A STUDY OF THE PHILOSOPHY OF OTTO SALOMON, AS SET FORTH IN THE EDUCATIONAL SLOYD SYSTEM OF SWEDEN, AND HIS INFLUENCE ON INDUSTRIAL ARTS

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ON INDUSTRIAL ARTS

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CHAPTER I

INTRODUCTION

A study of the history of education will reveal that manual training is not of modern introduction to the school curriculum. Educators for many years have advocated it in theory, although the educational value has not been shown through practice until the time of Franke. A discussion of this will be found in Chapter II.

The origin of manual training is attributed to Johann Amos Comenius - "a general knowledge of mechanical arts should be given, that boys may better understand the affairs of ordinary life and that opportunities be thus given to boys in order to find out their special aptitudes."¹

Being a reader of educational literature, Otto Salomon drew from the great educators who had preceded him, the framework on which to establish his Educational Sloyd System of Sweden. This fact can be observed by a study of Salomon's lectures in which he discussed many fields of general education, as well as sloyd in particular.

To students and teachers the term "sloyd" may be associated with a common knife used in laying out, but in this study it will be shown that for the Swedish people it had a

¹J. P. Munroe, The Educational Ideal, p. 84.
richer and deeper meaning. In reference to the term Salomon says:

Sloyd, then is a foreign name for a foreign method; but as the method is the most thoughtfully worked-out system of its kind, it is best to retain the foreign name, even if the method is modified a little to suit English practice. It is less cumbersome, too, than such terms as 'Handwork,' 'Manual Training,' and possesses this important and unique advantage, viz., it implies a system of manual work founded purely upon educational principles, and with aims which are solely educational. 2

Statement of Problem

This study was made to determine the contribution to the field of education of the philosophy of Otto Salomon as set forth in the Educational Sloyd System of Sweden and to analyze or show his influence on the teaching of Industrial Arts.

Since America is a comparatively new country as compared with the other countries whose educators have had influence on the field of education, and have had their highly developed school systems for many years, many American educators went to Europe to study the systems of these countries. Many of the educators interested in manual training programs made many trips to Europe to observe and inquire into these systems. Since Swedish Sloyd is one of the better systems in that it is founded on educational principles, it was thought that America might gain some insight into the philosophy of manual training from Swedish Sloyd not before considered.

Definition of Terms

In Swedish the adjective "slog" means "handy" and from it comes the noun Slöjd (modified Sloyd), which means dexterity, manual skill, or artistic skill. An old Teutonic base "slah" had derivation "slay" in English, "schlag" in German. "Slay" meant "to kill with a blow," and "schlag" means a "blow." The use of the hammer was taken as the type of handicraft, and consequently of skill, and from this we get the English "sly" as meaning "cautious, dextrous."

But the Swedish word "Slöyd" when used in other languages has a restricted meaning referring only to the educational idea, which is a system of educational handwork. The word "system" is meant to convey the idea of a plan running through the work. We use the term sloyd knife, which is a heavy, straight, rigid knife used in laying out and seems to be the only term that has been adopted in America from the Swedish Sloyd.

Sloyd was primarily a means of "formal" education as opposed to material. "Material" education seeks to impart a definite knowledge of things for their own sake; while formal education seeks chiefly to develop the innate mental powers, and selects and imparts knowledge in order to strengthen character, will-power, memory, and perception. With reference to manual work the chief aims of the material school of thought should be an acquaintance with the use of tools and cultivation of a general dexterity of hand; the formalist said stress
should be laid upon proper development of powers and faculties of the child. Sloyd has its chief aims in the development of the mental, moral, and physical forces of the child.

The term "Manual Training" is generally applied to all forms of constructive handwork when used as an agent in general education.

"Industrial Arts" is a study and acquisition of those skills and industrial experiences which will enable an individual to live more effectively.

Sources of Data

The data used in this study were obtained from books, pamphlets, and periodicals on topics concerned with general education, history of manual training as a part of the school curriculum, histories of general education, proceedings of educational societies, recordings of professional meetings, lectures of professional educators, and life, works, and philosophy of Otto Salomon.

Delimitations of Problem

This study is limited to the development of "sloyd" as a system of manual training and as an integral part of general education. The various systems of manual training will not be studied. The effect of the Educational System of Sweden on the Manual Training program of America and what traces remain in the Industrial Arts courses as taught in the schools of today will be considered.
Procedure

This study is to be presented in five chapters. The first chapter concerns the introduction to the problem, the statement of the problem, the sources of data, the definition of terms, the delimitations, the procedure, and related studies.

In Chapter II the philosophies of a few educators who influenced the philosophy of Otto Salomon will be briefly discussed. In the biography of Salomon his writings will be mentioned, also the conditions of the country of Sweden will be discussed and the need for a new type of education, all of which is background for the philosophy of Salomon.

A discussion of the philosophy of Otto Salomon as set forth in the Educational Sloyd System of Sweden will be the topic for Chapter III.

The influence of Salomon's philosophy on the teaching of manual training in America, the manner in which it was introduced into the schools, the opposition from some educators as well as the approval of others, and factors found in the Industrial Arts Program today will be pointed out in Chapter IV.

The final chapter includes a summary and recommendations.

Related Studies

Due to growing interest in the United States toward the teaching of manual training, educators visited Europe and observed the manual training movements. John M. Ordway of the
Institute of Technology of Boston went to Sweden and attempted to extract constructive ideas for establishing sloyd programs in this country. After much research Ordway remarked:

The Swedish idea of introducing sloyd in the public school is worthy of adoption everywhere, and a paper advocating this and coming out from month to month so as to serve as a continual reminder should have more influence than occasional lectures or discussions.\(^5\)

Ordway's report did much to stimulate interest in the sloyd movement in this country. He sponsored a paper which was edited by Lars Eriksson, a sloyd teacher from Sweden.

Another educator, Gustaf Larsson, came to this country after studying under Otto Salomon at Mäss. He held to Salomon's principles although he realized adjustment should be made to suit the American situation. Larsson conducted many studies to develop means of promoting the acceptance of sloyd in this country. The following excerpt is from an article in memory of Otto Salomon.

Herr Salomon has discovered more than thirty years ago the cultural value of manual training, to which President Eliot of Harvard University has just called the attention of the Summer School at Cambridge and is quoting President Eliot's words just here, I feel I am giving voice in clear vigorous English to the earlier message of Herr Salomon.

In speaking of the teaching of music, manual training, and the like in public or private schools, President Eliot says, "Shall we call the training of these human vehicles of expression, of impression, of reasoning, of reasoning,

of apprehension, of observation — shall we call the training of the hand and eye a fad? It is better worth doing for culture's sake, than learning to spell or to know the names of capes, gulfs, and capitols of the world, immeasurably better as culture, as training, as giving power.4

Ray Stombaugh, a professor of Columbia University, made a recent study of the movements in manual training of this country. He showed the influence of Swedish Sloyd on the teaching of manual training and compared its influence with that of the other movements. He states:

The outstanding characteristics of the work of sloyd were individual methods of instruction, the useful model, the encouragement of pupil initiative and self-direction. Although the sloyd system was an improvement over the Russian system, if judged on the basis of modern educational philosophy, it was not without its critics.5

Other educators have emulated Ordway, Larsson and Stombaugh and their findings were in the same vein as the above educators. The following chapter will give the background of the origin of Swedish Sloyd.


CHAPTER II

SALOMON - THE ORIGINATOR OF THE SWEDISH SLOYD

The Swedish families for many years had spent their evenings at some kind of handwork, which was termed sloyd. Although this handwork, such as is generally carried on in connection with the domestic life of a country, had been skillfully practiced, the sloyd schools were established to enrich the general education of the children. Herr August Abrahamson and his nephew, Otto Salomon, established such a school on Abrahamson's estate at Näs for the benefit of the children residing on the estate. August Abrahamson's fortune was devoted to this school which has become an international institution.

When Otto Salomon became director of the Sloyd School at Näs, he knew little of the philosophy of education in regard to the teaching of handwork. But as he had a keen interest in this movement, he set to work studying the writings of the preceding educators, particularly those who had advanced the theory of manual training. Salomon is the author of several books, monographs, and articles for magazines upon educational handwork. A few of the educators that influenced Salomon and the evolving idea of manual training will be mentioned briefly.
The first educator listed by Salomon in his history of manual work is Martin Luther, who in his Circular Letter in 1524 laid great stress upon the necessity of having children to work at some practical task: "My intention is that we should have the boys go to a school for an hour or two a day, and then spend the rest of their time at home and learn some handicraft, especially that for which they are destined, so that both may advance while they are young."\(^1\)

"The Father of Modern Education," Johann Amos Comenius, showed in his work the true significance of manual training. He set forth the idea that order and method shall reign intelligently, in which the eye and hand shall have equal training with the mind.\(^2\)

The idea of teaching manual training had advanced in theory when August Herman Franke about 1694 established in his institute the instruction in various types of handwork and showed practically that he by no means considered manual training an incongruous element in education. Although these courses were taught for economical reasons, Franke stated "the children should not work for the making of as many objects as possible, but they should work for their own development" and "the teacher shall not be allowed to help the child in its work."\(^3\)

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\(^2\) J. P. Munroe, *The Educational Ideal*, p. 86.
\(^3\) Salomon, *op. cit.*, p. 129.
Later these same thoughts are repeated in the philosophy of Salomon.

Jean Jacques Rousseau, the many-sided genius, whose *Émile* is a pedagogical gold-mine, placed the child as the center of pedagogical inquiry and stated concerning the value of handwork, "will learn more by one hour of manual labor than he will retain from a whole day's verbal instruction." This recognition of manual training opened a new era of thought.

Johann Heinrich Pestalozzi spoke of the importance of a methodical arrangement in the teaching of manual training. He encouraged the students to engage in this activity between theoretical lessons. Emanuel von Fellenberg and he strove to develop a national system of education.

Friedrich Froebel founded the Kindergarten System which depends upon the principle of activity work in various materials. "That man only understands that which he is able to produce." It proved that handwork is one of the dominant interests of the child and demonstrated the absolute dependence of brain-growth upon manual training. Thus from this Froebelian spirit came the establishment of the manual training program.

Finland has the honor of being the first country to give educational handwork a distinct place in the national system of education. Uno Cygnaeus was responsible for the establishment

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of slöyd as a compulsory subject in primary school in 1866. He grasped the ideas of the educators who had preceded him, as can be seen from a letter to Wichard Lange in 1882.

We owe to Pestalozzi the development and building up of the intuitive method of education, which find special expression in his exercises in intuition in thinking and speaking. Then appeared Froebel who urged that the child must not only practice intuition and through intuition express the representation that he has received, but should also learn to carry out in play, and in smaller pieces of handwork, that which he has grasped; must as a productive being be educated from the beginning to self-activity and productive energy; must thus be educated through work, for work... I was led to the thought that we must introduce into the school not only Froebelian gifts, and the rest of the exercises in work recommended by him, but also establish for elder children such kinds of handwork as have for their aim the training of the hand, the development of the sense of form and of the aesthetic feeling, and help young men to a general practical dexterity, which shall be useful in every walk of life. Such works are simple joinery, turnery, basket-making, etc. But all these kinds of work must not be conducted like a trade, but always with the strict reference to the universal educational aim, and as a means of formative education.6

It was from a meeting with Cygnæus and through the exchange of letters with him, that Otto Salomon studied the slöyd system as set up in Finland and gained two leading ideas --"The Folk School was the foundation of all after learning" and "Slöyd, a means of formal, as opposed to material education."7 But Salomon was not pleased with the manner in which the principles had been worked out in Finland and the fact

6 Salomon, op. cit., p. 143.  
7 Ibid., p. ix.
that Sloyd had not advanced past the stage of home industries. His purpose was to extend this system.

Before discussing the philosophy of Otto Salomon, a short study of his life and the conditions of the country of Sweden should be considered to understand why the need for a new type of education.

Otto Salomon was born in Gothenburg, November 1st, 1849, of Jewish parents. He received his early education in preparatory schools. He then proceeded for a few years to the Real Gymnasium in Gothenburg. He entered the Tekniska Hogskola, the Academy for the Training of Engineers. The next year he left to assist his uncle, August Abrahamson, in the management of his estate at Nääs.

Besides his duties at Nääs, he spent two hours a day in helping the parish schoolmaster. He also started an evening school for the farm servants and a Sunday School for the children of the parish. In 1878 he was married to Ellen Wahren, the daughter of a woollen manufacturer at Nörrköping.

As Home Sloyd had become "home industries," schools had been established for purely economical reasons. Herr Abrahamson was struck by the new movement. In 1872 a work school for boys was established at Nääs. Seven hours out of ten were spent in some kind of sloyd, besides courses in mathematics, drawing, and physiography.

In 1874 Herr Salomon became Inspector of Sloyd Schools for the middle district of Älfsborg län (county). To meet
the demand for teachers of Sloyd, a training department was opened at Nääs. This early attempt at the training of teachers of Sloyd was to turn intelligent artisans into schoolmasters; later he trained teachers from the ranks. The plan for this 1874 attempt is found in the proceedings for that year of the Lantbruk-Akadomie, in Stockholm in the paper entitled "Something About Sloyd and Sloyd Teaching." This first class lasted one year and taught besides sloyd, mathematics, natural science, drawing, and pedagogy. There were only three students at this first course.

Salomon desired to make home industries general, so he appealed to the Folk School. How sloyd could serve educational means was not clear to the school authorities; although this idea had appeared in the pamphlet of 1874 and more forcibly in 1876 in a pamphlet entitled "Sloyd Schools for Folk Schools". It was stated in the pamphlet that the chief aim of sloyd teaching was to teach "the children of working men to love bodily labor and give them the capacity to use the hands on which their living would depend."

It was at this time that Salomon made a trip to Finland to study the teaching of sloyd in the schools. He decided the teacher alone could make the teaching of sloyd educationally useful, and he strove to unite the Sloyd School and the Folk School as one. In 1878 he taught a five or six weeks

8Salomon, op. cit., p. viii. 9Ibid., p. ix.
course in sloyd for the ordinary teacher. This plan was so popular that the seminary plan was discontinued and the short courses expanded. It was also offered to teachers from abroad.

Salomon made two modifications of the work as carried on in Finland. He subjected all the kinds of sloyd taught in the schools to certain fundamental educational tests among the children, and discovered that, of all the materials used, nothing was so well adapted as wood for the purpose of formative education. He then confined the manual training of the school to working with wood.

The principles of Herr Salomon were listed in his Sloyd As a Means of Education (1884) and his Teacher's Handbook (1890); the most important of these:

1. The concentration on one form of sloyd
2. The making of useful articles, and not of articles of luxury, nor yet of parts of articles, e.g., joints
3. The teaching based on educational principles, the work methodically arranged
4. The instruction to be given by a trained teacher, not an artisan
5. Voluntary (the child must not be forced to learn, nor any particular teacher obliged to teach sloyd) and individual teaching
6. Positions to be chosen suitable for physical development
7. Drawing and sloyd to be combined.

Otto Salomon was not interested in sloyd alone. He had great knowledge of educational literature, which can be seen by reading through his various lectures; for he always draws from some great educator to reiterate his point.

Ibid., p. x.
Herr Salomon is quoted as saying, "Should the day ever come when I arrange a course of work exactly like the previous one, I shall think it right at once to retire and let another take my place."

After a short illness Otto Salomon passed away at the age of fifty-eight. His greatest educational influence was in Sweden, but his ideas of education have been felt the world over.

Conditions in Sweden Before 1870

In Sweden the days are short, the darkness comes early and lasts until nearly nine in the morning. For many generations this time of darkness had been spent at the family fireside making useful articles for the home. The men and boys would make toys, small articles of furniture, hammer handles, forks, spoons, and other small items needed in the home; the women would spin, knit, and busy themselves with sewing. The family was household centered and was carried on to meet the needs of the family; but at the same time one cannot overlook the factors of discipline and character that were included: training in habits of order and of industry, and in ideas of responsibility, obligation to do something, and to produce something. This handwork carried on at the fireside was referred to as sloyd. As time passed certain

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sections of the country became known for a particular article that was produced there. The rural folk would sell their articles; thus, gradually, home slöyd became domestic industries, but the children continued to receive instruction in handwork in the home until the Seventeenth Century.

At that time came the introduction of power machinery and the factory system. This broke down home slöyd and domestic industry, as ready-made garments were a pleasing novelty and not too expensive. With the Industrial Revolution came farm implements which before had been very difficult to make and too expensive to buy; so the farmer now spent more time working with the soil.

Another cause for the breaking down of home slöyd was that the people had become more intellectual. The parents who could not read were learning from their children, or had the children read to them. Time that had been spent making articles was now spent reading. Also at this time there were many religious movements in Sweden and many people spent their leisure time at meetings.

Sale of alcoholic drinks had grown to great heights. In some parts of Sweden liquor was accepted as money. Time that the father had spent with his family was now, too often, spent at the local pub drinking. The lowered health status of the people, the weakened moral and mental characteristics, brought to the attention of the government the serious consequences of the situation.
They realized it was useless to bemoan the departure of the "good old days" of children's modesty, reverence, and implicit obedience as learned in the home. The educational spirit all over Europe was "learning by doing;" so the government set about to revive home sloyd by the establishment of schools in which sloyd was to be taught. These first schools were one step removed from home sloyd. These schools, on an economic basis rather than on an educational basis, produced what could be sold without reference to educational value. The teachers were expected to assist as much as possible and often furnish the article.

Before 1944 sloyd schools had become numerous. The government in 1872 awarded annual subsidies to encourage communities and instructors to teach sloyd. Perhaps one reason for some educators to connect wood-carving with the sloyd system as pointed out by Bennett, "Almost everywhere they practice wood-carving, a work of little educational value, and a certain defiance was manifested toward sloyd."12

The aim of most of these first sloyd schools was to prepare the children of the common people to earn their living. Gradually the true educational process for complete moral, physical and intellectual development of the child was seen in the school. This was due mainly to the work of Salomon.

12C. A. Bennett, History of Manual Training and Industrial Arts From 1870 to 1917, p. 103.
CHAPTER III

PHILOSOPHY OF SALOMON

With the founding of the Slöyd School at Nääs, Otto Salomon was not content to see handwork taught for utilitarian purposes. Uno Cygnæus had first projected the idea of making handwork a means of Formative Education. Transplanting these ideas to Sweden, Salomon devoted his attention to a system of wood-work based on scientific principles. He took into consideration every minute detail in the teaching of slöyd. It can certainly be said that theory and practice went hand in hand at Nääs with the complete development of the child as being of utmost importance. The aims and principles of Swedish Slöyd were written in very concise form, but Salomon always elaborated on each point so as not to be misinterpreted.

The first consideration given to any change advised at Nääs was "Is it educational?" Swedish Slöyd belonged to Formative Education, as its chief aims were the development of the mental, moral, and physical forces of the child. Salomon believed that you could not teach with these aims without at the same time giving knowledge of, and dexterity in, the use of tools; but these were secondary to the chief aims. Slöyd was not added to the school to fill a gap since the teachers
had sufficient subjects to teach, nor because it was fashionable; it was felt Sloyd could supply an educational value not furnished in the other subjects.

The aims of Sloyd are divided into two classes: formative and utilitarian. The formative aims are:

1. To instill a taste for, and a love of, labour in general.
2. To inspire respect for rough, honest, bodily labour.
3. To develop independence and self-reliance.
4. To train in habits of order, exactness, cleanliness, and neatness.
5. To train the eye for a sense of form. To give a general dexterity of hand, and to develop touch.
6. To accustom to attention, industry, perseverance, and patience.
7. To promote the development of the physical powers.

The utilitarian aims are:

1. To directly give dexterity in the use of tools.
2. To execute exact work.

Some educators thought the sloyd models could be made and a course in sloyd was completed; but unless the aims were fulfilled little would be known of educational sloyd.

Before discussing Salomon's aims, the principles that govern the method used by him to accomplish these ends will be listed. The method used in Educational Sloyd made it decidedly different from the other forms of manual training introduced in Europe. The method in Sloyd is governed by the following principles:

1. The instruction must go from easy to difficult.
2. The instruction must go from simple to complex.

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1 Salomon, op. cit., p. 7.
3. The instruction must go from the known to the unknown.
4. The teaching must lay a good foundation.
5. The teacher should possess educational tact.
6. The teaching should be interesting in character.

Of special importance:
7. The instruction should be intuitive in its character, through the senses, touch and sight.
8. The teaching should be individual in character.
9. The instructor should be a teacher and not a mere craftsman.

The terms "easy" and "difficult" are relative terms and the teacher must decide what these terms imply to the child. It is only through observation that this knowledge can be gained. The exercises and not the models determine the degree of complexity. Single exercises are looked upon as simple and the combination of these exercises in a model are complex.

The knife was selected as the tool to be used in the first exercises, because it was felt that every boy had cut on a stick with a knife, and more manual dexterity could be cultivated with it than with any other tool. Comenius says, "The knife is a tool by the sole use of which a finished object can be produced."3

It is very difficult to teach one who has been badly trained; therefore, if sloyd is to lay the foundation for the physical, mental, and moral development of the child, it has to be that which suits best to the proper development of the child. This principle is one of the main reasons for

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2Salomon, op. cit., p. 10. 3Ibid., p. 12.
individual teaching in sloyd, which will be discussed more fully later in this chapter.

Salomon believed that the teacher was the only one who could make sloyd educationally useful. Educational tact was an attribute of every real teacher. This tact is the index to the teacher as to how and when he should act. Salomon set up seven conditions when this tact had to be employed:

1. When determining the amount of exactness and accuracy to be demanded
2. When deciding the number of times a child should make a model before passing to the next
3. When determining the amount of time a child is to persist at the same piece of work
4. When estimating the ability of the child
5. When to take into account the child's general temperament and disposition
6. When to conjecture the temporary humour or mood of the child.
7. When to allow the child to relax its efforts.

From sloyd the pupil derives great advantage from constant use of his faculties of observation and perception. The pupil must be trained to observe for himself. The student observes the teacher using a tool and estimates the amount of force to apply. The model itself is used for the improvement of intuition, later the drawings are added and finally the drawing alone. In the higher stages of sloyd when the pupil is advanced in drawing and is dextrous in the use of tools, he might develop original designs and models by re-arranging the combinations of exercises already practiced.

Children are by nature inquisitive and want to know about new objects to the point of taking them apart. A child will

cast aside a bought toy for one he has created from the imagination. "Like the thirst of knowledge, the thirst for activity commences at a very early age." The desire to make or construct something begins at an early age and grows in interest and should be cultivated. To turn their activity into that channel which will develop it in a beneficial and useful way, for the ultimate advantage of the individual and others, is the immediate purpose of teaching. The advantage of sloyd is that it can be enjoyed on account of its own intrinsic merits. With these thoughts in mind it is not difficult to teach sloyd if one instills a taste for and a love of labour in general. Also are these special principles laid down for giving effect to this aim:

1. The models must be useful from the child's standpoint.
2. The work should not involve fatiguing preparatory exercises. In working out this principle the four stages of progression to be observed are:
   a. Absolutely concrete—model
   b. Combination—model and drawing
   c. The abstract—the drawing alone
   d. Devise object—draw, construct from the drawing.
3. The work must afford variety.
4. Children must be capable of doing the work themselves.
5. The work must be real work, not a pretense at it.
6. The objects made should become the property of the child.6

The philosophy underlying the second aim as expressed by Salomon is:

5 Ibid., p. 18.  
6 Ibid., pp. 20-27.
From a social point of view, if we would get rid of the antagonism between different classes of the community, and bring about a good understanding between them, it is absolutely necessary that each should respect and appreciate the work of the other; and that everybody alike should understand that all work, mental or manual, gives dignity to all who engage intelligently and properly therein. All work, rightly so-called, is good, honourable, and valuable. Herbart says: "Who sweeps a room as for Thy laws, makes that and the action fine."

It is necessary for all classes rightly to appreciate manual labour, whether they make their living by it or not. 7

The same principles as applied to the first aim could aid in achieving the second aim, "to inspire respect for rough, honest, bodily labour."

In order to accomplish the third aim, "to develop independence and self-reliance," Salomon felt that individual teaching was of utmost importance; for we must help each child to utilize that which he knows and urge him to show some visible expression and practical application of this knowledge. Self-reliance can best be encouraged if work is adapted to the capability of the child, then he will not have to depend on others.

The teacher should conduct, control, and superintend the work, but must guard against putting his hand to it. Nothing is gained by getting the child to produce a faultless model if this is not the result of his own unaided exertion. 8

If the teacher needs to show the student it should be done

7Ibid., p. 23.
8B. B. Hoffman, The Sloyd System of Wood Working, p. 27.
on another piece of wood. The teacher should allow the child to attempt to handle a tool before giving suggestions. The important factor involved is that the children should think and judge for themselves.

As the fourth aim Salomon listed was the following idea "to train in habits of order, exactness, cleanliness, and neatness." These habits have an undisputed value in life and in a sense are the foundation of an aesthetic education. The term "order" refers to the proper step by step procedure of making a model. This should be the same for each child. The term "exactness" refers to the measurement of the model and the same amount of exactness would not be expected of each child. Salomon listed the following suggestions to accomplish this end:

1. The work should be such that the pupil can make it with order and exactness.
2. The models must be carefully graduated according to their difficulties.
3. The work must be such that the teacher can easily control it.⁹

It was more important to consider when a model was well formed than to decorate it; carving only served to cover up faulty work. Symmetry precedes ornament in the aesthetic. When a child spends too much time working on one model, his conception might imagine perfection. Rather than rely on another sloydor, the child should put the model aside and return after working at another model. He then can see the

⁹Salomon, op. cit., p. 35.
error and thus train the eye and the sense of form. Exercises of observation through the senses of touch and sight will aid in the cultivation of the general dexterity of the hand.

It is necessary for man to learn to use his hands, otherwise he is neglecting the cultivation of one of the most potent and valuable gifts of God to man. It is a very complex organ, an instrument of remarkable structure and possesses an extensive range of powers. It can do very coarse and heavy work or execute the lightest and most delicate operations.10

In the examination of models and the correction of children’s faults, it is necessary to discriminate between errors which arise from defective skill and those which arise from defective observation, and if from defective observation, whether it be hand, or eye, or both.

The true stimulus to attention is interest. If properly taught, the interest in sloyd will increase. Harwood says, "By introducing into the course of study systematic training in sloyd, so attractively presented that the question of compulsion never enters into the child’s thoughts, sloyd has been emphatically called a labor of love."11 To be properly taught sloyd must include a variety of tools, models, exercises, and the child is not forced to repeat any exercise if he has tried sufficiently and failed. Also to help the child become

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10 Ibid., p. 40.
"accustomed to attention," the child learns that he must pay attention to the teacher to continue his work. He finds that his models are well done if he has followed the teacher's suggestions.

Salomon writes: "When manual work has been introduced many who are dull when the head works without the hand, excel when the use of the hand is required as well as that of the head." To develop the habit of industry the dull pupil now has something with which he can express himself. All the children realize that it is more advantageous to work more, for then more models can be finished. The relation between industry and progress has now been formed.

Salomon did consider the physical development to be of equal importance with the mental and moral development of the child. The child should learn to work from the left side as well as from the right side (which is sometimes now questioned by psychologists). The teacher's habits were fixed and he was not obliged to change the procedure. At Nääs the children were taught to use either hand and found no difficulty in adjusting. The child should be trained to watch the position of the chest, the head, and the feet when working.

Each principle governing the method of teaching sloyd fits into the aims, so there is complete unity with the development of the child as the important aim. The teacher of sloyd certainly had to have a sincere interest in the children as well as the teaching of sloyd.

12 Salomon, op. cit., p. 47.
Class Teaching Versus Individual Teaching

Class teaching is a term used when a number of children listen at the same time to the instruction of the teacher. In class teaching the class is regarded as a unit. The development of the individual child is not considered, it is rather the development of the class. Psychologists hold that no two children are the same physically, morally, or mentally. If this is true, it follows that class teaching is not good in sloyd or in any other subject. Class teaching may be good economically, but it is not good educationally.

In class teaching the rate of progress is usually adjusted to the capacity of the average child; the bright ones receive too much instruction and the dull ones not enough. Soon the bright students lose sight of self-reliance, reflection and forethought; the dull ones lose interest in the work.

Another objection to class teaching is that the teacher must speak to the whole class at once. At a signal the teacher speaks thereby interrupting the thinking of the individual worker, which will retard progress. The sixth aim of Salomon's sloyd breaks down.

The average teacher cannot supervise more than sixteen or twenty pupils, according to Salomon. At Nääs not more than twenty teachers could be taught at one time, and with children the discipline problem presents itself.

Salomon would agree that class teaching might be given in the use of tools, but this should not precede the
experimental use of them by the children. To Salomon education was of the utmost importance and instruction a secondary matter.

Series of Models

Neither models nor tools should form the basis of any method of teaching manual training; the child is the important factor. Exercises performed with one tool do not become more or less difficult when practiced with the assistance of other tools. Models are combinations of exercises. The models of the Näss System are arranged from simple to complex with regard to the exercises involved in each model. Salomon set up ten points for the choice of models:

1. All objects of luxury — knick-knacks — should be excluded.
2. All models should be serviceable in the house.
3. They should be capable of being finished by the children without help.
4. The models should be of wood, and only wood should be worked in, as a rule.
5. The objects should not be polished or stained.
6. The objects made should be such as to require as little wood as possible.
7. The children should be taught to work in harder and softer kinds of wood.
8. Turnery and carving should be used very little.
9. Objects chosen should be such as will develop the sense of form.
10. All the exercises which the child is capable of making, should be properly graduated and included in the series in due proportions.\footnote{Ibid., pp. 72-74.}
The eight principles for the arrangement of the series of the models are:

1. The series should proceed from the easier to the more difficult, and from the simpler to the more complex.
2. A refreshing variety must be afforded.
3. In the early part of the series, the models should be capable of being quickly and easily made, and should be so progressively arranged that, later on, the objects arrived at should require more time and skill, and yet be capable of being done without help.
4. In the production of the early models, few tools should be required.
5. That every model should be so placed in the series, that the necessary qualifications for doing it exactly are found in the child.
6. The models must be so arranged that the pupils can always make not only a serviceable, but an exact copy.
7. That the knife—as the fundamental tool—be used frequently, especially at the beginning.
8. That generally in the early models the softest wood should not be used.  

Salomon felt that students should use regular size tools. If the child could not use ordinary size tools, it was evident he was too young for the work. It was important that the class should have sufficient tools; if economically possible, it was best for each child to have his own set of tools for which he was made responsible, and also to keep them sharpened. From an economic point of view the advantage would be with individual teaching, for in class teaching each child would need the same tool at the same time and, therefore, would need the same number of tools of each kind as there are students in

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the tools should be kept in cupboards with each tool having its place so that the teacher may see at a glance if any are missing.

Models No. 1a and 1b.—Reading Pointer, or Basket Wedge.

Size—10 cm. x 8 cm. Wood.—Birch of lime.
Tools.—Knife, rule, pencil.
Exercises.—(1) Long cut; (2) cross cut; (3) oblique cut; (4) finishing.
Drawing (on wood).—Parallel and converging lines. Square, octagon, and circle.
Educational value.—Training in dexterity of hand through drawing and cutting; training of eye to sense of form (straight and curved); cultivates patience and care; promotes accuracy and neatness.
Time.—About 2.5 hours.

Model No. 50.—Small Table.

Size.—76.5 cm. x 34 cm. Wood.—Deal
New Tools.—None
Exercises.—Repeated—(1) Sawing off; (2) vertical sawing; (3) face planing; (4) squaring; (5) gauging; (6) edge planing; (8) oblique; (10) filing; (11) smoothing up; (12) gluing; (13) plain jointing; (14) gluing with clamp; (16) perpendicular chiselling; (17) concealed mortising; (9) chamfering; (15) blocking; (18) mortised blocking.

Drawing.—Right lines and curves; plan and elevation of legs.
Educational value.—Training in dexterity of hand; training of eye to sense of form (flat, jointed, and pyramidal); training of aesthetic faculty; promotes interest and love of labour; promotes uniform physical development.
Time.—About 18 hours.

The above are model 1a and 1b which are the first models listed in the Salomon Sloyd System and Model 50 which is the

15 Ibid., p. 90.
last. The first five exercises are made with the knife, which was the fundamental tool as the child was most acquainted with it and could use it easier; it cultivates the greatest amount of manual dexterity, and is the tool the child will find most useful in later life.\textsuperscript{16}

Kinds of Sloyd

Bearing in mind that sloyd is a system of formative education—a means of developing the child's faculties—what form of sloyd should be taught? The following reasons were listed by Salomon for not teaching different kinds of sloyd at alternating periods.

1. Because the School has already subjects enough, and every branch of Sloyd is a new subject.
2. The time for Sloyd must necessarily be short and limited, if justice is to be accorded to other subjects.
3. We must not require too much from the teacher.\textsuperscript{17}

Then if there is to be only one kind of sloyd taught, which shall it be? Salomon rearranged his aims in the following manner to test which would be the better type to teach.

1. It should accord with the children's capabilities.
2. It must excite and sustain interest.
3. Objects made should be capable of being used by the children in the home or elsewhere.
4. Give respect for rough (inferior) kinds of labour.
5. Train to habits of order and exactness.
6. Allow for cleanliness and neatness.
7. Must cultivate the sense of form.
8. Must be beneficial from a hygienic point of view.

\textsuperscript{16}\textit{Ibid.} \hspace{1cm} \textsuperscript{17}\textit{Ibid.}, p. 115.
9. Allow for methodical arrangement.
10. Must teach the child dexterity of hand.

The twelve different kinds of sloyd were submitted to the above tests and their educational value estimated not only by theory but by observation and practical experience. The different kinds of sloyd are as follows: Simple metal work, smith's work, basket making, straw plaiting, brush making, house painting, fretwork, bookbinding, cardboard work, sloyd carpentry, turnery, carving in wood. Sloyd carpentry satisfies all the educational tests (see following plate). There was some objection to the use of sandpaper for health reasons, but sandpaper is not dangerous to children unless overused. The amount of sandpaper allowed for a model should be the same throughout the series, as the model increases in size the amount of sandpaper should not increase.

Salomon states that as sloyd carpentry is the only type that satisfies all the educational tests, it is best, for that reason, to teach it to the children. Salomon concentrated his attention on combining the exercises into models using a small amount of wood; some metal could be used for such things as hinges. He believed the knowledge and dexterity gained in working with wood could be transferred to other types of sloyd; examples of this would be such as simple metal work, smith's work, etc.

18 Ibid., p. 116.
The following plate was taken from *Theory of Swedish Sloyd*, Otto Salomon, p. 118.

**Comparative Table of Different Kinds of Sloyd.**

|-------------------|---------------------------------------------|----------------------------------------|---------------------------------|------------------------------------------|------------------------------------------|---------------------------------------------|------------------------------------------|------------------------------------------|

**NOT REGARDED AS A KIND OF SLOYD, BUT USEFUL FOR COMPARISON.**


This study was made to determine the type of sloyd needed in the schools of Sweden. Note particularly No. X, Sloyd Carpentry, which shows that it was the only activity that was answered entirely in the affirmative.
CHAPTER IV

INFLUENCE OF SALOMON'S PHILOSOPHY IN AMERICA

The instruction at Näås was not confined to Sweden; teachers from the world over came for the short courses offered in the summer. Salomon lectured three or four times each day in different languages. He was filled with fear lest he take some step that might be misconstrued and retard the sloyd movement.

In the United States the introduction of manual training in the schools was a big question among educators. The arguments for and against including it in the school curriculum were similar to those advanced in Sweden at the time of the introduction of sloyd in the schools. L. H. Marvel said, "While the schools have steadily increased their efficiency in perfecting the 'cultured brain,' the 'cunning hand' has been neglected at home."¹ Ed L. Pierce said:

That civilization is not healthy which divorces the training of the intellect from the labor of the hands, and that personal culture is defective in which these cunning fingers, these powerful muscles, these stalwart limbs, are left altogether unexercised in productive industry. At least, as a recreation, manual labor helps to maintain the tone of intellectual life.²

²Ed L. Pierce, Ibid., p. 493.
President Eliot of Harvard University stated:

Our schools, while developing the brain, have misunderstood or even overlooked altogether the mission and the power of the hand. A large majority of parents desire to give their children education of the sort that can lift them above hard work, that is, will enable them to win their way by their wits.\(^3\)

Many books and articles had been printed in English regarding the school at Nääs. Teachers and educators who were interested in progressive education went to Sweden to study their system of teaching sloyd. John M. Ordway was sent to observe at Nääs. In 1883 his accounts were published and did much to further interest in sloyd in this country. At the Cotton Centennial Exhibition in New Orleans, 1885, American teachers had the opportunity to see a display of Swedish Sloyd.

Gustaf Larsson, a Swedish teacher who had attended school at Nääs, came to America to teach sloyd in Boston. He did more than anyone to introduce the sloyd system into the schools. Mrs. Quincy A. Shaw of Boston, who had been interested in the kindergarten movement, established and supported, until the time of her death, a Sloyd Training School of which Larsson was the principal. Arngrimsson quoting from the Midsummer Report of the Sloyd School states, "that it was the intention

\(^3\) Gustaf Larsson, "Manufacturer's Opinion as to the Qualities Needed in Boys Whom They Wished to Employ, and Some Comments on How to Develop These Qualities Through the Sloyd Method," Manual Training Magazine (1897), p. 401.
of this school to demonstrate the principles of the Swedish Sloyd modified to meet American requirements.  

Larsson chose to work in the elementary school and wished to build up a system which would be American in character. Joseph Sandburg calls him "one of the few makers of manual training in this country." Larsson held to the principles of Salomon, but he was willing to change a few details to meet the present conditions. He believed there should be a parallel course in drawing; and after a period of adjustment he did develop a satisfactory course.

The important factor in the teaching of sloyd. This caused Larsson to devote his time to the training of teachers. The students at the Sloyd Training School in Boston were used for demonstration purposes. The first class graduated in 1892, and in 1912 three hundred sixty-one sloyd teachers had completed the course. According to Larsson, the qualifications of a teacher were "first, a proper understanding of and sympathy with the pupils; second, a professional training in the art and methods of teaching; and third, a mastery of the subject matter." The activities of the Sloyd Training School of Boston received favorable comment, and many other cities

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6 Charles A. Bennett, op. cit., p. 475.
tried the system. Larsson reported the school had furnished more than thirty teachers and listed twelve different cities in which they taught. Another report listed twenty-six cities in which the sloyd system of the Sloyd Training School was being taught. The Report of the Commissioners of Education for 1893-94 listed eighteen schools, or 25 per cent of the seventy-two schools offering manual training in grades seven to twelve as teaching sloyd.7

Larsson listed the following general aims of sloyd:

1. The teachers must be professional teachers, not artisans merely.
2. The teaching must be systematic, progressive, and with the exception of certain class demonstrations, as far as possible individual.
3. Such work should be selected as will give the best physical development, through free, vigorous movements.
4. The visible or material results should be in every respect the worker’s own effort . . .
5. The exercises should be applied on objects the use of which can be thoroughly appreciated by the worker. Each object should be simple, and of good form and proportion.
6. The course should include not only objects which can be made accurate by the help of testing tools, but also free-hand work which exercises the sense of form through sight and touch.
7. Special importance is attached to neatness, accuracy, and finish, to the love of good work for its own sake, and the development of independence.8

In 1907 Gustaf Larsson had a textbook published, Sloyd for Three Upper Grammar Grades, which was molded to fit

8Ibid., pp. 92-93.
American conditions. It included definitions; general principles; conventions used in drawing; fundamental steps in whittling, sawing, planing, boring, and chiseling for grades seven, eight, and nine; a synopsis showing the progression and variety of models, exercises, tools and wood; and working drawings. The models included time-honored sloyd ones as the wedge, shrub-label, penholder, tool-rack, breadboard, and coat hanger; and new ones as ironing stand, window stick, book shelves, and other small pieces of furniture. A welcome feature of Larsson's book was the optional models, an encouragement of individual thought on the part of the pupil in designing or suiting model to his own need. 9

Larsson attempted to develop a group of general principles which would be agreeable to teachers of manual training and sloyd, and still leave the individual teacher free to adapt them to their own ideas. He resolved that:

1. The manual work in the school shall be such as will arouse and sustain interest.
2. Each problem to be such as can be done thoroughly, well, and in a comparatively short time.
3. The object made shall be based upon the idea of usefulness, having also, if possible, the element of beauty, such as good form and proportion.
4. As a general rule, each problem shall contain not more than five new tools or exercises, and not less than one.
5. The pupils, particularly in the higher grades, suggest individual problems.

On his trip to Sweden, Ordway succeeded in bringing Lars Eriksson to this country to help increase interest in sloyd. While learning to speak English, Eriksson lived with his daughter in Minneapolis. He enjoyed speaking about sloyd to the farmers, but they discouraged him. They thought sloyd was useless with the coming of the modern machinery. About 1888 Eriksson went to Boston to teach at North Bennett Street Industrial School.

Eriksson soon found the Swedish Sloyd was not suitable for the average student. He objected to making articles without a knowledge of mechanical drawing. He gave drawing first and taught the student to work from his own drawings. His motto: "What notes are for music, the drawing is for the sloyd worker. To work directly from a model without a knowledge of drawing is like playing the piano by ear without knowing the notes."

Contrary to the Nääs System, Eriksson declared the saw was the first tool to be used in woodworking and not the knife. He said it was harder to plane a key stick 3" long and 1/4" thick than a board 12" by 6" and 1/2" thick. The chronological method of his progressive system was as follows: first, sawing;

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second, planing, crosscutting, ripping, slant work; third, boring, nail exercises, how to hold the hammer; fourth, chiseling; fifth, carving and knife work.12

When Eriksson retired, he became a minister. He worked with the boys of the community, but his dream was to teach sloyd to the farmers and their sons so they might work inside in cold weather.

Although sloyd was accepted by many handwork teachers, several defects became apparent shortly after it had been in use. Some of these defects may not have been due so much to possible faults inherent in the system as to the interpretation by teachers who either adapted or adopted it. The teachers and educators were judging the outward expression and not considering the principles that govern sloyd. Also it might be noted that some of the educators who criticized sloyd were opposed to any type of manual training in the school. Mays states:

... Sloyd suffered from the inflexibility of its organization and the almost unvarying character of the models made. ... Too little room was allowed for individual differences and there was, too, some doubts as to the exact benefits to be derived from its use.13

C. M. Woodward, who admits only knowing of sloyd through reports, states that sloyd may suit the wants of Sweden, but

12Ibid., p. 325.

it could never flourish on American soil for the following reasons:

1. The manual training involved is limited to woodwork.

   2. The pupils are taught and shown about their work individually; i.e., class instruction is not given, and several pupils in the laboratory are doing very different things.

   3. The things wrought are household furniture, or implements and utensils to be carried home and used there. There appears to be no aim beyond making 'thrifty householders.'

Hoffman answered these remarks of Woodward's by stating that the sloyd movement was not limited to wood for in the public schools of Stockholm, other Swedish towns, and the German city of Gothenburg, sloyd metal work and cardboard had been taught. Salomon did limit his work to wood as he thought it was the best suited to educational purposes. Hoffman questioned the idea that "the evils resulting from the class instruction are not real, but only apparent evils" which had been a statement made by Woodward. He further raised the question if the making of "thrifty householders" should not be the aim of all public education.

Gustaf Larsson says:

If it can be shown that by means of this manual work a gain has been made in physical development, the power of clear thinking, strength of character, and will power, then one has a right to feel that the most important aim of manual training has been accomplished, and

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I firmly believe that where these results are the first consideration, manual skill and ability for bread winning will be greater than where skill is the chief aim of the work.16

Teachers of sloyd attempted to further to the utmost the high purposes of general education. In this point was one of the chief features for the acceptance of sloyd. Arngrimsøn states:

It has been claimed by many advocates of this system (sloyd) that it is better than most others, supplies a healthful training, without becoming on the one hand a mere trade or on the other a mere theoretic study; that while it trains in general dexterity and promotes physical development, it at the same time strengthens and disciplines the faculties of the mind, cultivating the perceptsives, especially the sense of form and order, training the power of comparison, constructiveness, and concentration of thought, besides awakening a like for manual labor, respect for manual workers, love for the true, and taste for the beautiful.17

The sloyd method was based upon faculties of the individual worker; his ideas and feelings as well as his capacity for work must always be the first consideration. Attention should be given to physical development and progress in accord with the child's abilities and needs. At the Boston Training School the idea of making anything useful was carefully avoided for fear of detracting from the purely educational end in view; as this was one of the reasons promoters


17Firmann B. Arngrimsøn, "Sloyd, Its Aims, Method and Results," Popular Science Monthly, XXXVI (April, 1890), 787.
of manual training did not welcome sloyd.\textsuperscript{18} Paul Monroe speaking of the influence of sloyd says:

The early practice of manual training in the elementary school was experimental and formal. The type exercise was the universal form in which handwork appeared and it was not until the influence emanating from the Sloyd School of Boston began to be felt that toolwork for boys assumed a more invigorating form. The fundamental principles of sloyd which places emphasis on the value of working for a useful end, and so enlisting the interest of the worker, soon found acceptance in the general practice in the elementary school and to a certain extent modified the methods of manual training in high school.\textsuperscript{19}

The fact is that there is only one term remaining to show that Swedish Sloyd had its influence on Industrial Arts of the United States and this is the term "sloyd knife."

A sloyd knife is used for marking and is a very handy tool; it can also be used for trimming a fine edge, slicing a piece of thin veneer, whittling a small peg, etc. This knife is so named because it was used in the old sloyd system of teaching.\textsuperscript{20}

The idea of projects as used in the teaching of Industrial Arts today were copied from the Swedish System. Wilber says:

From the student's point of view the project tends to be the most important feature

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\textsuperscript{18} Larsson, "Sloyd an Important Factor in the Education of Boys," \textit{Manual Training Magazine}, XIII (February, 1912), 230. \\
\textsuperscript{19} Paul Monroe, \textit{A Cyclopedia of Education}, p. 126. \\
\textsuperscript{20} John L. Feirer, \textit{Industrial Arts Woodworking}, p. 41.
\end{flushright}
of the Industrial Arts program. The making of successful projects provides many students with an opportunity to feel the pride of accomplishment and the consequent rise in self-esteem which is denied or difficult to attain in other activities.21

These ideas carry in part the same principles that Salomon advocated. Wilber points out that the child taking Industrial Arts today is allowed a choice of projects which was not true of the students in Swedish Sloyd.

Larsson believed there was no marked difference in the best American Sloyd and American Manual Training. Speaking along the same line, Bennett says, "the sloyd models and the sloyd method of content have become the large and important part of our education system of manual arts--manual training--industrial education, or whatever the preferred name may be."22 This would seem to sum-up about what the better educators who have read and studied Salomon would conclude.

The idea of individual teaching as advocated by Salomon is used in the teaching of Industrial Arts. The group is given some class instruction and then each student is allowed to work alone with what individual instruction might be needed.

Bennett summed-up the influence of Salomon in the following words:


22"Fifty Years of the Swedish Sloyd Movement," Industrial Education Magazine, XXIV, 96.
It is impossible in a single paragraph to fittingly express our appreciation of the work of this pioneer in manual training. This we hope to have done in these columns at another time. At present we can do no more than merely call to attention the fact that throughout the entire civilized world wherever handwork has become an important factor in general education the influence of Herr Salomon's work has been either consciously or unconsciously felt. Some of the principles enunciated by him in the early days of manual training were so sound and so fundamental that whether his system as a whole has been accepted or rejected, these principles have been adopted almost everywhere. And so it has come about that not merely Sweden, but the entire educational world is indebted to Herr Salomon and will speak his name with respect and gratitude through generations to come.  

Although Salomon never came to this country he had a dynamic influence on the evolving idea of manual training.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

As has been pointed out, the organization of the sloyd schools of Sweden was a development of earlier customs. The teaching of handwork had been carried on successfully for many centuries in the home, but the Industrial Revolution, the improvement of implements for cultivation of the soil, the religious movements, the rise in intellectual understanding, and the increase in the sale of alcoholic drinks caused the decline of home sloyd. The chief aim of the first sloyd schools was to give the children of the working man the capacity for earning a living; but through the studies of Otto Salomon we find that sloyd was taught for purely educational reasons.

August Abrahamson devoted his estate and fortune to the founding and maintenance of a sloyd school on his estate at Nåås. Here, Director Herr Salomon, nephew of Abrahamson, was able to realize some of his educational ideas. After working several years with the children of the estate, Salomon opened the school for the training of Swedish Sloyd teachers. This proved successful and teachers the world over were invited to study at Nåås.
The development of the child's mental, moral and physical faculties were of utmost importance in the philosophy of Otto Salomon. When establishing the aims and principles of the Educational Sloyd System the child's development was given first consideration and the knowledge of tools and dexterity in the use of tools were incidental.

Salomon's aims were:

1. To instill a taste for, and a love of, labor in general.
2. To inspire respect for rough, honest, bodily labor
3. To develop independence and self-reliance
4. To train in habits of order, exactness, cleanliness, and neatness.
5. To train the eye to a sense of form; to give a general dexterity of hand; and to develop touch
6. To accustom to attention, industry, perseverance, and patience.
7. To promote the development of the physical powers
8. To execute exact work.

These aims were not too different from other manual training movements; the principles of the method applied by Salomon made the difference. The main factor was that the models should progress at the same rate of difficulty as the child's capacity for comprehension. There should not be time spent on preparatory exercises such as joints.
Through educational tests of theory, observation, and practical experimentation Salomon concluded that woodwork was best suited to educational principles. Other forms of sloyd were discontinued at Naas. All students were required to complete the same series of models at their own rate of speed, which Salomon thought could be accomplished only through individual teaching. Each model was some useful household item which used very little wood.

The Swedish Educational Sloyd had its beginning a few years before the manual training program was added to the school curriculum in this country. Articles and books about sloyd were being printed in English and considered whether or not this system would be acceptable in schools of America. Seeing the possibilities, John M. Ordway went to Sweden for first-hand information. His reviews of the work at Naas advanced the interest in sloyd in America.

Lars Eriksson and Gustaf Larsson came to the United States to aid the sloyd movement. It was the establishment of the Sloyd Training School in Boston under the patronage of Mrs. Quincy Shaw and with Larsson as principal that attention was focused on the practice of the system. The original purpose of the school was to demonstrate the principles of the Swedish System of manual training; later it became an important teacher-training school.

Larsson held to Salomon's principles, but he made some modifications for the American situation. He introduced a
parallel course of mechanical drawing and improved the design of the models.

Many traces of Swedish Sloyd remain in the Industrial Arts program as offered in the schools of today. The name "sloyd" is applied to a knife used in lay-out. The class teaching of other systems and the individual teaching of the sloyd systems have been combined for the situation in the schools of America. The shop classes in the junior and senior high schools use the project idea that was introduced in the Educational Sloyd System.

It would be helpful to every teacher of manual training to study the philosophy of Salomon. He was so emphatic that the development of the child should be the important factor in the planning of any program. Salomon spent many years observing his students and putting each type of sloyd through various tests. All teachers could serve their students better if they would make an objective study of their courses and analyze the material for its educational value.

Larsson was willing to adjust his training to meet the American situation. In teaching Industrial Arts the teachers should consider adjusting the courses to meet the demands of the students and the locality in which they live.

Salomon did not believe in variety with regard to the models to be produced by the students, but he did believe that no two days of teaching should be the same. The teacher
should offer variety in the manner of presentation as well as in models. It might be well for some of our Industrial Arts teachers to follow in the footsteps of Salomon as well as other authorities in the Industrial Arts field.
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