernald has long maintained that it could be used to good effect in the education of normal children. (It may interest American readers to know that Séguin, on whose work that of Dr. Montessori is based, was once head of the school at Waverly.) So, too, formal training in various psycho-physical processes has been much urged of late by a good many workers in experimental pedagogy, especially by Meumann. But before Montessori, no one had produced a system in which the elements named above were combined. She conceived it, elaborated it in practice, and established it in schools. It is indeed the final result, as Dr. Montessori proudly asserts, of years of experimental effort both on her own part and on the part of her great predecessors; but the crystallisation of these experiments in a programme of education for normal children is due to Dr. Montessori alone. The incidental features which she has frankly taken over from other modern educators she has chosen because they fit into the fundamental form of her own scheme, and she has unified them all in her general conception of method. The system is not original in the sense in which Froebel's system was original; but as a system it is the novel product of a single woman's creative genius.

As such, no student of elementary education ought to ignore it. The system doubtless fails to solve all the problems in the education of young children; possibly some of the solutions it proposes are partly or completely mistaken; some are probably unavailable in English and American schools; but a system of education does not have

to attain perfection in order to merit study, investigation, and experimental use. Dr. Montessori is too large-minded to claim infallibility, and too thoroughly scientific in her attitude to object to careful scrutiny of her scheme and the thorough testing of its results. She expressly states that it is not yet complete. Practically, it is highly probable that the system ultimately adopted in our schools will combine elements of the Montessori programme with elements of the kindergarten programme, both "liberal" and "conservative." In its actual procedure school work must always be thus eclectic. An all-or-nothing policy for a single system inevitably courts defeat; for the public is not interested in systems as systems, and refuses in the end to believe that any one system contains every good thing. Nor can we doubt that this attitude is essentially sound. If we continue, despite the pragmatists, to believe in absolute principles, we may yet remain skeptical about the logic of their reduction to practice–at least in any fixed programme of education. We are not yet justified, at any rate, in adopting one programme to the exclusion of every other simply because it is based on the most intelligible or the most inspiring philosophy. The pragmatic test must also be applied, and rigorously. We must try out several combinations, watch and record the results, compare them, and proceed cautiously to new experiments. This procedure is desirable for every stage and grade of education, but especially for the earliest stage, because there it has been least attempted and is most difficult. Certainly a system so radical, so clearly defined, and so well developed as that of Dr. Montessori offers for the thoroughgoing comparative study of methods in early education new material of exceptional importance. Without accepting every detail of the system, without even accepting unqualifiedly its fundamental principles, one may welcome it, thus, as of great and immediate value. If early education is worth studying at all, the educator who devotes his attention to it will find it necessary to define the differences in principle between the Montessori programme and other programmes, and to carry out careful tests of the results obtainable from the various systems and their feasible combinations. One such combination this Introduction will suggest, and it will discuss also the possible uses of the Montessori apparatus in the home; but it may be helpful first to present the outstanding characteristics of the Montessori system as compared with the modern kindergarten in its two main forms.

Certain similarities in principle are soon apparent. Dr. Montessori's views of childhood are in some respects identical with those of Froebel, although in general decidedly more radical. Both defend the child's right to be active, to explore his environment and develop his own inner resources through every form of investigation and creative effort. Education is to guide activity, not repress it. Environment cannot create human power, but only give it scope and material, direct it, or at most but call it forth; and the teacher's task is first to nourish and assist, to watch, encourage, guide, induce, rather than to interfere, prescribe, or restrict. To most American teachers and to all kindergartners this principle has long been familiar; they will but welcome now a new and eloquent statement of it from a modern viewpoint. In the practical interpretation of the principle, however, there is decided divergence between the Montessori school and the kindergarten. The Montessori "directress" does not teach children in groups, with the practical requirement, no matter how well "mediated," that each member of the group shall join in the exercise. The Montessori pupil does about as he pleases, so long as he does not do any harm.

Montessori and Froebel stand in agreement also on the need for training of the senses; but Montessori's scheme for this training is at once more elaborate and more direct

than Froebel's. She has devised out of Séguin's apparatus a comprehensive and scientific scheme for formal gymnastic of the senses; Froebel originated a series of objects designed for a much broader and more creative use by the children, but by no means so closely adapted to the training of sensory discrimination. The Montessori material carries out the fundamental principle of Pestalozzi, which he tried in vain to embody in a successful system of his own: it "develops piece by piece the pupil's mental capacities" by training separately, through repeated exercises, his several senses and his ability to distinguish, compare, and handle typical objects. In the kindergarten system, and particularly in the "liberal" modifications of it, sense training is incidental to constructive and imaginative activity in which the children are pursuing larger ends than the mere arrangement of forms or colours. Even in the most formal work in kindergarten design the children are "making a picture," and are encouraged to tell what it looks like–"a star," "a kite," "a flower."

As to physical education, the two systems agree in much the same way: both affirm the need for free bodily activity, for rhythmic exercises, and for the development of muscular control; but whereas the kindergarten seeks much of all this through group games with an imaginative or social content, the Montessori scheme places the emphasis on special exercises designed to give formal training in separate physical functions.

In another general aspect, however, the agreement between the two systems, strong in principle, leaves the Montessori system less formal rather than more formal in practice. The principle in this case consists of the affirmation of the child's need for social training. In the conservative kindergarten this training is sought once more, largely in group games. These are usually imaginative, and sometimes decidedly symbolic: that is, the children play at being farmers, millers, shoemakers, mothers and fathers, birds, animals, knights, or soldiers; they sing songs, go through certain semi-dramatic activities–such as "opening the pigeon house," "mowing the grass," "showing the good child to the knights," and the like; and each takes his part in the representation of some typical social situation. The social training involved in these games is formal only in the sense that the children are not engaged, as the Montessori children often are, in a real social enterprise, such as that of serving dinner, cleaning the room, caring for animals, building a toy house, or making a garden. It cannot be too strongly emphasized that even the most conservative kindergarten does not, on principle, exclude "real" enterprises of this latter sort; but in a three-hour session it does rather little with them. Liberal kindergartners do more, particularly in Europe, where the session is often longer. Nor does the Montessori system wholly exclude imaginative group games. But Dr. Montessori, despite an evidently profound interest not only in social training, but also in aesthetic, idealistic, and even religious development, speaks of "games and foolish stories" in a casual and derogatory way, which shows that she is as yet unfamiliar with the American kindergartner's remarkable skill and power in the use of these resources. (Of course the American kindergartner does not use "foolish" stories; but stories she does use, and to good effect.) The Montessori programme involves much direct social experience, both in the general life of the school and in the manual work done by the pupils; the kindergarten extends the range of the child's social consciousness through the imagination. The groupings of the Montessori children are largely free and unregulated; the groupings of kindergarten children are more often formal and prescribed.

On one point the Montessori system agrees with the conservative kindergarten, but not with the liberal: it prepares directly for the mastery of the school arts. There can be no doubt that Dr. Montessori has devised a peculiarly successful scheme for teaching children to write, an effective method for the introduction of reading, and good material for early number work. Both types of kindergarten increase, to be sure, the child's general capacity for expression: kindergarten activity adds to his stock of ideas, awakens and guides his imagination, increases his vocabulary, and trains him in the effective use of it. Children in a good kindergarten hear stories and tell them, recount their own experiences, sing songs, and recite verses, all in a company of friendly but fairly critical listeners, which does even more to stimulate and guide expression than does the circle at home. But even the conservative kindergarten does not teach children to write and to read. It does teach them a good deal about number; and it may fairly be questioned whether it does not do more fundamental work in this field than the Montessori system itself. The Froebelian gifts offer exceptional opportunity for concrete illustration of the conceptions of *whole* and *part*, through the creation of wholes from parts, and the breaking up of wholes into parts. This aspect of number is at least as important as the series aspect, which children get in counting and for which the Montessori "Long Stair" provides such good material. The Froebelian material may be used very readily for counting, however, and the Montessori material gives some slight opportunity for uniting and dividing. So far as preparation for arithmetic is concerned, a combination of the two bodies of material is both feasible and desirable. The liberal kindergarten, meanwhile, abandoning the use of the gifts and occupations for mathematical purposes, makes no attempt to prepare its pupils directly for the school arts.

Compared with the kindergarten, then, the Montessori system presents these main points of interest: it carries out far more radically the principle of unrestricted liberty; its materials are intended for the direct and formal training of the senses; it includes apparatus designed to aid in the purely physical development of the children; its social training is carried out mainly by means of present and actual social activities; and it affords direct preparation for the school arts. The kindergarten, on the other hand, involves a certain amount of group-teaching, in which children are held–not necessarily by the enforcement of authority, yet by authority, confessedly, when other means fail–to definite activities; its materials are intended primarily for creative use by the children and offer opportunity for mathematical analysis and the teaching of design; and its procedure is rich in resources for the imagination. One thing should be made entirely clear and emphatic: in none of these characteristics are the two systems rigidly antagonistic. Much kindergarten activity is free, and the principle of prescription is not wholly given over by the "Houses of Childhood"–witness their *Rules and Regulations*; the kindergarten involves direct sense training, and the Montessori system admits some of the Froebel blocks for building and design; there are many purely muscular activities in the kindergarten, and some of the usual kindergarten games are used by Montessori; the kindergarten conducts some gardening, care of animals, construction-work, and domestic business, and the Montessori system admits a few imaginative social plays; both systems (but not the liberal form of the kindergarten) work directly toward the school arts. Since the difference between the two programmes is one of arrangement, emphasis, and degree, there is no fundamental reason why a combination especially adapted to English and American schools cannot be worked out.

The broad contrast between a Montessori school and a kindergarten appears on actual observation to be this: whereas the Montessori children spend almost all their time handling *things*, largely according to their individual inclination and under individual guidance, kindergarten children are generally engaged in group work and games with an imaginative background and appeal. A possible principle of adjustment between the two systems might be stated thus: work with objects designed for formal sensory, motor, and intellectual training should be done individually or in purely voluntary groups; imaginative and social activity should be carried on in regulated groups. This principle is suggested only as a possible basis for education during the kindergarten age; for as children grow older they must be taught in classes, and they naturally learn how to carry out imaginative and social enterprises in free groups, and the former often alone. Nor should it be supposed that the principle is suggested as a rule to which there can be no exception. It is suggested simply as a general working hypothesis, the value of which must be tested in experience. Although it has long been observed by kindergartners themselves that group-work with the Froebelian materials, especially such work as involves geometrical analysis and formal design, soon tires the children, it has been held that the kindergartner could safeguard her pupils from loss of interest or real fatigue by watching carefully for the first signs of weariness and stopping the work promptly on their appearance. For small groups of the older children, who can do work of this sort with ease and enjoyment, no doubt the inevitable restraint of group teaching is a negligible factor, the fatiguing effects of which any good kindergartner can forestall. But for younger children a régime of complete freedom would seem to promise better results–at least so far as work with objects is concerned. In games, on the other hand, group teaching means very little restraint and the whole process is less tiring any way. To differentiate in method between these two kinds of activity may be the best way to keep them both in an effective educational programme.

To speak of an effective educational programme leads at once, however, to an important aspect of the Montessori system, quite aside from its relation to the kindergarten, with which this Introduction must now deal. This is the social aspect, which finds its explanation in Dr. Montessori's own story of her first school. In any discussion of the availability of the Montessori system in English and American schools–particularly in American public schools and English "Board" schools–two general conditions under which Dr. Montessori did her early work in Rome should be borne in mind. She had her pupils almost all day long, practically controlling their lives in their waking hours; and her pupils came for the most part from families of the laboring class. We cannot expect to achieve the results Dr. Montessori has achieved if we have our pupils under our guidance only two or three hours in the morning, nor can we expect exactly similar results from children whose heredity and experience make them at once more sensitive, more active, and less amenable to suggestion than hers. If we are to make practical application of the Montessori scheme we must not neglect to consider the modifications of it which differing social conditions may render necessary.

The conditions under which Dr. Montessori started her original school in Rome do not, indeed, lack counterpart in large cities the world over. When one reads her eloquent "Inaugural Address" it is impossible not to wish that a "School within the Home" might stand as a centre of hopeful child life in the midst of every close-built city block. Better, of course, if there were no hive-like city tenements at all, and if

every family could give to its own children on its own premises enough of "happy play in grassy places." Better if every mother and father were in certain ways an expert in child psychology and hygiene. But while so many unfortunate thousands still live in the hateful cliff-dwellings of our modern cities, we must welcome Dr. Montessori's large conception of the social function of her "Houses of Childhood" as a new gospel for the schools which serve the city poor. No matter what didactic apparatus such schools may use, they should learn of Dr. Montessori the need of longer hours, completer care of the children, closer co-operation with the home, and larger aims. In such schools, too, it is probable that the two fundamental features of Dr. Montessori's work–her principle of liberty and her scheme for sense training–will find their completest and most fruitful application.

It is just these fundamental features, however, which will be most bitterly attacked whenever the social status of the original *Casa dei Bambini* is forgotten. Anthropometric measurements, baths, training in personal self-care, the serving of meals, gardening, and the care of animals we may hear sweepingly recommended for all schools, even for those with a three-hour session and a socially favored class of pupils; but the need for individual liberty and for the training of the senses will be denied even in the work of schools where the conditions correspond closely to those at San Lorenzo. Of course no practical educator will actually propose bathtubs for all schools, and no doubt there will be plenty of wise conversation about transferring to a given school any function now well discharged by the homes that support it. The problems raised by the proposal to apply in all schools the Montessori conception of discipline and the Montessori sense-training are really more difficult to solve. Is individual liberty a universal educational principle, or a principle which must be modified in the case of a school with no such social status as that of the original "House of Childhood"? Do all children need sense training, or only those of unfavorable inheritance and home environment? No serious discussion of the Montessori system can avoid these questions. What is said in answer to them here is written in the hope that subsequent discussion may be somewhat influenced to keep in view the really deciding factor in each case–the actual situation in the school.

There is occasion enough in these questions, to be sure, for philosophical and scientific argument. The first question involves an ethical issue, the second a psychological issue, and both may be followed through to purely metaphysical issues. Dr. Montessori believes in liberty for the pupil because she thinks of life "as a superb goddess, ever advancing to new conquests." Submission, loyalty, self-sacrifice seem to her, apparently, only incidental necessities of life, not essential elements of its eternal form. There is obvious opportunity here for profound difference of philosophic theory and belief. She seems to hold, too, that sense perception forms the sole basis for the mental and hence for the moral life; that "sense training will prepare the ordered foundation upon which the child may build up a clear and strong mentality," including, apparently, his moral ideas; and that the cultivation of purpose and of the imaginative and creative capacities of children is far less important than the development of the power to learn from the environment by means of the senses. These views seem to agree rather closely with those of Herbart and to some extent with those of Locke. Certainly they offer material for both psychological and ethical debate. Possibly, however, Dr. Montessori would not accept the views here ascribed to her on the evidence of this book; and in any case these are matters for the philosopher and the psychologist. A pedagogical issue is never wholly an issue of high principle.

Can it reasonably be maintained, then, that an actual situation like that in the first "House of Childhood" at Rome is the only situation in which the Montessori principle of liberty can justifiably find full application? Evidently the Roman school is a true Republic of Childhood, in which nothing need take precedence of the child's claim to pursue an active purpose of his own. Social restraints are here reduced to a minimum; the children must, to be sure, subordinate individual caprice to the demands of the common good, they are not allowed to quarrel or to interfere with each other, and they have duties to perform at stated times; but each child is a citizen in a community governed wholly in the interests of the equally privileged members thereof, his liberty is rarely interfered with, he is free to carry out his own purposes, and he has as much influence in the affairs of the commonwealth as the average member of an adult democracy. This situation is never duplicated in the home, for a child is not only a member of the family, whose interests are to be considered with the rest, but literally a subordinate member, whose interests must often be frankly set aside for those of an adult member or for those of the household itself. Children must come to dinner at dinner time, even if continued digging in the sand would be more to their liking or better for their general development of muscle, mind, or will. It is possible, of course, to refine on the theory of the child's membership in the family community and of the right of elders to command, but practically it remains true that the common conditions of family life prohibit any such freedom as is exercised in a Montessori school. In the same way a school of large enrollment that elects to cover in a given time so much work that individual initiative cannot be trusted to compass it, is forced to teach certain things at nine o'clock and others at ten, and to teach in groups; and the individual whose life is thus cabined and confined must get what he can. For a given school the obvious question is, Considering the work to be done in the time allowed, can we give up the safeguards of a fixed programme and group teaching? The deeper question lies here: Is the work to be done in itself so important that it is worth while to have the children go through it under compulsion or on interest induced by the teacher? Or to put it another way: May not the work be so much less important than the child's freedom that we had better trust to native curiosity and cleverly devised materials anyway and run the risk of his losing part of the work, or even the whole of it?

For schools beyond the primary grade there will be no doubt as to the answer to this question. There are many ways in which school work may safely be kept from being the deadening and depressing process it so often is, but the giving up of all fixed and limited schedules and the prescriptions of class teaching is not one of them. Even if complete liberty of individual action were possible in schools of higher grade, it is not certain that it would be desirable: for we must learn to take up many of our purposes in life under social imperative. But with young children the question becomes more difficult. What work do we wish to make sure that each child does? If our schools can keep but half a day, is there time enough for every child to cover this work without group teaching at stated times? Is the prescription and restraint involved in such group teaching really enough to do the children any harm or to make our teaching less effective? Can we not give up prescription altogether for parts of the work and minimise it for others? The general question of individual liberty is thus reduced to a series of practical problems of adjustment. It is no longer a question of total liberty or no liberty at all, but a question of the practical mediation of these extremes. When we consider, furthermore, that the teacher's skill and the attractiveness of her personality, the alluring power of the didactic apparatus and the ease with which it enables

children to learn, to say nothing of a cheerful and pleasant room and the absence of set desks and seat, may all work together to prevent scheduled teaching in groups from becoming in the least an occasion for restraint, it is plain that in any given school there may be ample justification for abating the rigour of Dr. Montessori's principle of freedom. Every school must work out its own solution of the problem in the face of its particular conditions.

The adoption of sense-training would seem to be much less a matter for variable decision. Some children may need less than others, but for all children between the ages of three and five the Montessori material will prove fascinating as well as profitable. A good deal of modern educational theory has been based on the belief that children are interested only in what has social value, social content, or "real use"; yet a day with any normal child will give ample evidence of the delight that children take in purely formal exercises. The sheer fascination of tucking cards under the edge of a rug will keep a baby happy until any ordinary supply of cards is exhausted; and the wholly sensory appeal of throwing stones into the water gives satisfaction enough to absorb for a long time the attention of older children–to say nothing of grown-ups. The Montessori apparatus satisfies sense hunger when it is keen for new material, and it has besides a puzzle-interest which children eagerly respond to. Dr. Montessori subordinates the value of the concrete mental content her material supplies to its value in rendering the senses more acute; yet it is by no means certain that this content–purely formal as it is–does not also give the material much of its importance. Indeed, the refinement of sensory discrimination may not in itself be particularly valuable. What Professor G.M. Whipple says on this point in his *Manual of Mental and Physical Tests* (p. 130) has much weight:

> The use of sensory tests in correlation work is particularly interesting. In general, some writers are convinced that keen discrimination is a prerequisite to keen intelligence, while others are equally convinced that intelligence is essentially conditioned by "higher" processes, and only remotely by sensory capacity–barring, of course, such diminution of capacity as to interfere seriously with the experiencing of sensations, as in partial deafness or partial loss of vision. While it is scarcely the place here to discuss the evolutionary significance of discriminative sensitivity, it may be pointed out that the normal capacity is many times in excess of the actual demands of life, and that it is consequently difficult to understand why nature has been so prolific and generous; to understand, in other words, what is the sanction for the seemingly hypertrophied discriminative capacity of the human sense organs. The usual "theological explanations" of our sensory life fail to account for this discrepancy. Again, the very fact of the existence of this surplus capacity seems to negative at the outset the notion that sensory capacity can be a conditioning factor in intelligence–with the qualification already noted.

It is quite possible that the real pedagogical value of the Montessori apparatus is due to the fact that it keeps children happily engaged in the exercise of their senses and their fingers when they crave such exercise most and to the further fact that it teaches them without the least strain a good deal about forms and materials. These values are not likely to be much affected by differing school conditions.

In the use of the material for sense-training, English and American teachers may find profit in two general warnings. First, it should not be supposed that sense training alone will accomplish all that Dr. Montessori accomplishes through the whole range of her school activities. To fill up most of a morning with sense-training is to give it (except perhaps in the case of the youngest pupils) undue importance. It is not even certain that the general use of the senses will be much affected by it, to say nothing of the loss of opportunity for larger physical and social activity. Second, the isolation of the senses should be used with some care. To shut off sight is to take one step toward sleep, and the requirement that a child concentrate his attention, in this situation, on the sense perceptions he gets by other means than vision must not be maintained too long. No small strain is involved in mental action without the usual means of information and control.

The proposal, mentioned above, of a feasible combination of the Montessori system and the kindergarten may now be set forth. If it is put very briefly and without defense or prophecy, it is because it is made without dogmatism, simply in the hope that it will prove suggestive to some open-minded teacher who is willing to try out any scheme that promises well for her pupils. The conditions supposed are those of the ordinary American public-school kindergarten, with a two-year programme beginning with children three and a half or four years old, a kindergarten with not too many pupils, with a competent kindergartner and assistant kindergartner, and with some help from training-school students.

The first proposal is for the use of the Montessori material during the better part of the first year instead of the regular Froebelian material. To the use of the Montessori devices–including the gymnastic apparatus–some of the time now devoted to pictures and stories should also be applied. It is not suggested that no Froebelian material should be used, but that the two systems be woven into each other, with a gradual transition from the free, individual use of the Montessori objects to the same sort of use of the large sizes of the Froebelian gifts, especially the second, third and fourth. When the children seem to be ready for it, a certain amount of the more formal work with the gifts should be begun. In the second year the Froebelian gift work should predominate, without absolute exclusion of the Montessori exercises. In the latter part of the second year the Montessori exercises preparatory to writing should be introduced. Throughout the second year the full time for stories and picture work should be given to them, and in both years the morning circle and the games should be carried on as usual. The luncheon period should of course remain the same. One part of Dr. Montessori's programme the kindergartner and her assistant should use every effort to incorporate in their work–the valuable training in self-help and independent action afforded in the care of the materials and equipment by the children themselves. This need not be confined to the Montessori apparatus. Children who have been trained to take out, use, and put away the Montessori objects until they are ready for the far richer variety of material in the Froebelian system, should be able to care for it also. Of course if there are children who can return in the afternoon, it would be very interesting to attempt the gardening, which both Froebel and Montessori recommend, and the Montessori vase-work.

For the possible scorn of those to whom all compromise is distasteful, the author of this Introduction seeks but one compensation–that any kindergartner who may happen to adopt this suggestion will let him study the results.

As to the use of the Montessori system in the home, one or two remarks must suffice. In the first place, parents should not expect that the mere presence of the material in the nursery will be enough to work an educational miracle. A Montessori directress does no common "teaching", but she is called upon for very skillful and very tiring effort. She must watch, assist, inspire, suggest, guide, explain, correct, inhibit. She is supposed, in addition, to contribute by her work to the upbuilding of a new science of pedagogy; but her educational efforts–and education is not an investigative and experimental effort, but a practical and constructive one–are enough to exhaust all her time, strength and ingenuity. It will do no harm–except perhaps to the material itself–to have the Montessori material at hand in the home, but it must be used under proper guidance if it is to be educationally effective. And besides, it must not be forgotten that the material is by no means the most important feature of the Montessori programme. The best use of the Montessori system in the home will come through the reading of this book. If parents shall learn from Dr. Montessori something of the value of child life, of its need for activity, of its characteristic modes of expression, and of its possibilities, and shall apply this knowledge wisely, the work of the great Italian educator will be successful enough.

This Introduction cannot close without some discussion, however limited, of the important problems suggested by the Montessori method of teaching children to write and to read. We have in American schools admirable methods for the teaching of reading; by the Aldine method, for instance, children of fair ability read without difficulty ten or more readers in the first school year, and advance rapidly toward independent power. Our instruction in writing, however, has never been particularly noteworthy. We have been trying recently to teach children to write a flowing hand by the "arm movement", without much formation of separate letters by the fingers, and our results seem to prove that the effort with children before the age of ten is not worth while. Sensible school officers are content to let children in the first four grades write largely by drawing the letters, and there has been a fairly general conviction that writing is not in any case especially important before the age of eight or nine. In view of Dr. Montessori's success in teaching children of four and five to write with ease and skill, must we not revise our estimate of the value of writing and our procedure in teaching it? What changes may we profitably introduce in our teaching of reading?

Here again our theory and our practice have suffered from the headstrong advocacy of general principles. Because by clumsy methods children used to be kept at the task of learning the school arts to the undoubted detriment of their minds and bodies, certain writers have advocated the total exclusion of reading and writing from the early grades. Many parents refuse to send their children to school until they are eight, preferring to let them "run wild". This attitude is well justified by school conditions in some places; but where the schools are good, it ignores not only the obvious advantages of school life quite aside from instruction in written language, but also the almost complete absence from strain afforded by modern methods. Now that the Montessori system adds a new and promising method to our resources, it is the more unreasonable: for as a fact normal children are eager to read and write at six, and have plenty of use for these accomplishments.

This does not mean, however, that reading and writing are so important for young children that they should be unduly emphasised. If we can teach them without strain, let us do so, and the more effectively the better; but let us remember, as Dr.

Montessori does, that reading and writing should form but a subordinate part of the experience of a child and should minister in general to his other needs. With the best of methods the value of reading and writing before six is questionable. Our conscious life is bookish enough as it is, and it would seem on general grounds a safer policy to defer written language until the age of normal interest in it, and even then not to devote to it more time than an easy and gradual mastery demands.

Of the technical advantages of the Montessori scheme for writing there can be little doubt. The child gains ready control over his pencil through exercises which have their own simple but absorbing interest; and if he does not learn to write with an "arm movement", we may be quite content with his ability to draw a legible and handsome script. Then he learns the letters–their forms, their names, and how to make them–through exercises which have the very important technical characteristic of involving a *thorough sensory analysis* of the material to be mastered. Meumann has taught us of late the great value in all memory work of complete impression through prolonged and intensive analytical study. In the teaching of spelling, for instance, it is comparatively useless to devise schemes for remembering unless the original impressions are made strong and elaborate; and it is only by careful, varied, and detailed sense impression that such material as the alphabet can be thus impressed. So effective is the Montessori scheme for impressing the letters–especially because of its novel use of the sense of touch–that the children learn how to make the whole alphabet before the abstract and formal character of the material leads to any diminution of interest or enthusiasm. Their initial curiosity over the characters they see their elders use is enough to carry them through.

In Italian the next step is easy. The letters once learned, it is a simple matter to combine them into words, for Italian spelling is so nearly phonetic that it presents very little difficulty to any one who knows how to pronounce. It is at just this point that the teaching of English reading by the Montessori method will find its greatest obstacle. Indeed, it is the unphonetic character of English spelling that has largely influenced us to give up the alphabet method of teaching children to read. Other reasons, to be sure, have also induced us to teach by the word and the sentence method; but this one has been and will continue to be the deciding factor. We have found it more effective to teach children whole words, sentences, or rhymes by sight, adding to sense impressions the interest aroused by a wide range of associations, and then analysing the words thus acquired into their phonetic elements to give the children independent power in the acquisition of new words. Our marked success with this method makes it by no means certain that it is "in the characteristic process of natural development" for children to build up written words from their elements–sounds and syllables. It would seem, on the contrary, as James concluded, that the mind works quite as naturally in the opposite direction–grasping wholes first, especially such as have a practical interest, and then working down to their formal elements. In the teaching of spelling, of course, the wholes (words) are already known at sight–that is, the pupil recognises them easily in reading–and the process aims at impressing upon the child's mind the exact order of their constituent elements. It is because reading and spelling are in English such completely separate processes that we can teach a child to read admirably without making him a "good speller" and are forced to bring him to the latter glorious state by new endeavours. We gain by this separation both in reading and in spelling, as experience and comparative tests–popular superstition to the contrary notwithstanding–have conclusively proved. The

mastery of the alphabet by the Montessori method will be of great assistance in teaching our children to write, but of only incidental assistance in teaching them to read and to spell.

Once more, then, this Introduction attempts to suggest a compromise. In the school arts the programme used to such good effect in the Italian schools and the programme which has been so well worked out in English and American schools may be profitably combined. We can learn much about writing and reading from Dr. Montessori–especially from the freedom her children have in the process of learning to write and in the use of their newly acquired power, as well as from her device for teaching them to read connected prose. We can use her materials for sense training and lead as she does to easy mastery of the alphabetic symbols. Our own schemes for teaching reading we can retain, and doubtless the phonetic analysis they involve we shall find easier and more effective because of our adoption of the Montessori scheme for teaching the letters. The exact adjustment of the two methods is of course a task for teachers in practice and for educational leaders.

To all educators this book should prove most interesting. Not many of them will expect that the Montessori method will regenerate humanity. Not many will wish to see it–or any method–produce a generation of prodigies such as those who have been heralded recently in America. Not many will approve the very early acquisition by children of the arts of reading and writing. But all who are fair-minded will admit the genius that shines from the pages which follow, and the remarkable suggestiveness of Dr. Montessori's labors. It is the task of the professional student of education to-day to submit all systems to careful comparative study, and since Dr. Montessori's inventive power has sought its tests in practical experience rather than in comparative investigation, this duller task remains to be done. But however he may scrutinise the results of her work, the educator who reads of it here will honour in the Dottoressa Maria Montessori the enthusiasm, the patience, and the constructive insight of the scientist and the friend of humanity.

HENRY W. HOLMES

HARVARD UNIVERSITY,
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THE MONTESSORI METHOD

CHAPTER I

A CRITICAL CONSIDERATION OF THE NEW PEDAGOGY IN ITS RELATION TO MODERN SCIENCE

IT is not my intention to present a treatise on Scientific Pedagogy. The modest design of these incomplete notes is to give the results of an experiment that apparently opens the way for putting into practice those new principles of science which in these last years are tending to revolutionise the work of education.

Much has been said in the past decade concerning the tendency of pedagogy, following the footsteps of medicine, to pass beyond the purely speculative stage and base its conclusions on the positive results of experimentation. Physiological and experimental psychology which, from Weber and Fechner to Wundt, has become organised into a new science, seems destined to furnish to the new pedagogy that fundamental preparation which the old-time metaphysical psychology furnished to philosophical pedagogy. Morphological anthropology applied to the physical study of children, is also a strong element in the growth of the new pedagogy.

But in spite of all these tendencies, Scientific Pedagogy has never yet been definitely constructed nor defined. It is something vague of which we speak, but which does not, in reality, exist. We might say that it has been, up to the present time, the mere intuition or suggestion of a science which, by the aid of the positive and experimental sciences that have renewed the thought of the nineteenth century, must emerge from the mist and clouds that have surrounded it. For man, who has formed a new world through scientific progress, must himself be prepared and developed through a new pedagogy. But I will not attempt to speak of this more fully here.

Several years ago, a well-known physician established in Italy a *School of Scientific Pedagogy*, the object which was to prepare teachers to follow the new movement which had begun to be felt in the pedagogical world. This school had, for two or three years, a great success, so great, indeed, that teachers from all over Italy flocked to it, and it was endowed by the City of Milan with a splendid equipment of scientific material. Indeed, its beginnings were most propitious, and liberal help was afforded in the hope that it might be possible to establish, through the experiments carried on there, "the science of forming man".

The enthusiasm which welcomed this school was, in a large measure, due to the warm support given it by the distinguished anthropologist, Giuseppe Sergi, who for more than thirty years had earnestly laboured to spread among the teachers of Italy the principles of a new civilisation based upon education. "To-day in the social world," said Sergi, "an imperative need makes itself felt–the reconstruction of educational methods; and he who fights for this cause, fights for human regeneration." In his pedagogical writings collected in a volume under the title of "*Educazione ed Istruzione*" (Pensieri),* he gives a résumé of the lectures in which he encouraged this new movement, and says that he believes the way to this desired regeneration lies in a methodical study of the one to be educated, carried on under the guidance of pedagogical anthropology and of experimental psychology.

"For several years I have done battle for an idea concerning the instruction and education of man, which appeared the more just and useful the more deeply I thought upon it. My idea was that in order to establish natural, rational methods, it was essential that we make numerous, exact, and rational observations of man as an individual, principally during infancy, which is the age at which the foundations of education and culture must be laid.

"To measure the head, the height, etc., does not indeed mean that we are establishing a system of pedagogy, but it indicates the road which we may follow to arrive at such a system, since if we are to educate an individual, we must have a definite and direct knowledge of him."

The authority of Sergi was enough to convince many that, given such a knowledge of the individual, the art of educating him would develop naturally. This, as often happens, led to a confusion of ideas among his followers, arising now from too literal interpretation, now from an exaggeration, of the master's ideas. The chief trouble lay in confusing the experimental study of the pupil, with his education. And since the one was the road leading to the other, which should have grown from it naturally and rationally, they straightway gave the name of Scientific Pedagogy to what was in truth pedagogical anthropology. These new converts carried as their banner, the "Biographical Chart", believing that once this ensign was firmly planted upon the battle-field of the school, the victory would be won.

The so-called School of Scientific Pedagogy, therefore, instructed the teachers in the taking of anthropometric measurements, in the use of esthesiometric instruments, in the gathering of Psychological Data–and the army of new scientific teachers was formed.

It should be said that in this movement Italy showed herself to be abreast of the times. In France, in England, and especially in America, experiments have been made in the elementary schools, based upon a study of anthropology and psychological pedagogy, in the hope of finding in anthropometry and psychometry, the regeneration of the school. In these attempts it has rarely been the *teachers* who have carried on the research; the experiments have been, in most cases, in the hands of physicians who have taken more interest in their special science than in education. They have usually sought to get from their experiments some contribution to psychology, or anthropology, rather than to attempt to organise their work and their results toward the formation of the long-sought Scientific Pedagogy. To sum up the situation briefly, anthropology and psychology have never devoted themselves to the question of educating children in the schools, nor have the scientifically trained teachers ever measured up to the standards of genuine scientists.

The truth is that the practical progress of the school demands a genuine *fusion* of these modern tendencies, in practice and thought; such a fusion as shall bring scientists directly into the important field of the school and at the same time raise teachers from the inferior intellectual level to which they are limited to-day. Toward this eminently practical ideal the University School of Pedagogy, founded in Italy by Credaro, is definitely working. It is the intention of this school to raise Pedagogy from the inferior position it has occupied as a secondary branch of philosophy, to the dignity of a definite science, which shall, as does Medicine, cover a broad and varied field of comparative study.

And among the branches affiliated with it will most certainly be found Pedagogical Hygiene, Pedagogical Anthropology, and Experimental Psychology.

Truly, Italy, the country of Lombroso, of De-Giovanni, and of Sergi, may claim the honour of being pre-eminent in the organisation of such a movement. In fact, these

three scientists may be called the founders of the new tendency in Anthropology: the first leading the way in criminal anthropology, the second in medical anthropology, and the third in pedagogical anthropology. For the good fortune of science, all three of them have been the recognised leaders of their special lines of thought, and have been so prominent in the scientific world that they have not only made courageous and valuable disciples, but have also prepared the minds of the masses to receive the scientific regeneration which they have encouraged. (For reference, see my treatise "Pedagogical Anthropology.") **

Surely all this is something of which our country may be justly proud.

To-day, however, those things which occupy us in the field of education are the interests of humanity at large, and of civilisation, and before such great forces we can recognise only one country–the entire world. And in a cause of such great importance, all those who have given any contribution, even though it be only an attempt not crowned with success, are worthy of the respect of humanity throughout the civilised world. So, in Italy, the schools of Scientific Pedagogy and the Anthropological Laboratories, which have sprung up in the various cities through the efforts of elementary teachers and scholarly inspectors, and which have been abandoned almost before they became definitely organised, have nevertheless a great value by reason of the faith which inspired them, and because of the doors they have opened to thinking people.

It is needless to say that such attempts were premature and sprang from too slight a comprehension of new sciences still in the process of development. Every great cause is born from repeated failures and from imperfect achievements. When St. Francis of Assisi saw his Lord in a vision, and received from the Divine lips the command–"Francis, rebuild my Church!"–he believed that the Master spoke of the little church within which he knelt at that moment. And he immediately set about the task, carrying upon his shoulders the stones with which he meant to rebuild the fallen walls. It was not until later that he became aware of the fact that his mission was to renew the Catholic Church through the spirit of poverty. But the St. Francis who so ingenuously carried the stones, and the great reformer who so miraculously led the people to a triumph of the spirit, are one and the same person in different stages of development. So we, who work toward one great end, are members of one and the same body; and those who come after us will reach the goal only because there were those who believed and laboured before them. And, like St. Francis, we have believed that by carrying the hard and barren stones of the experimental laboratory to the old and crumbling walls of the school, we might rebuild it. We have looked upon the aids offered by the materialistic and mechanical sciences with the same hopefulness with which St. Francis looked upon the squares of granite, which he must carry upon his shoulders.

Thus we have been drawn into a false and narrow way, from which we must free ourselves, if we are to establish true and living methods for the training of future generations.

To prepare teachers in the method of the experimental sciences is not an easy matter. When we shall have instructed them in anthropometry and psychometry in the most

minute manner possible, we shall have only created machines, whose usefulness will be most doubtful. Indeed, if it is after this fashion that we are to initiate our teachers into experiment, we shall remain forever in the field of theory. The teachers of the old school, prepared according to the principles of metaphysical philosophy, understood the ideas of certain men regarded as authorities, and moved the muscles of speech in talking of them, and the muscles of the eye in reading their theories. Our scientific teachers, instead, are familiar with certain instruments and know how to move the muscles of the hand and arm in order to use these instruments; besides this, they have an intellectual preparation which consists of a series of typical tests, which they have, in a barren and mechanical way, learned how to apply.

The difference is not substantial, for profound differences cannot exist in exterior technique alone, but lie rather within the inner man. Not with all our initiation into scientific experiment have we prepared *new masters*, for, after all, we have left them standing without the door of real experimental science; we have not admitted them to the noblest and most profound phase of such study,–to that experience which makes real scientists.

And, indeed, what is a scientist? Not, certainly, he who knows how to manipulate all the instruments in the physical laboratory, or who in the laboratory of the chemist handles the various reactives with deftness and security, or who in biology knows how to make ready the specimens for the microscope. Indeed, it is often the case that an assistant has a greater dexterity in experimental technique than the master scientist himself. We give the name scientist to the type of man who has felt experiment to be a means guiding him to search out the deep truth of life, to lift a veil from its fascinating secrets, and who, in this pursuit, has felt arising within him a love for the mysteries of nature, so passionate as to annihilate the thought of himself. The scientist is not the clever manipulator of instruments, he is the worshipper of nature and he bears the external symbols of his passion as does the follower of some religious order. To this body of real scientists belong those who, forgetting, like the Trappists of the Middle Ages, the world about them, live only in the laboratory, careless often in matters of food and dress because they no longer think of themselves; those who, through years of unwearied use of the microscope, become blind; those who in their scientific ardour inoculate themselves with tuberculosis germs; those who handle the excrement of cholera patients in their eagerness to learn the vehicle through which the diseases are transmitted; and those who, knowing that a certain chemical preparation may be an explosive, still persist in testing their theories at the risk of their lives. This is the spirit of the men of science, to whom nature freely reveals her secrets, crowning their labours with the glory of discovery.

There exists, then, the "spirit" of the scientist, a thing far above his mere "mechanical skill," and the scientist is at the height of his achievement when the spirit has triumphed over the mechanism. When he has reached this point, science will receive from him not only new revelations of nature, but philosophic syntheses of pure thought.

It is my belief that the thing which we should cultivate in our teachers is more the *spirit* than the mechanical skill of the scientist; that is, the *direction* of the *preparation* should be toward the spirit rather than toward the mechanism. For example, when we considered the scientific preparation of teachers to be simply the acquiring of the

technique of science, we did not attempt to make these elementary teachers perfect anthropologists, expert experimental psychologists, or masters of infant hygiene; we wished only to *direct them* toward the field of experimental science, teaching them to manage the various instruments with a certain degree of skill. So now, we wish to *direct* the teacher, trying to awaken in him, in connection with his own particular field, the school, that scientific *spirit* which opens the door for him to broader and bigger possibilities. In other words, we wish to awaken in the mind and heart of the educator an *interest in natural phenomena* to such an extent that, loving nature, he shall understand the anxious and expectant attitude of one who has prepared an experiment and who awaits a revelation from it. ***

The instruments are like the alphabet, and we must know how to manage them if we are to read nature; but as the book, which contains the revelation of the greatest thoughts of an author, uses in the alphabet the means of composing the external symbols or words, so nature, through the mechanism of the experiment, gives us an infinite series of revelations, unfolding for us her secrets.

Now one who has learned to spell mechanically all the words in his spelling-book, would be able to read in the same mechanical way the words in one of Shakespeare's plays, provided the print were sufficiently clear. He who is initiated solely into the making of the bare experiment, is like one who spells out the literal sense of the words in the spelling-book; it is on such a level that we leave the teachers if we limit their preparation to technique alone.

We must, instead, make of them worshippers and interpreters of the spirit of nature. They must be like him who, having learned to spell, finds himself, one day, able to read behind the written symbols the *thought* of Shakespeare, or Goethe, or Dante. As may be seen, the difference is great, and the road long. Our first error was, however, a natural one. The child who has mastered the spelling-book gives the impression of knowing how to read. Indeed, he does read the signs over the shop doors, the names of newspapers, and every word that comes under his eyes. It would be very natural if, entering a library, this child should be deluded into thinking that he knew how to read the sense of all the books he saw there. But attempting to do this, he would soon feel that "to know how to read mechanically" is nothing, and that he needs to go back to school. So it is with the teachers whom we have thought to prepare for scientific pedagogy by teaching them anthropometry and psychometry.

But let us put aside the difficulty of preparing scientific masters in the accepted sense of the word. We will not even attempt to outline a programme of such preparation, since this would lead us into a discussion which has no place here. Let us suppose, instead, that we have already prepared teachers through long and patient exercises for the *observation of nature*, and that we have led them, for example, to the point attained by those students of natural sciences who rise at night and go into the woods and fields that they may surprise the awakening and the early activities of some family of insects in which they are interested. Here we have the scientist who, though he may be sleepy and tired with walking, is full of watchfulness, who is not aware that he is muddy or dusty, that the mist wets him, or the sun burns him; but is intent only upon not revealing in the least degree his presence, in order that the insects may, hour after hour, carry on peacefully those natural functions which he wishes to observe. Let

us suppose these teachers to have reached the standpoint of the scientist who, half blind, still watches through his microscope the spontaneous movements of some particular infusory animalcule. These creatures seem to this scientific watcher, in their manner of avoiding each other and in their way of selecting their food, to possess a dim intelligence. He then disturbs this sluggish life by an electric stimulus, observing how some group themselves about the positive pole, and others about the negative. Experimenting further, with a luminous stimulus, he notices how some run toward the light, while others fly from it. He investigates these and like phenomena; having always in mind this question: whether the fleeing from or running to the stimulus be of the same character as the avoidance of one another or the selection of food–that is, whether such differences are the result of choice and are due to that dim consciousness, rather than to physical attraction or repulsion similar to that of the magnet. And let us suppose that this scientist, finding it to be four o'clock in the afternoon, and that he has not yet lunched, is conscious, with a feeling of pleasure, of the fact that he has been at work in his laboratory instead of in his own home, where they would have called him hours ago, interrupting his interesting observation, in order that he might eat.

Let us imagine, I say, that the teacher has arrived, independently of his scientific training, at such an attitude of interest in the observation of natural phenomena. Very well, but such a preparation is not enough. The master, indeed, is destined in his particular mission not to the observation of insects or of bacteria, but of man. He is not to make a study of man in the manifestations of his daily physical habits as one studies some family of insects, following their movements from the hour of their morning awakening. The master is to study man in the awakening of his intellectual life.

The interest in humanity to which we wish to educate the teacher must be characterised by the intimate relationship between the observer and the individual to be observed; a relationship which does not exist between the student of zoology or botany and that form of nature which he studies. Man cannot love the insect or the chemical reaction which he studies, without sacrificing a part of himself. This self-sacrifice seems to one who looks at it from the standpoint of the world, a veritable renunciation of life itself, almost a martyrdom.

But the love of man for man is a far more tender thing, and so simple that it is universal. To love in this way is not the privilege of any especially prepared intellectual class, but lies within the reach of all men.

To give an idea of this second form of preparation, that of the spirit, let us try to enter into the minds and hearts of those first followers of Christ Jesus as they heard Him speak of a Kingdom not of this world, greater far than any earthly kingdom, no matter how royally conceived. In their simplicity they asked of Him, "Master, tell us who shall be greatest in the Kingdom of Heaven?" To which Christ, caressing the head of a little child who, with reverent, wondering eyes, looked into His face, replied, "Whosoever shall become as one of these little ones, he shall be greatest in the Kingdom of Heaven." Now let us picture among those to whom these words were spoken, an ardent, worshipping soul, who takes them into his heart. With a mixture of respect and love, of sacred curiosity and of a desire to achieve this spiritual greatness, he sets himself to observe every manifestation of this little child. Even such an

observer placed in a classroom filled with little children will not be the new educator whom we wish to form. But let us seek to implant in the soul the self-sacrificing spirit of the scientist with the reverent love of the disciple of Christ, and we shall have prepared the *spirit* of the teacher. From the child itself he will learn how to perfect himself as an educator.

Let us consider the attitude of the teacher in the light of another example. Picture to yourself one of our botanists or zoologists experienced in the technique of observation and experimentation; one who has travelled in order to study "certain fungi" in their native environment. This scientist has made his observations in open country and, then, by the aid of his microscope and of all his laboratory appliances, has carried on the later research work in the most minute way possible. He is, in fact, a scientist who understands what it is to study nature, and who is conversant with all the means which modern experimental science offers for this study.

Now let us imagine such a man appointed, by reason of the original work he has done, to a chair of science in some university, with the task before him of doing further original research work with hymenoptera. Let us suppose that, arrived at his post, he is shown a glass-covered case containing a number of beautiful butterflies, mounted by means of pins, their outspread wings motionless. The student will say that this is some child's play, not material for scientific study, that these specimens in the box are more fitly a part of the game which the little boys play, chasing butterflies and catching them in a net. With such material as this the experimental scientist can do nothing.

The situation would be very much the same if we should place a teacher who, according to our conception of the term, is scientifically prepared, in one of the public schools where the children are repressed in the spontaneous expression of their personality till they are almost like dead beings. In such a school the children, like butterflies mounted on pins, are fastened each to his place, the desk, spreading the useless wings of barren and meaningless knowledge which they have acquired.

It is not enough, then, to prepare in our Masters the scientific spirit. We must also make ready the school for their observation. The school must permit the *free, natural manifestations* of the *child* if in the school scientific pedagogy is to be born. This is the essential reform.

No one may affirm that such a principle already exists in pedagogy and in the school. It is true that some pedagogues, led by Rousseau, have given voice to impracticable principles and vague aspirations for the liberty of the child, but the true concept of liberty is practically unknown to educators. They often have the same concept of liberty which animates a people in the hour of rebellion from slavery, or perhaps, the conception of *social liberty*, which although it is a more elevated idea is still invariably restricted. "Social liberty" signifies always one more round of Jacob's ladder. In other words it signifies a partial liberation, the liberation of a country, of a class, or of thought.

That concept of liberty which must inspire pedagogy is, instead, universal. The biological sciences of the nineteenth century have shown it to us when they have offered us the means for studying life. If, therefore, the old-time pedagogy foresaw or vaguely expressed the principle of studying the pupil before educating him, and of leaving him free in his spontaneous manifestations, such an intuition, indefinite and barely expressed, was made possible of practical attainment only after the contribution of the experimental sciences during the last century. This is not a case for sophistry or discussion, it is enough that we state our point. He who would say that the principle of liberty informs the pedagogy of to-day, would make us smile as at a child who, before the box of mounted butterflies, should insist that they were alive and could fly. The principle of slavery still pervades pedagogy, and, therefore, the same principle pervades the school. I need only give one proof–the stationary desks and chairs. Here we have, for example, a striking evidence of the errors of the early materialistic scientific pedagogy which, with mistaken zeal and energy, carried the barren stones of science to the rebuilding of the crumbling walls of the school. The schools were at first furnished with the long, narrow benches upon which the children were crowded together. Then came science and perfected the bench. In this work much attention was paid to the recent contributions of anthropology. The age of the child and the length of his limbs were considered in placing the seat at the right height. The distance between the seat and the desk was calculated with infinite care, in order that the child's back should not become deformed, and, finally, the seats were separated and the width so closely calculated that the child could barely seat himself upon it, while to stretch himself by making any lateral movements was impossible. This was done in order that he might be separated from his neighbour. These desks are constructed in such a way as to render the child visible in all his immobility. One of the ends sought through this separation is the prevention of immoral acts in the schoolroom. What shall we say of such prudence in a state of society where it would be considered scandalous to give voice to principles of sex morality in education, for fear we might thus contaminate innocence? And, yet, here we have science lending itself to this hypocrisy, fabricating machines! Not only this; obliging science goes farther still, perfecting the benches in such a way as to permit to the greatest possible extent the immobility of the child, or, if you wish, to repress every movement of the child.

It is all so arranged that, when the child is well-fitted into his place, the desk and chair themselves force him to assume the position considered to be hygienically comfortable. The seat, the foot-rest, the desks are arranged in such a way that the child can never stand at his work. He is allotted only sufficient space for sitting in an erect position. It is in such ways that schoolroom desks and benches have advanced toward perfection. Every cult of the so-called scientific pedagogy has designed a model scientific desk. Not a few nations have become proud of their "national desk,"–and in the struggle of competition these various machines have been patented.

Undoubtedly there is much that is scientific underlying the construction of these benches. Anthropology has been drawn upon in the measuring of the body and the diagnosis of the age; physiology, in the study of muscular movements; psychology, in regard to perversion of instincts; and, above all, hygiene, in the effort to prevent curvature of the spine. These desks were indeed scientific, following in their construction the anthropological study of the child. We have here, as I have said, an example of the literal application of science to the schools.

I believe that before very long we shall all be struck with great surprise by this attitude. It will seem incomprehensible that the fundamental error of the desk should not have been revealed earlier through the attention given to the study of infant hygiene, anthropology, and sociology, and through the general progress of thought. The marvel is greater when we consider that during the past years there has been stirring in almost every nation a movement toward the protection of the child.

I believe that it will not be many years before the public, scarcely believing the descriptions of these scientific benches, will come to touch with wondering hands the amazing seats that were constructed for the purpose of preventing among our school children curvature of the spine!

The development of these scientific benches means that the pupils were subjected to a régime, which, even though they were born strong and straight, made it possible for them to become humpbacked! The vertebral column, biologically the most primitive, fundamental, and oldest part of the skeleton, the most fixed portion of our body, since the skeleton is the most solid portion of the organism–the vertebral column, which resisted and was strong through the desperate struggles of primitive man when he fought against the desert-lion, when he conquered the mammoth, when he quarried the solid rock and shaped the iron to his uses, bends, and cannot resist, under the yoke of the school.

It is incomprehensible that so-called *science* should have worked to perfect an instrument of slavery in the school without being enlightened by one ray from the movement of social liberation, growing and developing throughout the world. For the age of scientific benches was also the age of the redemption of the working classes from the yoke of unjust labor.

The tendency toward social liberty is most evident, and manifests itself on every hand. The leaders of the people make it their slogan, the labouring masses repeat the cry, scientific and socialistic publications voice the same movement, our journals are full of it. The underfed workman does not ask for a tonic, but for better economic conditions which shall prevent malnutrition. The miner who, through the stooping position maintained during many hours of the day, is subject to inguinal rupture, does not ask for an abdominal support, but demands shorter hours and better working conditions, in order that he may be able to lead a healthy life like other men.

And when, during this same social epoch, we find that the children in our schoolrooms are working amid unhygienic conditions, so poorly adapted to normal development that even the skeleton becomes deformed, our response to this terrible revelation is an orthopedic bench. It is much as if we offered to the miner the abdominal brace, or arsenic to the underfed workman.

Some time ago a woman, believing me to be in sympathy with all scientific innovations concerning the school, showed me with evident satisfaction a *corset or brace for pupils.* She had invented this and felt that it would complete the work of the bench.

Surgery has still other means for the treatment of spinal curvature. I might mention orthopedic instruments, braces, and a method of periodically suspending the child, by

the head or shoulders, in such a fashion that the weight of the body stretches and thus straightens the vertebral column. In the school, the orthopedic instrument in the shape of the desk is in great favour; to-day someone proposes the brace–one step farther and it will be suggested that we give the scholars a systematic course in the suspension method!

All this is the logical consequence of a material application of the methods of science to the decadent school. Evidently the rational method of combating spinal curvature in the pupils, is to change the form of their work–so that they shall no longer be obliged to remain for so many hours a day in a harmful position. It is a conquest of liberty which the school needs, not the mechanism of a bench.

Even were the stationary seat helpful to the child's body, it would still be a dangerous and unhygienic feature of the environment, through the difficulty of cleaning the room perfectly when the furniture cannot be moved. The foot-rests, which cannot be removed, accumulate the dirt carried in daily from the street by the many little feet. To-day there is a general transformation in the matter of house furnishings. They are made lighter and simpler so that they may be easily moved, dusted, and even washed. But the school seems blind to the transformation of the social environment.

It behooves us to think of what may happen to the *spirit* of the child who is condemned to grow in conditions so artificial that his very bones may become deformed. When we speak of the redemption of the workingman, it is always understood that beneath the most apparent form of suffering, such as poverty of the blood, or ruptures, there exists that other wound from which the soul of the man who is subjected to any form of slavery must suffer. It is at this deeper wrong that we aim when we say that the workman must be redeemed through liberty. We know only too well that when a man's very blood has been consumed or his intestines wasted away through his work, his soul must have lain oppressed in darkness, rendered insensible, or, it may be, killed within him. The *moral* degradation of the slave is, above all things, the weight that opposes the progress of humanity–humanity striving to rise and held back by this great burden. The cry of redemption speaks far more clearly for the souls of men than for their bodies.

What shall we say then, when the question before us is that of *educating children?*

We know only too well the sorry spectacle of the teacher who, in the ordinary schoolroom, must pour certain cut and dried facts into the heads of the scholars. In order to succeed in this barren task, she finds it necessary to discipline her pupils into immobility and to force their attention. Prizes and punishments are every-ready and efficient aids to the master who must force into a given attitude of mind and body those who are condemned to be his listeners.

It is true that to-day it is deemed expedient to abolish official whippings and habitual blows, just as the awarding of prizes has become less ceremonious. These partial reforms are another prop approved of by science, and offered to the support of the decadent school. Such prizes and punishments are, if I may be allowed the expression, the *bench* of the soul, the instrument of slavery for the spirit. Here, however, these are not applied to lessen deformities, but to provoke them. The prize and the punishment

are incentives toward unnatural or forced effort, and, therefore we certainly cannot speak of the natural development of the child in connection with them. The jockey offers a piece of sugar to his horse before jumping into the saddle, the coachman beats his horse that he may respond to the signs given by the reins; and, yet, neither of these runs so superbly as the free horse of the plains.

And here, in the case of education, shall man place the yoke upon man?

True, we say that social man is natural man yoked to society. But if we give a comprehensive glance to the moral progress of society, we shall see that little by little, the yoke is being made easier, in other words, we shall see that nature, or life, moves gradually toward triumph. The yoke of the slave yields to that of the servant, and the yoke of the servant to that of the workman.

All forms of slavery tend little by little to weaken and disappear, even the sexual slavery of woman. The history of civilisation is a history of conquest and of liberation. We should ask in what stage of civilisation we find ourselves and if, in truth, the good of prizes and of punishments be necessary to our advancement. If we have indeed gone beyond this point, then to apply such a form of education would be to draw the new generation back to a lower level, not to lead them into their true heritage of progress.

Something very like this condition of the school exists in society, in the relation between the government and the great numbers of the men employed in its administrative departments. These clerks work day after day for the general national good, yet they do not feel or see the advantage of their work in any immediate reward. That is, they do not realise that the state carries on its great business through their daily tasks, and that the whole nation is benefited by their work. For them the immediate good is promotion, as passing to a higher class is for the child in school. The man who loses sight of the really big aim of his work is like a child who has been placed in a class below his real standing: like a slave, he is cheated of something which is his right. His dignity as a man is reduced to the limits of the dignity of a machine which must be oiled if it is to be kept going, because it does not have within itself the impulse of life. All those petty things such as the desire for decorations or medals, are but artificial stimuli, lightening for the moment the dark, barren path in which he treads.

In the same way we give prizes to school children. And the fear of not achieving promotion, withholds the clerk from running away, and binds him to his monotonous work, even as the fear of not passing into the next class drives the pupil to his book. The reproof of the superior is in every way similar to the scolding of the teacher. The correction of badly executed clerical work is equivalent to the bad mark placed by the teacher upon the scholar's poor composition. The parallel is almost perfect.

But if the administrative departments are not carried on in a way which would seem suitable to a nation's greatness; if corruption too easily finds a place; it is the result of having extinguished the true greatness of man in the mind of the employee, and of having restricted his vision to those petty, immediate facts, which he has come to look upon as prizes and punishments. The country stands, because the rectitude of the greater number of its employees is such that they resist the corruption of the prizes

and punishments, and follow an irresistible current of honesty. Even as life in the social environment triumphs against every cause of poverty and death, and proceeds to new conquests, so the instinct of liberty conquers all obstacles, going from victory to victory.

It is this personal and yet universal force of life, a force often latent within the soul, that sends the world forward.

But he who accomplishes a truly human work, he who does something really great and victorious, is never spurred to his task by those trifling attractions called by the name of "prizes," nor by the fear of those petty ills which we call "punishments." If in a war a great army of giants should fight with no inspiration beyond the desire to win promotion, epaulets, or medals, or through fear of being shot, if these men were to oppose a handful of pygmies who were inflamed by love of country, the victory would go to the latter. When real heroism has died within an army, prizes and punishments cannot do more than finish the work of deterioration, bringing in corruption and cowardice.

All human victories, all human progress, stand upon the inner force.

Thus a young student may become a great doctor if he is spurred to his study by an interest which makes medicine his real vocation. But if he works in the hope of an inheritance, or of making a desirable marriage, or if indeed he is inspired by any material advantage, he will never become a true master or a great doctor, and the world will never make one step forward because of his work. He to whom such stimuli are necessary, had far better never become a physician. Everyone has a special tendency, a special vocation, modest, perhaps, but certainly useful. The system of prizes may turn an individual aside from this vocation, may make him choose a false road, for him a vain one, and forced to follow it, the natural activity of a human being may be warped, lessened, even annihilated.

We repeat always that the world *progresses* and that we must urge men forward to obtain progress. But progress comes from the *new things that are born,* and these, not being foreseen, are not rewarded with prizes: rather, they often carry the leader to martyrdom. God forbid that poems should ever be born of the desire to be crowned in the Capitol! Such a vision need only come into the heart of the poet and the muse will vanish. The poem must spring from the soul of the poet, when he thinks neither of himself nor of the prize. And if he does win the laurel, he will feel the vanity of such a prize. The true reward lies in the revelation through the poem of his own triumphant inner force.

There does exist, however, an external prize for man; when, for example, the orator sees the faces of his listeners change with the emotions he has awakened, he experiences something so great that it can only be likened to the intense joy with which one discovers that he is loved. Our joy is to touch, and conquer souls, and this is the one prize which can bring us a true compensation.

Sometimes there is given to us a moment when we fancy ourselves to be among the great ones of the world. These are moments of happiness given to man that he may

continue his existence in peace. It may be through love attained or because of the gift of a son, through a glorious discovery or the publication of a book; in some such moment we feel that there exists no man who is above us. If, in such a moment, someone vested with authority comes forward to offer us a medal or a prize, he is the important destroyer of our real reward–"And who are you?" our vanished illusion shall cry, "Who are you that recalls me to the fact that I am not the first among men? Who stands so far above me that he may give me a prize?" The prize of such a man in such a moment can only be Divine.

As for punishments, the soul of the normal man grows perfect through expanding, and punishment as commonly understood is always a form of *repression.* It may bring results with those inferior natures who grow in evil, but these are very few, and social progress is not affected by them. The penal code threatens us with punishment if we are dishonest within the limits indicated by the laws. But we are not honest through fear of the laws; if we do not rob, if we do not kill, it is because we love peace, because the natural trend of our lives leads us forward, leading us ever farther and more definitely away from the peril of low and evil acts.

Without going into the ethical or metaphysical aspects of the question, we may safely affirm that the delinquent before he transgresses the law, has, *if he knows of the existence of a punishment,* felt the threatening weight of the criminal code upon him. He has defied it, or he has been lured into the crime, deluding himself with the idea that he would be able to avoid the punishment of the law. But there has occurred within his mind, a *struggle between the crime and the punishment.* Whether it be efficacious in hindering crime or not, this penal code is undoubtedly made for a very limited class of individuals; namely, criminals. The enormous majority of citizens are honest without any regard whatever to the threats of the law.

The real punishment of normal man is the loss of the consciousness of that individual power and greatness which are the sources of his inner life. Such a punishment often falls upon men in the fullness of success. A man whom we would consider crowned by happiness and fortune may be suffering from this form of punishment. Far too often man does not see the real punishment which threatens him.

And it is just here that education may help.

To-day we hold the pupils in school, restricted by those instruments so degrading to body and spirit, the desk–and material prizes and punishments. Our aim in all this is to reduce them to the discipline of immobility and silence,–to lead them,–where? Far too often toward no definite end.

Often the education of children consists in pouring into their intelligence the intellectual content of school programmes. And often these programmes have been compiled in the official department of education, and their use is imposed by law upon the teacher and the child.

Ah, before such dense and wilful disregard of the life which is growing within these children, we should hide our heads in shame and cover our guilty faces with our hands!

Sergi says truly: "To-day an urgent need imposes itself upon society: the reconstruction of methods in education and instruction, and he who fights for this cause, fights for human regeneration."

Notes:

[*] Trevisini, 1892.

[**] Montessori: "L'Antropologia Pedagogica." Vallardi.

[***] See in my treatise on Pedagogical Anthropology the chapter on "The Method Used in Experimental Sciences."

This chapter has been put on-line as part of the BUILD-A-BOOK Initiative at the Celebration of Women Writers.
Initial text entry and proof-reading of this chapter were the work of volunteers **Lou Anne Meloche**, **Ingrid Olsson** and **Nick Rezmerski**.

CHAPTER II

HISTORY OF METHODS

IF we are to develop a system of scientific pedagogy, we must, then, proceed along lines very different from those which have been followed up to the present time. The transformation of the school must be contemporaneous with the preparation of the teacher. For if we make of the teacher an observer, familiar with the experimental methods, then we must make it possible for her to observe and to experiment in the school. The fundamental principle of scientific pedagogy must be, indeed, the *liberty of the pupil;*–such liberty as shall permit a development of individual, spontanous manifestations of the child's nature. If a new and scientific pedagogy is to arise from the *study of the individual,* such study must occupy itself with the observation of *free* children. In vain should we await a practical renewing of pedagogical methods from methodical examinations of pupils made under the guidance offered to-day by pedagogy, anthropology, and experimental psychology.

Every branch of experimental science has grown out of the application of a method peculiar to itself. Bacteriology owes its scientific content to the method of isolation and culture of microbes. Criminal, medical, and pedagogical anthropology owe their progress to the application of anthropological methods to individuals of various classes, such as criminals, the insane, the sick of the clinics, scholars. So experimental psychology needs as its starting point an exact definition of the technique to be used in making the experiment.

To put it broadly, it is important to define *the method, the technique,* and from its application to *await* the definite result, which must be gathered entirely from actual experience. One of the characteristics of experimental sciences is to proceed to the making of an experiment *without preconceptions of any sort* as to the final result of the experiment itself. For example, should we wish to make scientific observations concerning the development of the head as related to varying degrees of intelligence,

one of the conditions of such an experiment would be to ignore, in the taking of the measurements, which were the most intelligent and which the most backward among the scholars examined. And this because the preconceived idea that the most intelligent should have the head more fully developed will inevitably alter the results of the research.

He who experiments must, while doing so, divest himself of every preconception. It is clear then that if we wish to make use of a method of experimental psychology, the first thing necessary is to renounce all former creeds and to proceed by means of the *method* in the search for truth.

We must not start, for example, from any dogmatic ideas which we may happen to have held upon the subject of child psychology. Instead, we must proceed by a method which shall tend to make possible to the child complete liberty. This we must do if we are to draw from the observation of his spontaneous manifestations conclusions which shall lead to the establishment of a truly scientific child psychology. It may be that such a method holds for us great surprises, unexpected possibilities.

Child psychology and pedagogy must establish their content by successive conquests arrived at through the method of experimentation.

Our problem then, is this: to establish the *method peculiar* to experimental pedagogy. It cannot be that used in other experimental sciences. It is true that scientific pedagogy is rounded out by hygiene, anthropology, and psychology, and adopts in part the technical method characteristic of all three, although limiting itself to a special study of the individual to be educated. But in pedagogy this study of the individual, though it must accompany the very different work of *education,* is a limited and secondary part of the science as a whole.

This present study deals in part with the *method* used in experimental pedagogy, and is the result of my experiences during two years in the "Children's Houses." I offer only a beginning of the method, which I have applied to children between the ages of three and six. But I believe that these tentative experiments, because of the surprising results which they have given, will be the means of inspiring a continuation of the work thus undertaken.

Indeed, although our educational system, which experience has demonstrated to be excellent, is not yet entirely completed, it nevertheless constitutes a system well enough established to be practical in all institutions where young children are cared for, and in the first elementary classes.

Perhaps I am not exact when I say that the present work springs from two years of experience. I do not believe that these later attempts of mine could alone have rendered possible all that I set forth in this book. The origin of the educational system in use in the "Children's Houses" is much more remote, and if this experience with normal children seems indeed rather brief, it should be remembered that it sprang from preceding pedagogical experiences with abnormal children, and that considered in this way, it represents a long and thoughtful endeavour.

About fifteen years ago, being assistant doctor at the Psychiatric Clinic of the University of Rome, I had occasion to frequent the insane asylums to study the sick and to select subjects for the clinics. In this way I became interested in the idiot children who were at that time housed in the general insane asylums. In those days thyroid organotherapy was in full development, and this drew the attention of physicians to deficient children. I myself, having completed my regular hospital services, had already turned my attention to the study of children's diseases.

It was thus that, being interested in the idiot children, I became conversant with the special method of education devised for these unhappy little ones by Edward Séguin, and was led to study thoroughly the idea, then beginning to be prevalent among the physicians, of the efficacy of "pedagogical treatment" for various morbid forms of disease such as deafness, paralysis, idiocy, rickets, etc. The fact that pedagogy must join with medicine in the treatment of disease was the practical outcome of the thought of the time. And because of this tendency the method of treating disease by gymnastics became widely popular. I, however, differed from my colleagues in that I felt that mental deficiency presented chiefly a pedagogical, rather than mainly a medical, problem. Much was said in the medical congresses of the medico-pedagogic method for the treatment and education of the feeble minded, and I expressed my differing opinion in an address on *Moral Education* at the Pedagogical Congress of Turin in 1898. I believe that I touched a chord already vibrant, because the idea, making its way among the physicians and elementary teachers, spread in a flash as presenting a question of lively interest to the school.

In fact I was called upon by my master, Guido Baccelli, the great Minister of Education, to deliver to the teachers of Rome a course of lectures on the education of feeble-minded children. This course soon developed into the State Orthophrenic School, which I directed for more than two years.

In this school we had an all-day class of children composed of those who in the elementary schools were considered hopelessly deficient. Later on, through the help of a philanthropic organisation, there was founded a Medical Pedagogic Institute where, besides the children from the public schools, we brought together all of the idiot children from the insane asylums in Rome.

I spent these two years with the help of my colleagues in preparing the teachers of Rome for a special method of observation and education of feeble-minded children. Not only did I train teachers, but what was much more important, after I had been in London and Paris for the purpose of studying in a practical way the education of deficients, I gave myself over completely to the actual teaching of the children, directing at the same time the work of the other teachers in our institute.

I was more than an elementary teacher, for I was present, or directly taught the children, from eight in the morning to seven in the evening without interruption. These two years of practice are my first and indeed my true degree in pedagogy. From the very beginning of my work with deficient children (1898 to 1900) I felt that the methods which I used had in them nothing peculiarly limited to the instruction of idiots. I believed that they contained educational principles *more rational* than those in use, so much more so, indeed, that through their means an inferior mentality would be able to grow and develop. This feeling, so deep as to be in the nature of an

intuition, became my controlling idea after I had left the school for deficients, and, little by little, I became convinced that similar methods applied to normal children would develop or set free their personality in a marvellous and surprising way.

It was then that I began a genuine and thorough study of what is known as remedial pedagogy, and, then, wishing to undertake the study of normal pedagogy and of the principles upon which it is based, I registered as a student of philosophy at the University. A great faith animated me, and although I did not know that I should ever be able to test the truth of my idea, I gave up every other occupation to deepen and broaden its conception. It was almost as if I prepared myself for an unknown mission.

The methods for the education of deficients had their origin at the time of the French Revolution in the work of a physician whose achievements occupy a prominent place in the history of medicine, as he was the founder of that branch of medical science which to-day is known as Otiatria (diseases of the ear).

He was the first to attempt a methodical education of the sense of hearing. He made these experiments in the institute for deaf mutes founded in Paris by Pereire, and actually succeeded in making the semi-deaf hear clearly. Later on, having in charge for eight years the idiot boy known as "the wild boy of Aveyron," he extended to the treatment of all the senses those educational methods which had already given such excellent results in the treatment of the sense of hearing. A student of Pinel, Itard was the first educator to practise *the observation* of the pupil in the way in which the sick are observed in the hospitals, especially those suffering from diseases of the nervous system.

The pedagogic writings of Itard are most interesting and minute descriptions of educational efforts and experiences, and anyone reading them to-day must admit that they were practically the first attempts at experimental psychology. But the merit of having completed a genuine educational system for deficient children was due to Edward Séguin, first a teacher and then a physician. He took the experiences of Itard as his starting point, applying these methods, modifying and completing them during a period of ten years' experience with children taken from the insane asylums and placed in a little school in Rue Pigalle in Paris. This method was described for the first time in a volume of more than six hundred pages, published in Paris in 1846, with the title: "Traitement Moral, Hygiène et Education des Idiots." Later Séguin emigrated to the United States of America where he founded many institutions for deficients, and where, after another twenty years of experience, he published the second edition of his method, under a very different title: "Idiocy and its Treatment by the Physiological Method." This volume was published in New York in 1866, and in it Séguin had carefully defined his method of education, calling it the *physiological method.* He no longer referred in the title to a method for the "education of idiots" as if the method were special to them, but spoke now of idiocy treated by a physiological method. If we consider that pedagogy always had psychology as its base, and that Wundt defines a "physiological psychology," the coincidence of these ideas must strike us, and lead us to suspect in the physiological method some connection with physiological psychology.

While I was assistant at the Psychiatric Clinic, I had read Edward Séguin's French book, with great interest. But the English book which was published in New York

the methods in organisation used for the education of normal children. This work led to the teaching of Pedagogic Anthropology in the University of Rome.

I had long wished to experiment with the methods for deficients in a first elementary class of normal children, but I had never thought of making use of the homes or institutions where very young children were cared for. It was pure chance that brought this new idea to my mind.

It was near the end of the year 1906, and I had just returned from Milan, where I had been one of a committee at the International Exhibition for the assignment of prizes in the subjects of Scientific Pedagogy and Experimental Psychology. A great opportunity came to me, for I was invited by Edoardo Talamo, the Director General of the Roman Association for Good Building, to undertake the organisation of infant schools in its model tenements. It was Signor Talamo's happy idea to gather together in a large room all the little ones between the ages of three and seven belonging to the families living in the tenement. The play and work of these children was to be carried on under the guidance of a teacher who should have her own apartment in the tenement house. It was intended that every house should have its school, and as the Association for Good Building already owned more than 400 tenements in Rome the work seemed to offer tremendous possibilities of development. The first school was to be established in January, 1907, in a large tenement house in the Quarter of San Lorenzo. In the same Quarter the Association already owned fifty-eight buildings, and according to Signor Talamo's plans we should soon be able to open sixteen of these "schools within the house."

This new kind of school was christened by Signora Olga Lodi, a mutual friend of Signor Talamo and myself, under the fortunate title of *Casa dei Bambini* or "*The Children's House*." Under this name the first of our schools was opened on the sixth of January, 1907, at 58 Via dei Marsi. It was confided to the care of Candida Nuccitelli and was under my guidance and direction.

From the very first I perceived, in all its immensity, the social and pedagogical importance of such institutions, and while at that time my visions of a triumphant future seemed exaggerated, to-day many are beginning to understand that what I saw before was indeed the truth.

On the seventh of April of the same year, 1907, a second "Children's House" was opened in the Quarter of San Lorenzo; and on the eighteenth of October, 1908, another was inaugurated by the Humanitarian Society in Milan in the Quarter inhabited by workingmen. The workshops of this same society undertook the manufacture of the materials which we used.

On the fourth of November following, a third "Children's House" was opened in Rome, this time not in the people's Quarter, but in a modern building for the middle classes, situated in Via Famagosta, in that part of the city known as the Prati di Castello; and in January, 1909, Italian Switzerland began to transform its orphan asylums and children's homes in which the Froebel system had been used, into "Children's Houses" adopting our methods and materials.

This means that the problem of existence is in great part solved for him, and that in every case he adds to his income through usury. The one who holds the lease traffics in the misery of his fellow tenants, lending small sums at a rate which generally corresponds to twenty cents a week for the loan of two dollars, equivalent to an annual rate of 500 per cent.

Thus we have in the evil of subletting the most cruel form of usury: that which only the poor know how to practise upon the poor.

To this we must add the evils of crowded living, promiscuousness, immorality, crime. Every little while the newspapers uncover for us one of these *intérieurs:* a large family, growing boys and girls, sleep in one room; while one corner of the room is occupied by an outsider, a woman who receives the nightly visits of men. This is seen by the girls and the boys; evil passions are kindled that lead to the crime and bloodshed which unveil for a brief instant before our eyes, in some lurid paragraph, this little detail of the mass of misery.

Whoever enters, for the first time, one of these apartments is astonished and horrified. For this spectacle of genuine misery is not at all like the garish scene he has imagined. We enter here a world of shadows, and that which strikes us first is the darkness which, even though it be midday, makes it impossible to distinguish any of the details of the room.

When the eye has grown accustomed to the gloom, we perceive, within, the outlines of a bed upon which lies huddled a figure–someone ill and suffering. If we have come to bring money from some society for mutual aid, a candle must be lighted before the sum can be counted and the receipt signed. Oh, when we talk of social problems, how often we speak vaguely, drawing upon our fancy for details instead of preparing ourselves to judge intelligently through a personal investigation of facts and conditions.

We discuss earnestly the question of home study for school children, when for many of them home means a straw pallet thrown down in the corner of some dark hovel. We wish to establish circulating libraries that the poor may read at home. We plan to send among these people books which shall form their domestic literature–books through whose influence they shall come to higher standards of living. We hope through the printed page to educate these poor people in matters of hygiene, of morality, of culture, and in this we show ourselves profoundly ignorant of their most crying needs. For many of them have no light by which to read!

There lies before the social crusader of the present day a problem more profound than that of the intellectual elevation of the poor; the problem, indeed, of *life.*

In speaking of the children born in these places, even the conventional expressions must be changed, for they do not "first see the light of day"; they come into a world of gloom. They grow among the poisonous shadows which envelope over-crowded humanity. These children cannot be other than filthy in body, since the water supply in an apartment originally intended to be occupied by three or four persons, when distributed among twenty or thirty is scarcely enough for drinking purposes!

small apartments. Thousands of people will in this way receive the beneficent influence of the protective reforms of the Good Building Association. Following its beneficent programme, the Association set about transforming these old houses, according to the most modern standards, paying as much attention to questions related to hygiene and morals as to those relating to buildings. The constructional changes would make the property of real and lasting value, while the hygienic and moral transformation would, through the improved condition of the inmates, make the rent from these apartments a more definite asset.

The Association of Good Building therefore decided upon a programme which would permit of a gradual attainment of their ideal. It is necessary to proceed slowly because it is not easy to empty a tenement house at a time when houses are scarce, and the humanitarian principles which govern the entire movement make it impossible to proceed more rapidly in this work of regeneration. So it is, that the Association has up to the present time transformed only three houses in the Quarter of San Lorenzo. The plan followed in this transformation is as follows:

A: To demolish in every building all portions of the structure not originally constructed with the idea of making homes, but, from a purely commercial standpoint, of making the rental roll larger. In other words, the new management tore down those parts of the building which encumbered the central court, thus doing away with dark, ill-ventilated apartments, and giving air and light to the remaining portion of the tenement. Broad airy courts take the place of the inadequate air and light shafts, rendering the remaining apartments more valuable and infinitely more desirable.

B: To increase the number of stairways, and to divide the room space in a more practical way. The large six or seven room suites are reduced to small apartments of one, two, or three rooms, and a kitchen.

The importance of such changes may be recognised from the economic point of view of the proprietor as well as from the standpoint of the moral and the material welfare of the tenant. Increasing a number of stairways diminishes that abuse of walls and stairs inevitable where so many persons must pass up and down. The tenants more readily learn to respect the building and acquire habits of cleanliness and order. Not only this, but in reducing the chances of contact among the inhabitants of the house, especially late at night, a great advance has been made in the matter of moral hygiene.

The division of the house into small apartments has done much toward this moral regeneration. Each family is thus set apart, *homes* are made possible, while the menacing evil of subletting together with all its disastrous consequences of overcrowding and immorality is checked in the most radical way.

On one side this arrangement lessens the burden of the individual lease holders, and on the other increases the income of the proprietor, who now receives those earnings which were the unlawful gain of the system of subletting. When the proprietor who originally rented an apartment of six rooms for a monthly rental of eight dollars, makes such an apartment over into three small, sunny, and airy suites consisting of one room and a kitchen, it is evident that he increases his income.

education, and will have acquired a sentiment, rarely found even among the best classes; namely, the idea that they must *merit* through their own conduct and with their own virtue, the possession of an educated son.

Another advance made by the "Children's Houses" as an institution is related to scientific pedagogy. This branch of pedagogy, heretofore, being based upon the anthropological study of the pupil whom it is to educate, has touched only a few of the positive questions which tend to transform education. For a man is not only a biological but a social product, and the social environment of individuals in the process of education, is the home. Scientific pedagogy will seek in vain to better the new generation if it does not succeed in influencing also the environment within which this new generation grows! I believe, therefore, that in opening the house to the light of new truths, and to the progress of civilisation we have solved the problem of being able to modify directly, the *environment* of the new generation, and have thus made it possible to apply, in a practical way, the fundamental principles of scientific pedagogy.

The "Children's House" marks still another triumph; it is the first step toward the *socialisation of the house.* The inmates find under their own roof the convenience of being able to leave their little ones in a place, not only safe, but where they have every advantage.

And let it be remembered that *all* the mothers in the tenement may enjoy this privilege, going away to their works with easy minds. Until the present time only one class in society might have this advantage. Rich women were able to go about their various occupations and amusements, leaving their children in the hands of a nurse or a governess. To-day the women of the people who live in these remodeled houses, may say, like the great lady, "I have left my son with the governess or the nurse". More than this, they may add, like the princess of the blood, "And the house physician watches over them and directs their sane and sturdy growth". These women, like the most advanced class of English and American mothers, possess a "Biographical Chart", which, filled for the mother by the directress or the doctor, gives her the most practical knowledge of her child's growth and condition.

We are all familiar with the ordinary advantages of the communistic transformation of the general environment. For example, the collective use of railway carriages, of street lights, of the telephone, all these are great advantages. The enormous production of useful articles, brought about by industrial progress, makes possible to all, clean clothes, carpets, curtains, table-delicacies, better tableware, etc. The making of such benefits generally tends to level social caste. All this we have seen in its reality. But the communising of *persons* is new. That the collectivity shall benefit from the services of the servant, the nurse, the teacher–this is a modern ideal.

We have in the "Children's Houses" a demonstration of this ideal which is unique in Italy or elsewhere. Its significance is most profound, for it corresponds to a need of the times. We can no longer say that the convenience of leaving their children takes away from the mother a natural social duty of first importance; namely, that of caring for and educating her tender offspring. No, for to-day the social and economic evolution calls the working-woman to take her place among wage-earners, and takes away from her by force those duties which would be most dear to her! The mother

** See page 70.

CHAPTER IV

PEDAGOGICAL METHODS USED IN THE "CHILDREN'S HOUSES"

AS soon as I knew that I had at my disposal a class of little children, it was my wish to make of this school a field for scientific experimental pedagogy and child psychology. I started with a view in which Wundt concurs; namely, that child psychology does not exist. Indeed, experimental researches in regard to childhood, as, for example, those of Preyer and Baldwin, have been made upon not more than two or three subjects, children of the investigators. Moreover, the instruments of psychometry must be greatly modified and simplified before they can be used with children, who do not lend themselves passively as subjects for experimentation. Child psychology can be established only through the method of external observation. We must renounce all idea of making any record of internal states, which can be revealed only by the introspection of the subject himself. The instruments of psychometric research, as applied to pedagogy, have up to the present time been limited to the esthesiometric phase of the study.

My intention was to keep in touch with the researches of others, but to make myself independent of them, proceeding to my work without preconceptions of any kind. I retained as the only essential, the affirmation, or, rather, the definition of Wundt, that "all methods of experimental psychology may be reduced to one, namely, carefully recorded observation of the subject".

Treating of children, another factor must necessarily intervene: the study of development. Here too, I retained the same general criterion, but without clinging to any dogma about the activity of the child according to age.

ANTHROPOLOGICAL CONSIDERATION

In regard to physical development, my first thought was given to the regulating of anthropometric observations, and to the selection of the most important observations to be made.

I designed an anthropometer provided with the metric scale, varying between .50 metre and 1.50 metres. A small stool, 30 centimetres high, could be placed upon the floor of the anthropometer for measurements taken in a sitting position. I now advise making the anthropometer with a platform on either side of the pole bearing the scale, so that on one side the total stature can be measured, and on the other the height of the body when seated. In the second case, the zero is indicated at 30 centimetres; that is, it

corresponds to the seat of the stool, which is fixed. The indicators on the vertical post are independent one of the other and this makes it possible to measure two children at the same time. In this way the inconvenience and waste of time caused by having to move the seat about, is obviated, and also the trouble of having to calculate the difference in the metric scale.

Having thus facilitated the technique of the researches, I decided to take the measurements of the children's stature, seated and standing, every month, and in order to have these regulated as exactly as possible in their relation to development, and also to give greater regularity to the research work of the teacher, I made a rule that the measurements should be taken on the day on which the child completed each month of his age. For this purpose I designed a register arranged on the following plan:–

Day of month	SEPTEMBER		OCTOBER		
	Stature		Stature		Etc.
	Standing	Sitting	Standing	Sitting	
1					
2					
3					
4					
Etc.					

The spaces opposite each number are used to register the name of the child born on that day of the month. Thus the teacher knows which scholars she must measure on the days which are marked on the calendar, and she fills in his measurements to correspond with the month in which he was born. In this way a most exact registration can be arrived at without having the teacher feel that she is overburdened, or fatigued.

With regard to the weight of the child, I have arranged that it shall be taken every week on a pair of scales which I have placed in the dressing-room where the children are given their bath. According to the day on which the child is born, Monday, Tuesday, Wednesday, etc., we have him weighed when he is ready to take a bath. Thus the children's baths (no small matter when we consider a class of fifty) are sub-divided into seven days, and from three to five children go to the bath every day. Certainly, theoretically, a daily bath would be desirable, but in order to manage this a large bath or a number of small ones would be necessary, so that a good many children could be bathed at once. Even a weekly bath entails many difficulties, and sometimes has to be given up. In any case, I have distributed the taking of the weight in the order stated with the intention of thus arranging for and making sure of periodical baths. *

The form here given shows the register which we use in recording the weight of the children. Every page of the register corresponds to a month.

It seems to me that anthropological measurements, the taking and recording of which I have just described, should be the only ones with which the schoolmistress need occupy herself; and, therefore, the only ones which should be taken actually within the school. It is my plan that other measurements should be taken by a physician, who

The method of *observation* must undoubtedly include the *methodical observation* of the morphological growth of the pupils. But let me repeat that, while this element necessarily enters, it is not upon this particular kind of observation that the method is established.

The method of observation is established upon one fundamental base–*the liberty of the pupils in their spontaneous manifestations.*

With this in view, I first turned my attention to the question of environment, and this, of course, included the furnishing of the schoolroom. In considering an ample playground with space for a garden as an important part of this school environment, I am not suggesting anything new.

The novelty lies, perhaps, in my idea for the use of this open-air space, which is to be in direct communication with the schoolroom, so that the children may be free to go and come as they like, throughout the entire day. I shall speak of this more fully later on.

The principal modification in the matter of school furnishings is the abolition of desks, and benches or stationary chairs. I have had tables made with wide, solid, octagonal legs, spreading in such a way that the tables are at the same time solidly firm and very light, so light, indeed, that two four-year-old children can easily carry them about. These tables are rectangular and sufficiently large to accommodate two children along the long side, there being room for three if they sit rather close together. There are smaller tables at which one child can work alone.

I also designed and had manufactured little chairs. My first plan for these was to have them cane seated, but experience has shown the wear on these to be so great, that I now have chairs made entirely of wood. These are very light and of an attractive shape. In addition to these, I have in each schoolroom a number of comfortable little armchairs, some of wood and some of wicker.

Another piece of our school furniture consists of a little washstand, so low that it can be used by even a three-year-old child. This is painted with a waterproof enamel and, besides the broad, upper and lower shelves which hold the little white enameled basins and pitchers, there are small side shelves for the soap-dishes, nail-brushes, towels, etc. There is also a receptacle into which the basins may be emptied. Wherever possible, a small cupboard provides each child with a space where he may keep his own soap, nail-brush, tooth-brush, etc.

In each of our schoolrooms we have provided a series of long low cupboards, especially designed for the reception of the didactic materials. The doors of these cupboards open easily, and the care of the materials is confided to the children. The tops of these cases furnish room for potted plants, small aquariums, or for the various toys with which the children are allowed to play freely. We have ample blackboard space, and these boards are so hung as to be easily used by the smallest child. Each blackboard is provided with a small case in which are kept the chalk, and the white cloths which we use instead of the ordinary erasers.

Above the blackboards are hung attractive pictures, chosen carefully, representing simple scenes in which children would naturally be interested. Among the pictures in our "Children's House" in Rome we have hung a copy of Raphael's "Madonna della Seggiola", and this picture we have chosen as the emblem of the "Children's Houses". For indeed, these "Children's Houses" represent not only social progress, but universal human progress, and are closely related to the elevation of the idea of motherhood, to the progress of woman and to the protection of her offspring. In this beautiful conception, Raphael has not only shown us the Madonna as a Divine Mother holding in her arms the babe who is greater than she, but by the side of this symbol of all motherhood, he has placed the figure of St. John, who represents humanity. So in Raphael's picture we see humanity rendering homage to maternity,–maternity, the sublime fact in the definite triumph of humanity. In addition to this beautiful symbolism, the picture has a great value as being one of the greatest works of art of Italy's greatest artist. And if the day shall come when the "Children's Houses" shall be established throughout the world, it is our wish that this picture of Raphael's shall have its place in each of the schools, speaking eloquently of the country in which they originated.

The children, of course, cannot comprehend the symbolic significance of the "Madonna of the Chair", but they will see something more beautiful than that which they feel in more ordinary pictures, in which they see mother, father, and children. And the constant companionship with this picture will awaken in their heart a religious impression.

This, then, is the environment which I have selected for the children we wish to educate.

I know the first objection which will present itself to the minds of persons accustomed to the old-time methods of discipline;–the children in these schools, moving about, will overturn the little tables and chairs, producing noise and disorder; but this is a prejudice which has long existed in the minds of those dealing with little children, and for which there is no real foundation.

Swaddling clothes have for many centuries been considered necessary to the new-born babe, walking-chairs to the child who is learning to walk. So in the school, we still believe it necessary to have heavy desks and chairs fastened to the floor. All these things are based upon the idea that the child should grow in immobility, and upon the strange prejudice that, in order to execute any educational movement, we must maintain a special position of the body;–as we believe that we must assume a special position when we are about to pray.

Our little tables and our various types of chairs are all light and easily transported, and we permit the child to *select* the position which he finds most comfortable. He can *make himself comfortable* as well as seat himself in his own place. And this freedom is not only an external sign of liberty, but a means of education. If by an awkward movement a child upsets a chair, which falls noisily to the floor, he will have an evident proof of his own incapacity; the same movement had it taken place amid stationary benches would have passed unnoticed by him. Thus the child has some means by which he can correct himself, and having done so he will have before him

the actual proof of the power he has gained: the little tables and chairs remain firm and silent each in its own place. It is plainly seen that the *child has learned to command his movements.*

In the old method, the proof of discipline attained lay in a fact entirely contrary to this; that is, in the immobility and silence of the child himself. Immobility and silence which *hindered* the child from learning to move with grace and with discernment, and left him so untrained, that, when he found himself in an environment where the benches and chairs where not nailed to the floor, he was not able to move about without overturning the lighter pieces of furniture. In the "Children's Houses" the child will not only learn to move gracefully and properly, but will come to understand the reason for such deportment. The ability to move which he acquires here will be of use to him all his life. While he is still a child, he becomes capable of conducting himself correctly, and yet, with perfect freedom.

The Directress of the Casa dei Bambini at Milan constructed under one of the windows a long, narrow shelf upon which she placed the little tables containing the metal geometric forms used in the first lessons in design. But the shelf was too narrow, and it often happened that the children in selecting the pieces which they wished to use would allow one of the little tables to fall to the floor, thus upsetting with great noise all the metal pieces which it held. The directress intended to have the shelf changed, but the carpenter was slow in coming, and while waiting for him she discovered that the children had learned to handle these materials so carefully that in spite of the narrow and sloping shelf, the little tables no longer fell to the floor.

The children, by carefully directing their movements, had overcome the defect in this piece of furniture. The simplicity or imperfection of external objects often serves to develop the *activity* and the dexterity of the pupils. This has been one of the surprises of our method as applied in the "Children's Houses".

It all seems very logical, and now that it has been actually tried and put into words, it will no doubt seem to everyone as simple as the egg of Christopher Columbus.

Notes:

* Incidentally, I may say, that I have invented a means of bathing children contemporaneously, without having a large bath. In order to manage this, I thought of having a long trough with supports at the bottom, on which small, separate tubs could rest, with rather large holes in the bottom. The little tubs are filled from the large trough, into which the water runs and then goes into all the little tubs together, by the law of the levelling of liquids, going through the holes in the bottom. When the water is settled, it does not pass from tub to tub, and the children will each have their own bath. The emptying of the trough brings with it the simultaneous emptying of the little tubs, which being of light metal, will be easily moved from the bottom of the big tub, in order to clean it. It is not difficult to imagine arranging a cork for the hole at the bottom. These are only projects for the future!

suffocating a *spontaneous action* at the time when the child is just beginning to be active: perhaps we suffocate *life itself.* Humanity shows itself in all its intellectual splendour during this tender age as the sun shows itself at the dawn, and the flower in the first unfolding of the petals; and we must *respect* religiously, reverently, these first indications of individuality. If any educational act is to be efficacious, it will be only that which tends to *help* toward the complete unfolding of this life. To be thus helpful it is necessary rigorously to avoid the *arrest of spontaneous movements and the imposition of arbitrary tasks.* It is of course understood, that here we do not speak of useless or dangerous acts, for these must be *suppressed, destroyed.*

Actual training and practice are necessary to fit for this method teachers who have not been prepared for scientific observation, and such training is especially necessary to those who have been accustomed to the old domineering methods of the common school. My experiences in training teachers for the work in my schools did much to convince me of the great distance between these methods and those. Even an intelligent teacher, who understands the principle, find much difficulty in putting it into practice. She can not understand that her new task is apparently *passive*, like that of the astronomer who sits immovable before the telescope while the worlds whirl through space. This idea, that *life acts of itself*, and that in order to study it, to divine its secrets or to direct its activity, it is necessary to observe it and to understand it without intervening–this idea, I say, is very difficult for anyone to *assimilate* and to *put into practice.*

The teacher has too thoroughly learned to be the one free activity of the school; it has for too long been virtually her duty to suffocate the activity of her pupils. When in the first days in one of the "Children's Houses" she does not obtain order and silence, she looks about her embarrassed as if asking the public to excuse her, and calling upon those present to testify her innocence. In vain do we repeat to her that the disorder of the first moment is necessary. And finally, when we oblige her to do nothing but *watch*, she asks if she had not better resign, since she is no longer a teacher.

But when she begins to find it her duty to discern which are the acts to hinder and which are those to observe, the teacher of the old school feels a great void within herself and begins to ask if she will not be inferior to her new task. In fact, she who is not prepared finds herself for a long time abashed and impotent; whereas the broader the teacher's scientific culture and practice in experimental psychology, the sooner will come for her the marvel of unfolding life, and her interest in it.

Notari, in his novel, "My Millionaire Uncle," which is a criticism of modern customs, gives with that quality of vividness which is peculiar to him, a most eloquent example of the old-time methods of discipline. The "uncle" when a child was guilty of such a number of disorderly acts that he practically upset the whole town, and in desperation he was confined in a school. Here "Fufu," as he was called, experiences his first wish to be kind, and feels the first moving of his soul when he is near to the pretty little Fufetta, and learns that she is hungry and has no luncheon.

"He glanced around, looked at Fufetta, rose, took his little lunch basket, and without saying a word placed it in her lap.

The child, because of the peculiar characteristics of helplessness with which he is born, and because of his qualities as a social individual is circumscribed by *bonds* which *limit* his activity.

An educational method that shall have *liberty* as its basis must intervene to help the child to a conquest of these various obstacles. In other words, his training must be such as shall help him to diminish, in a rational manner, the *social bonds*, which limit his activity.

Little by little, as the child grows in such an atmosphere, his spontaneous manifestations will become more *clear, with the clearness of truth*, revealing his nature. For all these reasons, the first form of educational intervention must tend to lead the child toward independence.

INDEPENDENCE

No one can be free unless he is independent: therefore, the first, active manifestations of the child's individual liberty must be so guided that through this activity he may arrive at independence. Little children, from the moment in which they are weaned, are making their way toward independence.

What is a weaned child? In reality it is a child that has become independent of the mother's breast. Instead of this one source of nourishment he will find various kinds of food; for him the means of existence are multiplied, and he can to some extent make a selection of his food, whereas he was at first limited absolutely to one form of nourishment.

Nevertheless, he is still dependent, since he is not yet able to walk, and cannot wash and dress himself, and since he is not yet able to *ask* for things in a language which is clear and easily understood. He is still in this period to a great extent the *slave* of everyone. By the age of three, however, the child should have been able to render himself to a great extent *independent* and free.

That we have not yet thoroughly assimilated the highest concept of the term *independence*, is due to the fact that the social form in which we live is still *servile*. In an age of civilisation where servants exist, the concept of that *form of life* which is *independence* cannot take root or develop freely. Even so in the time of slavery, the concept of liberty was distorted and darkened.

Our servants are not our dependents, rather it is we who are dependent upon them.

It is not possible to accept universally as a part of our social structure such a deep human error without feeling the general effects of it in the form of moral inferiority. We often believe ourselves to be independent simply because no one commands us, and because we command others; but the nobleman who needs to call a servant to his aid is really a dependent through his own inferiority. The paralytic who cannot take off his boots because of a pathological fact, and the prince who dare not take them off because of a social fact, are in reality reduced to the same condition.