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The History and Development of Handwriting From Prehistoric Times to 1925

Lyel M. Hess

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THE HISTORY AND DEVELOPMENT OF HANDWRITING

From prehistoric times it was usual for the writer to teach in the Junior High School, as it has been allotted such a short time to handwriting. The question arises: whether it is worth while to continue the teaching of handwriting. This necessitated the investigation of what handwriting experts think. The study which provided the first three chapters was for the purpose of supplying additional material.

Lyel May Hess, any writing teacher.

The writer is indebted to Mrs. Elaine Schimek and Mrs. Zena Graves Peck, who were involved in handwriting in Indiana schools, for material and help, and to Mr. W. L. Richardson who provided facts as well as inspiration.

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Master of Science

INDIANAPOLIS, INDIANA
1937

COLLEGE OF EDUCATION

BUTLER UNIVERSITY

1937
FOREWORD

This subject was chosen as it is one which the writer teaches in the Junior High School. As it has been allotted such a short time on the week's program, the question arose whether it is worth while to continue the teaching of handwriting. This necessitated the investigation of what handwriting experts think. The study which provided the first three chapters was for the purpose of supplying additional background for any writing teacher.

The writer is indebted to Miss Edith Robinson and Mrs. Emma Grayce Pead, Supervisors of Handwriting in the Indianapolis Schools, for lending her books; and to Dr. W. L. Richardson who gave encouragement as well as inspiration and direction to the composition of this dissertation.

L.M.H.

INDIANAPOLIS, INDIANA
1937
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INTRODUCTION

Penmanship is the life and soul of commerce and correspondence; by the practice of it we manage our affairs at the greatest distance, and with all the secrecy and satisfaction imaginable. It is the messenger of the thoughts and the key to the liberal arts and sciences. Speaking, in short, is vocal thought only; thinking is nothing more than silent speech; but writing is the image, or the character of them both.1

Far back in the history of man there was a time (he had already learned how to talk) when he felt the necessity of sending messages. Perhaps the memory of the messenger could not be fully relied upon. As an aid to his memory was considered indispensable, he was given some tangible object which served a double purpose; it helped him to remember and also served as a symbol to those receiving the message, thereby accrediting the

1 Claudia Quigley Murphy, The Art of Writing, Pamphlet. Claudia Quigley Murphy, New York City, 1922.
messenger. The "quipus" was such an aid. It was a rope with knots tied in various ways. Sometimes different colored ropes were attached to a main one, each color signifying something different. Great difficulty was encountered in interpreting these, however, as sometimes the only one who knew the meaning of the message was the one who made the quipus. It would have been of inestimable advantage if men of that day had known how to send a message in handwriting. Before man could write, he borrowed money. Another instance of early man's need was supplied by "notched tallies". These were pieces of wood with notches on each side made by the lender. The stick was split and half given to each, the borrower and the lender. The "nick-stick", also a stick with notches aided the memory of the boy who sold bread for the baker. The Indians used Wampum belts to send messages. In the early history of our country we read where the Indians sent a snake skin filled with arrows, meaning war, and the white man returned this skin filled with powder and bullets and told the Indian to put it in the fire, meaning that the white people were ready to answer with war. The Indians also drew crude pictures on posts to convey news. If a man in a village had been attacked, he might draw

3 Ibid., p. 37.
4 Ibid., p. 41.
5 Ibid., p. 42.
a picture of himself being made the target of many spears of other crudely drawn men. Similarly a drawing of a man with both arms extended meant nothing. Put this one with another of a man pointing to his mouth and standing before a tent and they meant nothing to eat in the house. Signs posted along the way served the purpose of showing rescuers the direction taken by the starving ones. The Indians also kept record of their songs. Their totem poles served as records showing primitive genealogy. They also had pictures which they used as private ownership marks. Thomas Astle said, "The noblest acquisition of mankind is Speech, and the most useful art is Writing. The first eminently distinguishes man from the brute creation; the second, from uncivilized savages."

Many centuries have elapsed since those early days. Some of the development of writing during this interval will be discussed later. But what about writing today? Is it important? Writing is important, first, as an instrument in school work. It is of value as a means of keeping a record of the information which the pupil has gained or the judgments which he has formed. It is useful in the second place as a means of organizing thought and making it definite. Writing as a tool subject is valuable to the child not only in his writing class, but in every class in which he must write. When a child submits a well-written paper, it affords both the child and the

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B.L. Ullman, Ancient Writing And Its Influence, p.4.
teacher great pleasure to read it.

Writing is important to the adult in social and in business life. The housewife finds the necessity to be able to write minutes taken during her club meetings, to copy recipes, but mostly to write letters. The business man has similar needs of using writing; such as, in making records of sales, in keeping records to file, in writing minutes of a business meeting. The vocational use of writing varies from notations such as are made by a contractor in estimating work to the addressing of envelopes by one whose sole duty is to write.

The importance of writing in the business world has been decreasing with the advent of machines-- machines which keep record of sales, machines which do the bookkeeping, and typewriters which are used for correspondence and to make records for the files. But even in business the typewriter can not wholly replace handwriting. Writing is necessary in the signing of checks, in note taking from a library book, during a lecture, or during a telephone conversation. The Commercial Schools of today think handwriting is of sufficient importance to include it in their curriculum.

Some experimentation has been done to determine the efficiency of the use of the typewriter in all subjects in the elementary grades. Arguments for the recommendation of using the typewriter in the schools are:

1. The typewriter is a more natural medium than the pen

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2. The above is true as the required movements are not so highly coordinated.
3. The child likes mechanical devices.
4. The typewriter promotes freedom of expression.
5. It allows the child to get along faster.
6. It favors good posture.
7. It promotes good spelling.
8. It promotes good reading.

Despite these arguments in favor of the use of the typewriter and also the finding of satisfactory results after experimenting in its use, it has not been accepted. There are two main reasons for this:

1. The elementary school does not aim to specialize
2. The cost is far too great

Definition of Terms.-- In this dissertation the expression handwriting, penmanship, writing, cursive, pertain to writing done by hand with the aid of stylus, pen, or pencil upon whatever material was used during that time, such as, clay, wax tablet, papyrus, parchment, or paper. An author in writing a book may type his work himself or may dictate it from his notes to be typed. Such writing is not intended to be included in this dissertation. Manuscript writing in the early centuries refers to that done by scribes while that of today refers to the manuscript writing done by children in school.

Purpose.-- The purpose of this dissertation is (1) to give a limited amount of history of early writing in order to show how our alphabet evolved; (2) and to show how this knowledge of the alphabet was used in the teaching of handwriting in the early schools; (3) the most important problem, however, is to present the trends

Paul McKe, Language In The Elementary Schools, p. 462.
in the teaching of handwriting in the public schools.

Reason for Study.--The writer decided to make this study because she felt that there was not suitable material available for the classroom teacher who wishes to gain some idea of the development of the art of writing. She believes that all teachers will be more interested in teaching handwriting if they know more about its evolution. In fact she believes that any teacher must have a thorough orientation in her field before she can teach. For example, in teaching pupils of the third grade about our city, Indianapolis, the teacher must have a knowledge of history that enables her to present information about the monument and other points of interest, explaining the meaning of the figures on the East and on the West sides. She can tell about the lives of the men whose statues are there, making it so interesting that the children insist upon seeing these for themselves. Her knowledge of the history of the State of Indiana will help her to make clear to the children how Indianapolis was selected as the capital; how the original mile square with the circle as the center and the four radiating avenues and the other streets were planned; how the city has developed; how good roads, the traction cars, and the railroads have helped in this development. Knowledge of the relative position of Indiana, of its natural resources, and of its topography will help the teacher to explain why certain occupations are pursued in this city. Similarly teachers presenting the North Atlantic States in a Social Studies Class, besides being able to develop the effect of climate, topography, and natural resources on the occupations and recreations of the people of this section are required to know European history. Why the early people left their safe homes to come to this unknown land, how they came then, how they come now,
and all the advantages of the present day citizens of this section—all these require more information than the child acquires from his geography lesson. Stories of the lives of great leaders show their effect upon the development of this group of states. Study of the types of government, the method of educating children, the customs and habits of the people, their occupations, natural resources, and the need for commerce among all the people in the world helps the teacher to teach a class concerning this one section of our country more interestedly and far more capably than if she did not have this knowledge as a background. If this enriched background is so necessary for a teacher of Social Studies, a similar one for the handwriting teacher concerning the history and development of writing should be of great help to her.

Sources:—Poole's Index, Readers' Guide, The Educational Index—all three guides to periodical literature, furnished references. Magazine articles, pamphlets, those on penmanship, and books supplied the desired information for this dissertation. Many references were found relating to the origin of handwriting but no evidence was found that anyone previously attempted to show the relation between the history, the development, and the trends of handwriting as it is taught in the public schools today.
The ability to speak only to his surrounding friends did not satisfy early man. He felt the need to communicate to those separated by distance. Today we think the early methods they employed were very crude, and they were, indeed. The oldest method on record is the sending of a messenger with a verbal message. One of the first aids given a messenger to help him remember his message was the "quipus", a rope with knots tied in various ways. Others that followed were "notched tallies", the "nick-stick", crude pictures on bark, wampum, and totem poles. If the people who lived then could observe the people in our world today, they would appreciate the fact that this social urge for communication with its simple crude beginning in their time has resulted in the development of a very useful alphabet. This dissertation is concerned with the alphabet only in its relation to handwriting, its history, and development with special reference to the trends in teaching it in the public schools at the present time. In order to obtain this information many pamphlets, magazine articles, encyclopedias, theses and books were read.
About six millennia ago the Akkadians lived on the highlands of Mesopotamia and the Sumerians lived on the plains. At that time they had already reached an advanced stage of civilization and left writing behind them in clay tablets consisting of three numbered characters, an archaic hieroglyphic system of writing to their posterity. The early Babylonians who followed them left a writing found in inscriptions, which was a step in advance since it was ideographic. Ideographic writing is that in which the picture is converted into a symbol. The pictures were very primitive and were cut into stones in vertical columns called "registers". Vertical lines separated these registers. The writing in each register was to be read downward, the registers being read from right to left. A later development, because of the ease of holding the tablet in the hand while writing, was for the letters to be drawn on their sides in horizontal registers, being upright in these registers only when viewed from the right. This change resulted in reading from left to right.

Later Babylonian inscriptions contain fewer ideograms and more phonetic characters. This occurred because the Babylonians in simplifying the characters eliminated many lines and substituted cuneiform or wedge-shaped writing. The Babylonians used a rod made of stiff reed or of metal and stamped it in the clay. The marks made were like a wedge. This style of writing remained in vogue over three thousand years.

The Assyrians borrowed the Babylonian system of cuneiform writing having a syllabary consisting of three hundred characters. The Medic tribes in turn borrowed the Assyro-Babylonian system of writing and gave phonetic value to the characters they adopted. They recognised twenty consonants and four vowel sounds with variations making thirty-six or thirty-seven alphabetic and syllabic signs. "This near-alphabet is a distinct contribution of the Aryans to the progress of the Art of Writing." The Persians then adopted the Medic writing having thirty-six or thirty-seven forms to the alphabet which expressed twenty-three distinct sounds. Their writing was read from the left to the right and had the words separated by an oblique wedge.

Passing from the early beginnings of handwriting in the Old World we find in Central America a phonetic alphabet. This ancient

2 Ibid., p. 267.
people claimed that their civilization came to them from across the sea in ships from the east. Perhaps the Phoenicians and the Egyptians drew their alphabet from a common source of which the Maya is a survival. Bishop Landa, the first bishop of Yucatan, wrote a history of the Maya in which he described and explained the phonetic alphabet of the Mayas. The author shows how the letters of the alphabet have been changed by different peoples. Four letters in which the early symbols are easy to copy are H, E, N, T.

Forms which ultimately became our H

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A continuation showing changes in the K

When Greek changed from left to right was hitherto
known, in the today no evidence of a proposition has been found.

Similarly our N shows an interesting history where the Phoenicians
showed this a Maya, but as yet it has not been determined. This
symbol did not Archaic Phoenician, but had twenty-two signs and
writings in old Hebrew these sometimes from left to right and assumed
from right. Moabite Stone the Phoenicians were great traders
as the same Later Phoenician for labels on their vessels was.

Today the Archaic Greek

Later Greek over they cycled their alphabet with them. But as the
Phoenicians declined in power and area arose.

The T seemed to have had many changes in the seventh century B.C.

Maya Egyptian Phoenician Old Testament’s Aramaic began to change to
Egyptian Maya Phoenician Old Testament’s

Old Testament’s Phoenician Old Testament’s

This form also Later Greek eventually developed, though the dark

Modified it again Later became

Moabite Stone the Phoenician alphabet.

Later became

Today
The Moabite Stone which was found in the ninth century B.C. contained true alphabetic writing. This alphabet was hitherto unknown in the East and no evidence of a progenitor has been found. Different opinions have been expressed as to where the Phoenicians acquired this alphabet, but as yet it has not been determined. This alphabet did not possess vowel sounds, but had twenty-two signs and was written in a straight line sometimes from left to right and sometimes from right to left. Now the Phoenicians were great traders and as the amount of space needed for labels on their shipments was limited to a simpler means of writing than picture writing was necessary. Wherever they went, they took their alphabet with them. But as the centuries rolled on the Phoenicians declined in power and Aram arose. The Aramean alphabet began to appear in the seventh century B.C. The Jews upon their return from Judea after their captivity brought with them this Aramean alphabet and in Palestine probably used the Aramean alphabet to the second century B.C. About one hundred B.C. in the southern part of Palestine the Aramean began to change to square Hebrew. The modern square Hebrew of today became fully developed about one thousand A.D. In the Northern part of Palestine the Aramean alphabet became modified and eventually developed through the dark ages into the modern Arabic.

As has been said the Phoenicians were traders and naturally exchanged goods with the Greeks who copied the Phoenician alphabet.

The Greek scribes, however, did not adopt the left to right writing until after much experimentation. They used continuous uninterrupted writing. They tried these different methods: 1. reverse letters in alternate lines; 2. inverted characters; 3. spiral writing proceeding from the middle and reading from right to left and sometimes from left to right. Up to the fifth century B.C. almost every Hellenic state had its own alphabet. The Greeks added few letters and these vowels only to the Phoenician alphabet. They were: a, i, u, two letters for e and two letters for o.

The Greek alphabet was carried to Rome where it became the basic type. The Italians progressively improved upon writing until they developed their own style, eliminating the Greek letters. This improvement included a change in shape and proportion of letters, uniformity of size and alignment, and the separation of words by dots, which were crowded in. This method of separating words continued over an extended period of years before, as today, spacing signified the end of a word and a period the end of a sentence.

From a very early age, both in Greece and Rome, writing on wax tablets and on parchment was extensively practiced. This Greek and Latin writing was all in capitals. In the middle of the first century A.D. there appeared a cursive form of Latin writing similar in general appearance to our modern handwriting except that it was all in capitals, which were more or less connected by ligatures. This type of writing was used chiefly for secular manuscripts, business documents and letters, inscriptions on rolls, codices, and wax tablets.
For ordinary writing wooden tablets covered with a coat of wax were used. The letters were made with a metal stylus. In commercial transactions in Rome oyster shells were used, hence "ostracize", the posting of the name of an obnoxious person. Somewhat later papyrus paper, parchement, and vellum were used for important writing, but they were too expensive for ordinary use. The Romans used parchement to make books shaped like wax tablets. The name given to such a book was "codex". Originally this name applied to two or more tablets fastened together. As the codex was more convenient to handle and easily read, it was used for technical works and legal treatises. From this beginning comes the expression "code of laws".

We, today, owe to the early Roman civilization the form of our modern book.

The ancient Egyptians discovered many centuries ago a lead which would make a mark on papyrus. The Romans also knew about it, making it into small rods for use in a pencil-like instrument. This lead was called "stilte" and was composed of metallic lead and tin and other ingredients. Modern manufacturers still use a similar composition in making pencils.

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William A. Mason, op. cit., p. 392.
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had the advantage that it could be erased with bread crumbs. To the Romans we owe the word pencil which is derived from the Latin word *penicillus*, which meant brush and was originally applied to a small fine pointed brush used in painting. In 1565 lead pencils were first produced from graphite. In the manufacturing of lead, graphite is ground to a fine powder and mixed with clay. The ratio of amounts of the two substances determines the hardness or softness of the lead. The hardness of the lead depends upon the amount of clay used. While the necessary operations are being performed upon this clay-graphite combination resulting into lead, the red cedar, which has clear, straight, soft grain, is being seasoned to encompass the lead. To an observer one of the most interesting steps in the production of a pencil is the leading, a hand operation, in which the lead is placed into grooves of wood.

The name pen was derived from the Latin word *penna* or *penne* which meant quill. The quill used by the Romans took the place of the stylus used by the early Babylonians and of the reed used by the Egyptians. The quill remained the popular instrument to produce writing for several centuries.

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Manuscripts more than four thousand years old have been found that were written in ink which did not fade. The Egyptians used ink which consisted of pigments and dyes. The art of producing ink by chemicals was lost before the time of the Roman civilization, and the Romans were obliged to depend for ink upon a fluid from the Cuttle or Devil Fish which they used as ink. The first historical reference to modern ink related how M. Guyot, a Frenchman, made and sold ink in Paris in 1609. Of what does our ink today consist? From galls produced by wasps on small branches of the oak trees on the shores of the Mediterranean, ink makers obtain a solution of tannin. To this is added iron salts (copperas), water, Gum Arabic (which is obtained from the Acacia tree in India or Arabia), acids, and dyes. The aim of an ink maker is to produce an ink which will flow smoothly from the pen and which will write a beautiful, pleasing color, and remain as long as the paper on which it is written.

By the fourth century a new style of capital developed from the square to the "Uncial". Uncial letters are one inch in height and have a tendency toward rounding. As early as the sixth century, the "half-uncial" letter appeared and remained in vogue for a century or more. Uncial letters and cursive writing at first declined and then...
became extinct but were revived in the late Middle Ages.

The "minuscule", a model for our modern book type, appeared in the tenth and eleventh centuries. Beginning with the thirteenth century, manuscripts were more carelessly written than in the preceding centuries and were filled with ligatures and abbreviations. This carelessness, perhaps, was a reflection of the political turmoil of the times. The introduction of paper, a new cheap writing material, was partly responsible for the lesser degree of care in writing.

Even though this criticism is an adverse one, Breasted says,

"The invention of writing and of a convenient system of records on paper has had a greater influence in uplifting the human race than any other intellectual achievement in the career of man. It was more important than all the battles ever fought and all the constitutions ever devised."

In the fourteenth and fifteenth centuries manuscripts were written in pointed black letters, the Gothic minuscule. "Court hand", a cursive form of writing, was smaller than Manuscript writing and not so black. At first the letters were separated, but later they were linked up with ligatures and connecting strokes. Up to 1360 the letters were comparatively round. Then they became more pointed and angular. With the fifteenth century letter writing became an ordinary accomplishment among intelligent people.
Near the close of the fifteenth century the printing press was invented. Paul Monroe says, "The position of writing as an educational subject was far more important before than after printing." He justifies his statement by saying that writing then was a fine art. It was the work of experts rather than the universal method of communication of ideas or an instrument of education.

The Roman alphabet is the most widely diffused alphabet in the world, and it was widely used in England, America, Australia, South Africa, and the Middle East, except in Germany and Russia.

It is the alphabet which we use today was not conceived by any one man nor perfected in one age. It has passed through three stages in milleniums of time. The earliest stage was picture writing, hieroglyphic; the second one was ideographic; and the third, phonetic.

It was during the time of the early Babylonians, when the change from hieroglyphic to ideographic took place, that writing in the modern sense really developed. The Assyrians, Medes, and Persians adopted the Babylonian writing and made changes thereby contributing a "near alphabet" to the art of writing. The Isabite stone shows that the Pheenicians had an alphabet. This Pheenician alphabet was carried first to Greece and then to Rome, where radical changes were made; and it is this Roman alphabet, an offspring of the Pheenician alphabet that survives today.

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From the foregoing historical sketch it is evident that after two millenniums of transformations there remained as descendants of the primitive Phoenician alphabet:

1. The square Hebrew letters -- used by the Jews
2. The Arabic alphabet -- used by the non-Christian people of Islam
3. The Roman alphabet -- used by the Christian nations.

The Roman alphabet is the most widely diffused alphabet in the world, and is used exclusively in England, America, Australia, South Africa, and throughout Europe, except in Germany and Russia. It is in official use in Egypt and India. The Arabic alphabet alone competes with it in universality, being used throughout Central Asia.

The early Babylonians wrote with a stylus, which caused wedge-shaped or cuneiform letters. Through the ages the styles in letters changed. In the early manuscripts all writing was done in capitals. Uncial letters became the vogue. Half-uncial letters followed and were replaced by the minuscule. Cursive writing was being used at the same time as the uncial. Both became extinct at the end of the twelfth century to be revived again during the Middle Ages.

The materials used for writing also underwent changes. The cuneiform writing was done in clay. The early manuscripts were written painstakingly on papyrus, parchment, or vellum. The commercial work done by the Romans was on wax tablets. The Romans introduced the codex, composed of parchment, originally two or more tablets bound together, which was the forerunner of our modern book. Paper was not introduced until after the printing press was invented. This brief history
indicated that three main tools are required in the art of writing. These are: an alphabet, a tool with which to write, and material to write upon. In our daily life we use these three handwriting tools with little thought or appreciation, for their origin and development.

In England

As early as 1445 or 1465 there were writing schools in England. By the 16th century these schools were known as "school schools to write." As writing was a specialised art for the purpose of copying and illustrating manuscripts during the Middle Ages, it is doubtful that there was any writing more in the nature of 

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writing, besides copying and transcription of writings became a regular part of school work and the fully trained were termed hand writers. The ideal of Latin writing was given up in the schools (about 1740), ending the more WASP~ as the basis of the school 

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years were not expert writers themselves,

as a rule. In these schools did not 

learn to write words in one hour, instead
In England

As early as 1545 or 1546 there were writing schools in England. At a free grammar school in Burghunder - Straynsmore the trustees were required to "teach scholars to write." As writing was a specialized art for the purpose of copying and illustrating manuscripts during the Middle Ages, it is doubtful that there was any writing work in the nature of exercises. After the Renaissance, letter writing, theme writing, and composition of orations became a regular part of school work and naturally involved what we term handwriting. The ideal of Latin speaking made writing of less importance relatively.

When Latin speaking was given up in the schools (about 1660), writing became far more important as the basis of the school work.

Since schoolmasters were not expert writers themselves, writing in the Renaissance schools did not progress rapidly. Generally as a desk by all the pupils formed the writing desk. Another type of school, perhaps somewhat later, became more common. The master wrote on a board, and the pupils wrote on slates. However this was unusual before 1700, and may not have been the ordinary schools, then existed.

they were taught after school by a scrivener or by a teacher of Mathematics. In the country, where the boys had no such opportunity, a peripatetic scrivener visited the school for a period of a month or six weeks each year, and the master kept up the writing practice meanwhile. In the early part of the seventeenth century, writing, if taught at all in the grammar schools, was regarded as an extra subject, and paid for by a special fee. By the eighteenth century it became an elementary subject. In the nineteenth century because of the multiplicity of school subjects, writing was abandoned as an instrument of instruction and methods of teaching it were disregarded, the only requirement being that it be legible. But more recently reaction has taken place and consideration of the pedagogical significance of the teaching of handwriting has caused definite methods of teaching to be provided.

In New England

Accounts of the early schools in New England show some differences. In one type of building a log was cut out to permit a window. Under this window was a wide slanting board, which was used as a desk by all the pupils during the writing period. Another type of school, perhaps somewhat later, had long narrow rickety seats. The teachers sometimes walked around the room and inspected the pupils' writing, generally in the morning and the afternoon. However this was unusual because if they bumped against the rickety seats, they caused
the copy books to be displaced and often spilt the ink. Most of the teachers sat at their desks, continuously occupying their time with the making of copies for the pupils or making and mending the quill pens. The copies were usually statements of moral sentiment such as "Aim at perfection", "Honesty is the best policy", "Waste not, want not". After the quill pens were once made, they had to be sharpened so often that the school master had to spend much of his time on them. Besides using the writing period, he worked at recess, noon, during reading classes, and sometimes, but not often were they willing to do so, at night. Hence he was unable to do much genuine teaching of handwriting. In some of these schools where the children could not afford paper, they used birchbark. In others the children made copy books at home of large sheets of blank unlined paper which they folded and sewed in a cover of brown paper. When they arrived at school, they used a ruler and plummet to draw the lines on the paper. A plummet was made by melting waste lead and running it in a shallow groove two or three inches long cut in a stick of wood. (The cracks in the floor were sometimes used for

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2 Edgar W. Knight, Education In The United States, p. 444. Boston: Ginn And Company, 1929.
5 Ibid., p. 9.
this purpose). When the metal cooled, it was whittled down, smoothed, and pointed. A hole was bored through the larger end so that the owner might hang his plummet on a string around his neck. Some schools had small blackboards but most of them did not. In all the schools the ink was furnished by the pupils. One of the home occupations was to manufacture it from indigo or poke berries. In another locality the bark of the swamp-maple was boiled and when it was thick, copperas was added. In all of these early schools there was one similarity the school master was a most competent scribe.

"Good penmanship was an essential quality, and without it the prospect of securing a job as school teacher was slim."

Slates, pencils, steel pens, and copy books all appeared at a later date, and when they did, they relieved the schoolmaster of his two great burdens—the making of copies and the making and mending of the quill pens.

According to newspapers in New England prior to 1850 penmanship teachers were accustomed to advertise as a method of obtaining classes. One such advertisement promised to teach any person, either sex, from twelve to fifty years old who never before wrote a

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7 Ibid., p. 405.
legible hand, in five weeks, at one hour a day. One writing master, Henry Dean, in Salem in 1803 and 1804, in addition to advertising his ability in the newspaper also held a public exhibition at his writing school at the end of the year. He had specimens of handwriting displayed which caused the public to marvel at the improvement of his pupils' ability and skill. Not only did the writing masters gain prominence, but the system which they used became important. Mr. Dean used the Jenkin's System. A criticism against the Common Schools, 1821, was that much time was lost in poor writing because "They use no method."

The stores also advertised lists of writing materials available in the newspapers. In 1816 a Hardware and Cutlery Store advertised "Ink-stands, Ink-powder, and Dutch Quills." In 1816 slates and slate pencils, used in a Lancastrian school were on the list. These early progressive schools also used blackboards which were described as "plainboard, painted black and written on with chalk." In Salem after 1829 blackboards were included as regular equipment. In 1820 lead pencils and in 1838 steel pens were on the list. By 1850 a chemist in New York had invented a new ink which contained no acid and so could be used with steel pens.

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7 Ibid., p. 405.
In November 1853 Indiana adopted Payson, Dunton, and Scribner's System of Penmanship as the State text book for handwriting. It was the first attempt at a graded text. "A Manual Containing The Whole Theory And Practice of Penmanship" in use during the same year contained specific instructions in regard to the position of the writer. It recommended the left position. This position necessitated the "right side to be turned outward about one-eighth of a circle". The writer was required to incline his body and head to the left and to lean on the left arm, lightly allowing the right arm to be free to rest at right angles on the desk and not allowing the wrist to touch the paper. The paper was placed on the desk parallel to the edges. The teacher instructed the pupils to point their pens to the right shoulder and glide on the nail of the little finger. In a report by a Superintendent of Public Instruction in 1870 the examination of teachers was discussed. One statement was, "The neatness of the applicant's papers and personal appearance should be considered in determining the length of the certificate."

In this test given to an applicant for a teacher's license were such questions as:

1. Make and number the elementary principles from which all letters are formed.
2. What do you consider the proper position in writing?
3. How should the pen be held?
4. What constitutes good writing?

A Course of Study adopted in Jasper County in 1873 made this recommendation, "Let the daily composition be made models of penmanship as well as correct language."

SUMMARY

There were writing schools in existence in England as early as 1585 but the teaching of writing was not really important until after Latin was discontinued during the Renaissance period. It was not commonly taught in the Grammar Schools of the following period as the Schoolmasters were not good penmen. Scriveners taught the pupils in special writing classes.

In the early New England schools the word "crude" could be applied to everything connected with the teaching of handwriting. The desks were crude. The quill pens, plummet, copy books, and ink were all home-made. The method of teaching consisted in giving each pupil a copy with instructions to imitate it as best he could. These schoolmasters were good scribes. The copies they furnished were difficult

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Ibid., p. 231.
for the children to imitate. But in spite of these difficulties many pupils achieved good writing.

Indiana, profiting by the experience of others, several years later by law adopted a State text. Teachers' examinations showed that the teaching of writing was considered essential. Manuals were provided to aid the teachers, and requirements for pupils were specified.

During these three centuries changes for the good took place in the teaching of handwriting in the schools. These changes marked progress, but it was not until the next century that greater achievements were accomplished.
CHAPTER IV

DIFFERENCES IN THE TEACHING OF HANDWRITING

The nineteenth century is one in which the teaching of handwriting encountered many changes. During the first part of this century copy books appeared for the first time. The very first of these did not have the engraved copies like those which were used later. These copy books were ruled with many staff-like lines, had moral mottoes, and were alike for all grades. Vertical lines also limited the space allowed for various words. The blackboards and slates were similarly lined. As the schoolmaster had been freed from the making of copies, he now changed his system of teaching, taking the class as a unit. The teacher introduced the writing lesson by writing a word on the blackboard and naming the required strokes such as slants, curves, and loops, which were called the elements and were identified by numbers. These elements were committed to memory. The teacher, after listing the elements on the blackboard, erased his copy. The pupils dictated the word by its elements for him to write again. He,

1 Francis McGurigal, President's Address, Palmer Pen Pointers, XII No. 6, (Apr. 1917), p. 3.

(30)
in turn, dictated these same elements to the pupils. This dicta-
tion necessitated slow writing with frequent pauses. The numerous
lines also limited freedom of movement. A criticism against this
all-finger movement type of writing lesson was that when the pupils
tried to write at fair speed without the numerous lines, they had no
conception of form, size, or space and wrote very illegibly.

Another system that was prevalent during this period was
called the "muscular movement". This system, quite the opposite
from the earlier method, originated with Carstairs, of England, and
was brought to our country by B. F. Foster. Class instruction was
begun with explicit directions concerning posture. Two positions
were prevalent at this time. Some authorities favored the left side
to the desk with the left arm resting on the desk. As the paper was
placed parallel to the sides of the desk, the right arm was held at
right angles to the lines on the paper. Others preferred the right
position, in which the right side of the body was turned toward the
desk, and the right arm as far as the elbow rested on the desk.
This position was favored as the pupils could push the paper up on
the desk with the right hand and move the copy book down with the
left hand. Another reason why this position was favored was that

\[\text{2 Ibid., p. 7.}\]
\[\text{3 Mary L. Dougherty, "History Of The Teaching of Handwriting}
\text{In America", Elementary School Journal, XVIII (Dec. 1918), pp. 280-286.}\]
\[\text{4 A Manual of Penmanship Adapted to the Haworth Copy-Slip}
\text{System, Indianapolis: Jesse D. Carmichael, 1874, p. 20.}\]
it enabled two pupils to occupy the same seat both having access to the ink well in the center. The fundamental object of this system was to obtain freedom of movement. This was considered a combined finger, wrist, and elbow movement in which the arm was the main producer. The pupils were first drilled upon the forms of the letters and the necessary movements needed to produce them. In order to accomplish this, a somewhat elaborate contrivance of tape-harness held the fingers in the proper position. Afterwards the fingers were freed to put in the small details. A statement was made that this system was easily learned in small classes of twenty lessons of one hour each provided the pupils practiced from six to twelve hours daily.

This system was followed by another called the "muscular system". As business increased, the need for greater speed in writing was felt, and emphasis was then placed upon movement to satisfy this need. A type of writing to satisfy this requirement was known as the "Spenoerian". With the advent of the Spenoerian writing several changes were noteworthy. The style of the letters changed almost completely eliminating the heavy shaded lines of the previous systems. The lower loops were shortened, but still extended down three spaces. A special oblique pen holder and steel penpoint aided the writer to

Mary L. Dougherty, op. cit., p. 281.
produce this delicate flowing type of letters. A quill pen was used by writers for many centuries. As the greatest defect of this type of pen was speedy injury from use, many efforts were made to improve it. In 1809 a machine was devised for cutting the quill into separate nibs for use in holders, thus making several pens from one quill and anticipating the form of the modern pen. About 1780 Mr. Samuel Harrison introduced the first metallic pen. This pen was made as follows:

A sheet of steel was rolled in the form of a tube. One end was cut and trimmed to a point after the manner of a quill, the seam where both edges of the tube met forming the slit of the pen. This was soon after improved upon by cutting a rough blank out of a thin sheet of steel, which blank was filed into form about the nib, rounded, and with a sharp chisel marked inside where the slit was to be in the finished pen. After tempering the nib was ground and shaped to a point suitable for fine or broad writing as required.

Once started the pen made rapid strides in improvement. Mr. James Ferry in 1824, started the manufacture of pens on a large scale in England, and to him, as well as to Mr. Gillett is due the many improvements which followed.

During this period the arrangement of pupils in A and B classes was adopted in the schools. With this change also appeared changes in the copy books, which attempted to suit the development of the writing to that of the child.

During the whole of the writing lesson the attention of the teacher was directed to the posture of the children and to the writing

in their books. While the practice period was in progress, sometimes the teacher, sometimes the pupils in concert, and at others a monitor counted. The instructions to the teacher were:

When counting was impracticable or unprofitable, it should not be attempted, but this was seldom the case. The time allotted for this type of lesson was thirty minutes. If the teacher possessed the tact to make this lesson brisk and spirited, twenty minutes would be sufficient.\(^7\)

The demand for more efficient writing caused the establishment of writing classes in Commercial Schools. Men from these schools tried to fulfill the demands of the time in their Manuals for Handwriting to be taught in the Public Schools but as they lacked contact with the children and had no understanding of their development, these authors failed in accomplishing their aims. Spencerian writing remained in vogue in the schools for forty years. It furnished a basis for the type of letters used today.\(^8\)

From 1890-1900 vertical writing was adopted in the schools. The agitation for this style of writing came from France and Germany to our country. The claim which caused such rapid popularity in favor of vertical writing was that it was superior hygienically.

The front position of the body was adopted and is the accepted one today. Proponents of this style of writing said it eliminated eyestrain, but authorities today do not agree with this. The copy books that

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\(^7\) The Haworth Copy-Slip System, op. cit., p. 34.

\(^8\) Mary L. Dougherty, op. cit., p. 283.
appeared during this decade did contribute hygienically as they were the first to appear with only a base line upon which to write. Henry Ellsworth justified the teaching of vertical writing saying,

> The movements of the penpoint are easier to acquire as the pen is drawn rather than pushed. It would be easier for the poor writer or for the beginner to learn vertical writing as the lateral arm movement necessary for slant writing is very difficult.

Advocates of this style of writing claimed that it was more legible than slant writing, could be written just as speedily, and with as much ease to the writer. Evidently the vertical writing did not fulfill the demands, as it survived only a short time.

By 1900 the advisability of depending upon the copy book caused the teachers to discontinue its use. By 1912 when Dr. Freeman sent a questionnaire to handwriting teachers in many cities to ascertain to what extent copy books were being used, he found that they were generally not being used. In this article on Current Methods of Teaching Handwriting Dr. Freeman presents the following 9 arguments for and against the copy books:

<table>
<thead>
<tr>
<th>For</th>
<th>Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A perfect model for the child to imitate</td>
<td>An engraved model is lifeless. It is the result of writing and not the process itself.</td>
</tr>
<tr>
<td>2. The more perfect the model the closer will be the child's approximation to it</td>
<td>A child can much better imitate the process of performing an act than the result of the act after it has been</td>
</tr>
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</table>

For

3. The whole emphasis of present day teaching is upon development of movement and not upon the result.

4. The teacher is not ordinarily capable of setting up a good enough model for the child. Imitation is one of the best means of teaching.

5. Copy books present a systematic order of development of forms of writing and drill.

6. Copy books furnish a means for the child to keep permanent record at various stages and encourage him to produce and keep a clean page.

Against

completed, therefore the sight of a teacher writing presents to the child in a very much clearer form the process of writing which he has to develop.

The copy book is not ordinarily a possible form of writing—it suggests a slow drawing process by which it was actually produced.

An ideal which is impossible of attainment by the method by which it is to be used is a false ideal, and has no advantage above a more imperfect product which was produced by an ordinary writing.

It would be better for the teacher to be familiar with the principles underlying the development that no such system is necessary (a manual giving the different stages could be placed in the hands of the teacher for previous study).

A copy book, then is not for main practice but used after he has gone through the main practice merely to record samples of writing at a particular time. When practice is done on another paper, then the writing in the copy book is a more laborer style.

Authors of different systems, none of them varying greatly, composed manuals to aid the teachers in using their copy books for the children. In most of these books the engraved copy to be imitated appeared on the top line. As the child endeavored to
produce a similar copy, he usually achieved the best copy on the first line. The writing on the last line was most generally, contrary to desires and expectations, the poorest. Perhaps this occurred because the child imitated the writing of that in the line just above the one in which he was writing instead of that in the original copy so far above. In an effort to correct this some books were produced with two copies on a page, one at the top and one in the middle. Another system provided moveable copies. Today copy books as such are no longer in use. The present writing books supply the pupils with material for a handwriting test, standards, models, drills, and space in which to record the samples of writing mostly for the purpose of comparing achievement with the standard of the grade and to compare personal development.

From 1900 through 1936 there have been no changes in the movement required to produce slant writing. A combined action of finger, hand, and forearm has been accepted as necessary. There have been likewise no changes in the position of the writer. The requirements of the correct position for all grade levels as recommended by Dr. Freeman are:

1. The writer should sit erect
2. The feet should rest on the floor, but the seat should be high enough to place the thighs in a horizontal position
3. The edge of the seat should project a few inches

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under the edge of the desk
4. The writer should face the desk squarely
5. The forearms should rest on the desk approximately three or four inches from the body
6. The paper should be directly in front of the writer
7. The top of the desk should slope a little toward the writer
8. The paper should be tilted so that the lower edge forms an angle of not more than thirty degrees with the edge of the desk
9. The forearm should form a right angle with the base line of the writing
10. The pen or pencil should be held loosely
11. The hand should rest on the third and fourth fingers rather than on the sides
12. The hand should be held with the palm down until the wrist is practically level
13. The light should come from over the left side or above, or both

Some pupils do not acquire the habit of using the position of the hand as recommended by Dr. Freeman. These pupils allow their hands to rest on the side causing them to become cramped at the end of a word and at the end of a line and therefore they produce poor writing. They have difficulty in the sideward movement across the paper. This hinders them in their ability to compete with the good writers in speed. The good writers divide the handwriting movement into units making similar strokes with similar changes in speed. The poor writers do not occupy as large a percentage of their time in the pauses in their writing as the good writers. They are apt to make a very abrupt stroke alternate with one which increases in speed gradually. Drill enables children to acquire this uniformity

as they grow older. It is very essential that they master the correct form first, however, as they may acquire rhythm with poor form as easily as with good form.

The semi-slant which seems to have been produced by combining the vertical with the slant of the previous period has been the prevailing style for this thirty-six years.

Habits is a very important word for the aim of a teacher during the twentieth century. Handwriting during the period allotted for it should be for the purpose of establishing correct habits of movement, form, and speed. Other habits learned during this same period are neatness, orderly and pleasing arrangement of work, care in attending to details, economy of the use of materials, and self-criticism. The Handwriting Committee of the 1926 Yearbook of the Department of Superintendence of the National Education Association agreed upon the following aims:

1. To develop sufficient skill to enable the pupil to write easily, legibly, and rapidly enough to meet present needs and social requirements.
2. To equip the child with methods of work so that he will attack his writing problems intelligently.
3. To diagnose individual writing difficulties.
4. To aid the child to recognize and make use of his peculiar individual learning capacities.
5. To provide experiences which will tend to develop in the child more power to direct his own practice and more ability to judge whether or not he is succeeding in that practice.
6. To provide the means for each individual to progress.

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The aim of a Junior High School teacher is to see that each pupil has developed an efficient style of handwriting; and make sure that he writes all his written work well; and to impress him with the importance of legible handwriting in the business world.

As the first grade pupils have difficulty in making small finely controlled movements, the first letters should consist of large movements at the blackboard. The teacher should use the visual method in presenting work so that the child will develop form and fluency together.

Samuel Parker suggests these six steps:

1. Study the word
2. The teacher should write the word on the board and talk about ups and downs
3. The child should copy the word
4. The child should write the word in his notebook
5. The child should write the word in his exercise book
6. The child should repeat the word in his own handwriting

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13 George C. Cole, Program of Studies and Digest of State Courses of Study for Indiana Schools, 1905, p. 32.
3. Children write in the air as the teacher writes on the blackboard.
4. Children take their places at the blackboard and write the same word.
5. Children take a good look at the word, close their eyes, and see it before the teacher erases it.
6. The teacher should write the model for any slow children to copy.

Dr. Freeman advises that after writing on the blackboard, the children write on paper, words and sentences related to activities of the schoolroom.

The first grade teacher should attempt to guide the pupils to write with the right hand. Some pupils can be urged to do so with no great difficulty while others may offer resistance showing a strong preference for writing with the left hand. They should be allowed to follow their inclination, but should assume the correct position which necessitates the turning of the paper to the right rather than to the left.

By the age of ten most pupils will have attained mastery of the fundamentals. They are able to acquire sufficient skill by merely following simple directions, practicing in imitation of good models, and being interested in improving until they attain certain scores. Samuel Parker says,

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17 Samuel Parker, *op. cit.*, p. 28.
It is a simple matter to attain the degree of skill desirable, but if the teacher fails to provide the amount and kind of training needed, pupils will fall far below the standard. Satisfactory results may be obtained with a very moderate amount of time and effort.

By the time the child leaves the sixth grade he should have developed sufficient self-criticism and watchfulness of his own writing that no formal lessons are longer necessary. A teacher having many pupils in the room at the same time should group the children. The poor writers should be segregated and more time allotted to them.

The Junior High School program in the Indianapolis Schools, for example, does not provide regular handwriting periods for all pupils. Those achieving and maintaining the grade standards are excused from the formal writing lessons. Those who have to be segregated because of poor writing are placed in a remedial class. These pupils may again be grouped according to the special phase in writing in which they need additional help. In such a class the first requirement is that their interest in striving for good writing be aroused. Each pupil must be aware of his own defects, must know the goal he is to strive to gain, and the method necessary to attain this goal. He is also interested in knowing where he stands in the relation to the other members of his class in the rate and quality of his handwriting. The teacher should furnish pupils with this information, aided by diagnostic handwriting cards and handwriting

19 Paul V. West, Remedial And Follow-Up Work, p. 3. Bloomington, Ill.: Public School Co., 1926.
scales. When in a certain group, the pupils are working on a common defect and when this has been mastered, they advance to another group. When all defects have been mastered, then the child is excused from drill, but it is very essential that the teacher observe closely that the excused pupil does not relapse into his former bad habits.

Handwriting is a tool requiring motor skill. Short periods of practice often repeated permit more rapid development of the accurate adjustment of the voluntary movements than few periods of longer duration. Guy M. Whipple says, "Make the duration of your periods of study long enough to utilize a warming up, but not so long as to suffer from weariness or fatigue." This motor skill is required to enable the child, by practice, to reach the stage when writing is automatic. Great care is necessary until the development reaches this stage so that incorrect habits may not be formed. A child may develop a writing habit in which the movement is unsatisfactory or the quality of the writing is poor. The opposite fault sometimes occurs. The child may never lose consciousness of the writing movement or of the forms of the letters, and therefore is not able to give his attention to the thought of what he is writing. To aid the child to develop

this unconsciousness he must not be given a copy to imitate. Perhaps he could never imitate it. He must be given an opportunity to see the teacher produce the correct form with the necessary movement before he is able to produce an imitation.

Recently Manuscript Writing has been introduced into the United States. In England in 1899 Miss M. M. Bridges developed a manuscript writing by copying that of the fifteenth century scribes but her copy book was not widely adopted. In 1921 manuscript writing was introduced in Boston and New York, and by 1930 more than one hundred private schools had adopted it. Miss Marjorie Wise was one of the first teachers to bring it from England to the United States, claiming that manuscript writing aroused an appreciation of graceful handwriting, fostered interest in the medieval manuscripts, created interest in form and aesthetic appreciation. Manuscript writing involves both a style of letters and a mode of production. The style of the letters resembles printing more than the customary script, being written separately without connecting strokes.

24 Milton Whittier, A Study Of Handwriting With Special References To Anatomical Development, Intelligence, And Some Other Mental And Physical Functions. Thesis For Doctor's Degree, Harvard University, Cambridge, Mass., 1929, p. 27.
The letters are produced with a broad-pointed pen, all strokes in a downward direction. This makes the lines broad in certain places and narrow in others. Advocates for the adoption of manuscript writing in the grade schools claim:

1. Manuscript writing has been found to be significantly more legible than cursive writing
2. Manuscript writing is easier for the child to learn
3. It facilitates learning to read and to spell
4. It is more rhythmical to write
5. It is more pleasing to read
6. It may be produced as rapidly as the cursive
7. It reduces physical strain and eyestrain
8. It is as individualistic as cursive
9. The neatness and legibility of manuscript writing tend to carry over to other work
10. Business men of both England and America are showing increasing interest in its use

Criticism against this type of writing is of two types:

1. The style of letters used are not adapted to a free and easy movement as is script. Manuscript writing does not favor the lateral arm movement which allows the hand to move rapidly across the paper
2. Disconnected writing is more fatiguing than the connected. Perhaps connected script developed because it was found to be superior to the disconnected.  

Thelma Voorhis says that the difference between manuscript and cursive writing is a difference in letter form only and not a difference in teaching method.

25 Thelma Voorhis, op. cit., p. 50.
27 Thelma Voorhis, op. cit., p. 46.
During the nineteenth and twentieth centuries many differences are noted in the teaching of handwriting in the schools. These differences are in evidence in the copy books, writing movements, posture of the writer, aims of the teacher while conducting the class, and in methods of teaching.

The first copy books contained many staff-like lines and also vertical lines, but no copies. Later, engraved copies appeared. While the same kind of lines appeared in the books between 1850 and 1890, the style of the writing in the engraved copies changed. When the Vertical writing appeared, the many lines were reduced to a single base line. The dawn of the twentieth century saw the decline of the copy books. Writing books took their place supplying preliminary tests, standards, drills, and spaces in order to observe individual progress.

The first handwriting movement of this period was one of very slow drawing. As the demands of the time called for more speed, a muscular writing movement developed. This method survived a short time and was followed by another muscular movement of which the Spencerian writing was a type. After surviving about forty years, this method was criticized as illegible and producing eyestrain. The vertical movement, claiming to produce writing easily, legibly, and rapidly, and with no eyestrain was adopted and taught in the schools for a period of ten years.
It did not satisfy the demands of the time and therefore a semi-slant writing was introduced and has survived up to the present time. Another type, the manuscript writing, has appeared, but has not been universally adopted.

Three positions of the body have been in vogue, the left position, left arm as far as the elbow resting on the desk, permitting the right arm to be held at right angles to the paper, which is parallel to the sides of the desk; the right position, in which the right arm rests on the desk to the elbow and at right angles to the lines on the paper, which is held slanting on the desk; and the front position in which the writer faces the desk squarely, holds the paper slanting on the desk, and has both arms on the desk.

The one aim "efficiency" in writing has been prevalent throughout. As times have progressed, the steps necessary to achieve this aim have been subdivided until in 1926 a Handwriting Committee of the National Educational Association stated definitely nine aims that a teacher practices today.

Methods of teaching varied from class instruction to individual instruction. In class instruction individual differences were not observed; no plans were made which recognized differences in rate of speed; nor were the slow pupils encouraged. Today children in writing classes are grouped and the teacher endeavors to teach writing individually. The arrangement in the Junior High School permits the remedial treatment to such as require it.
as the pupils who attain and maintain the grade standards are excused from the regular class instruction.

CASHEW FLYING

In previous chapters discussion has been afforded concerning the history and development of the alphabet, handwriting in the early schools and the differences in teaching it. As these differences occurred with the introduction of handwriting methods in this chapter we shall endeavor to analyze and for some standardize the scale, some explanations and statements on the construction of the different types of scripts and present Dr. Trautman's instructions to teachers telling how to correct and record a syllabic chart in their pupils.

The initial attemps to provide for controlled observation or for testing results of teaching in handwriting were made by educators. A scientific study of the process involved in handwriting was begun in Europe and carried forward by C. D. Judd and Dr. J. J. G. in 1879. After much investigation in 1889, and toward the author's text standardized by Dr. Judd, Jr.

In previous chapters discussion has been offered concerning the history and development of the alphabet, handwriting in the early schools, and the differences in teaching it. One of these differences occurred with the introduction of handwriting scales.

In this chapter we shall endeavor to explain how Dr. Ayres produced his scale, some conclusions and recommendations he has made, mention the different types of scales, and present Dr. Freeman's instructions to teachers telling how to present and record a handwriting test to their pupils.

The first attempts to provide for controlled observation or for testing results of teaching in handwriting were made by educators. A scientific study of the process involved in handwriting was begun in Europe and carried forward by C. H. Judd and Dr. F. N. Freeman. After much investigation, study, and experimentation scales were standardized by Dr. Ayres, Dr. F. N. Freeman.

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Thorndike, and Dr. Freeman. It is interesting to know how such a scale was produced.

Dr. Ayres tells how he proceeded to produce his scale for the upper elementary grades. Through correspondence with the superintendents in a number of different cities in different parts of our country, Dr. Ayres received a promise of co-operation. In order to make all the samples uniform the paper was furnished. At the top of each sheet there were fifteen lines of typewritten material from which each pupil was to copy as much as he could in ten minutes. The teachers had been instructed not to tell the pupils to make an extra effort to write well or rapidly. One thousand five hundred seventy-eight samples were accepted as satisfactory. These were numbered and sorted in groups of twenty-five in such a way that no two samples were alike. Ten readers who had received special training with very definite instructions then read these samples.

Each reader kept exact record of the time it took him to read each sample and of the number words not deciphered. After all ten had read each sample, the reading time was added and the average time deciphered to three decimal places. After all the reading had been completed, since the readers had gained speed with practice, the first seventy-five were read again, marked, and the second marking substituted for the first.

The next question was how to classify the samples according to the styles of the letters. Methods they considered, but rejected as impracticable were: according to heaviness and thickness of lines; large flowing letters, medium, or small compact ones; angular or circular letters. Dr. Ayres and his assistants adopted the style of the slant as their basis. They chose five classes: vertical (90° - 90°), medium slant (60° - 90°), extreme slant (30° - 65°), back hand (to the left of vertical), and mixed (combination of two or more styles). The papers were then arranged in one long series beginning with the sample having the lowest score and proceeding on through the entire group to the final sample having the highest rating of all. This arrangement showed that only a few very badly written samples had been read very slowly and only a few very well written ones had been read with the greatest speed and that many samples of medium quality had been read with a medium rate of speed. By counting halfway through this distribution of the papers the point was found at which exactly half were above and half below. In the same way the one-quarter and three-quarter points were located. It was found that the difference between the rating of the sample of one-quarter and one-half was greater than that between one-half and three-quarters. With this arrangement of the papers, the readers also became aware that much time was needed to read the almost illegible samples. Those that were only slightly better were read almost twice as fast. As the writing of the specimens
improved, the rate of the speed of the reader increased in smaller rates, until in reading the most excellent no increase in rate of reading was noticed. This careful study of the style of the letters, the writing scores, the speed attained by the readers showed that each suggested the possibility of a "normal distribution".

Dr. Ayres arrived at the following conclusions: 1. In comparison of quality, vertical is the most legible; 2. In speed the extreme slant is ahead; and 3. The different writings are surprisingly equal as to legibility and speed. He also ascertained that extremely legible papers are almost invariably of good appearance, but that many writings that are of good appearance rate low in legibility. When he analyzed this latter type, he found that such illegibility was caused: 1. by too small spacing between words, 2. by too close spacing between letters, 3. by breaking the stroke in the middle of a word making it look like two words, 4. by not dotting i's and crossing t's. He recommended that a type of writing that is most readily legible he selected to teach to the children. As a result of this study each teacher is enabled to have a copy of Dr. Ayres' scale for a small sum of money for frequent use in the schoolroom.

In using a scale like the Ayres scale which has samples of writing arranged by quality extending from 20 through 90 or the Thorndyke scale in which the intervals of quality are only one point one compares the general impression which the writing makes upon him with the general impression made by the different specimens on
the scale. The Freeman scale is a sample of an analytical scale which calls for an examination of different points of excellence in the writing separately. The Graves scale in the Appendix is also one of this type having samples of writing specifying the errors and recommending remedies for them.

Other samples of scales are universal scales which intend to grade papers from all levels in the schools and general scales which are intended to be applied to any locality and local scales which are made from specimens written by pupils of a given locality. The general impression type of scale is somewhat easier to use than the analytical and is considered satisfactory.

The Ayres Scale is designed to measure legibility of writing. The Thorndike scale is based upon beauty, legibility, and character. The Freeman Scale requires a grade in each uniformity of slant, alinement of the top and bottom of the letters, letter formation, spacing, quality of line which may be added to make a combined score. These grade standards are helpful guides to the teacher. She, of course, will use only one of these scales for her guidance. The three are presented here showing that there are differences between scales produced by these educators because their bases are different. Attempts to test the reliability of these scales have been made, but here again are differences in opinion. One

See the Appendix for a copy of the Ayres Scale and the Thorndike Scale. pp. 90, 91.

See the Appendix for a sample of an Analytical Scale. p. 92.
statement to which all who are qualified to express an opinion upon their merit will agree is: different scales serve different purposes.

Grade standards provided by our three educators are shown in the following table.

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We may distinguish two types of standards in a school subject which is taught throughout the grades. In the first place we have to consider the standard which the pupil should reach at the end of his school career. In the second place we should consider the standard which he should attain at each stage in his progress toward the final goal. The final standard in writing has to be determined on the basis of two sets of facts. First we should consider the demand for writing in the school life or in after life and second, we should consider the ability and effort it is necessary to spend in life to reach a given standard. The demands of school are not greater than those of after life. An attempt has been made to standardize these requirements by
various experts such as Dr. Ayres, Dr. Freeman, and Dr. Thom-
deke. Under present conditions, the standard of 60 in quality
and 70 in speed is easily obtainable by children by the time they
have completed the elementary school. The quality 60 on the Ayres
Handwriting Scale is sufficient for purely social purposes; 70
is sufficient for the skilled as well as for the professions; while
for commercial work, telegraphers, and elementary teachers the
quality demanded is hardly in excess of 70.

The following method of conducting a handwriting test,
scoring the papers, and records of attainment is advised by Dr.

1. Give the pupils some preliminary practice in writing
the words which they will write in the test so they
 can write them freely from memory. In the second
and third grade use some suitable rhyme as:
   The rain is raining all around,
   It falls on field and tree,
   It rains on the umbrella here
   And on the ships at sea.
   In the fourth to the eighth grade use the names
of the numerals (not the figures), one, two, three,
ext., practicing up to thirty.
2. Be provided with a stop watch or a watch with a
   second hand.
3. See that the pupils are ready with pen, ink, and
   paper.
4. Instruct the pupils substantially as follows: "We
   are to have a test (or game) to see how well you can
   write. To write well means to write rapidly and

5. Samuel Parker, Types of Elementary Teaching and Learning.

6. Frank N. Freeman and Mary L. Dougherty, How to Teach
also to make it look well. We are going to write what we have been practicing. (Make sure the pupils know what this is.) You will start when I say, 'Begin' and stop when I say 'Stop'. Be sure to keep on writing until I say 'Stop'. (If this is the first test, give a trial or two on starting and stopping on other paper than that which is prepared for the test. Remember, write well and rapidly until I say, 'Stop'.

5. See that everybody is ready, start the watch, or wait until the second hand is at zero, and say, "Begin".

6. Keep watch of the pupils and start going again any that may stop.

7. Note the watch carefully and say, "Stop" exactly at the end of two minutes.

8. Glance about and stop any pupils that may continue.

The speed may be quickly and accurately scored by the following procedure:

1. Make a scoring copy by writing out the text and placing above each word the number of the letters in the text up to the end of the word.

2. Note the last letter the pupil has written and give him provisionally the corresponding score by referring to the scoring copy.

3. Read through the pupil's copy to see that it is correctly written, and add or deduct any letter he has inserted or left out.

4. Divide by two in order to get the score in terms of letters per minute.

The form may be scored by following the directions which accompany the scale which is used.

The purposes for which any measurement is made are best attained when a permanent record is kept of the measurement. This record serves as a basis of comparison for the attainment of the individual pupil. There should, therefore, be records of the class as a whole and records for the attainment of each pupil. After each test each pupil should indicate his scores by short marks on the appropriate vertical lines on the individual record blanks for speed and
form. The percentages for pupils who have reached or exceeded the norm for the grade should also be indicated on the class record blanks, the first indicating the percentage of the children who reach the norm in speed, the second indicating the percentage who reach it in form, and the third indicating the percentage who reach it in both form and speed.

SUMMARY

As a result of a scientific study of the handwriting process, scales for the measurement for writing were produced. Two types of scales are the general impression type and the analytical. The Ayres and Thorndike Scales are examples of the former and the Freeman Scale is one of the latter. Some scales are universal, providing standards for all grades throughout the country. Others are local, providing limited standards. As a result of his findings while producing his scale, Dr. Ayres recommended that a type of writing that is most readily legible be taught to pupils. Dr. Freeman provided teachers with specific directions how to give and record a handwriting test. These scales are an asset to teachers as they provide standards, norms, and incentives. Teachers, obtaining the address from a copy of the desired scale, for a small sum of money, are able to procure any they desire for use in the schoolroom.
CHAPTER VI

TRENDS

Dr. Freeman says that the necessary equipment of a teacher in order to teach writing is of two sorts, technical and pedagogical. The teacher must know the principles which govern the process of learning to write and must have a grasp of the methods which grow out of these principles. This is the pedagogical equipment. In addition to this the teacher must have a certain amount of skill in writing in order to be able to teach it. This is her technical equipment.\(^1\)

Ever since writing has been taught the above second requirement has been accepted. The importance of the first will be readily ascertained when observing the trends in teaching handwriting in the public schools to-day.

**Ability Groups.**-- The elementary school teacher when teaching writing to her pupils is faced with a large number of varying interests, intelligence, and capacities. While the teachers of handwriting during the nineteenth century were aware of these differences, the arrangement of pupils in classes by grades and the method of teaching handwriting by class instruction did not permit any recognition of these differences. The trend has been to reduce

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the number of pupils taught at one time. About fifteen years ago the
plan was adopted to arrange pupils in groups. This grouping was accepted
with the further addition that each child in the group, as an individual,
receive individual instruction. The first problem of the teacher after
getting acquainted with her pupils was to group them according to
their writing ability. Recognizing that such grouping was essential,
she would previously have examined the required course of study and
should have made her lesson plans according to such a grouping.
This might have consisted of three sections. One called the X group
was composed of the best writers, the Y group of those of middle
capacity, and the Z of the poorest. The teacher then presented the
lesson in project form to the groups. After the lesson had been
presented the pupils were then allowed to progress at their own rate
of speed. The difference in rate of progress was a difficult problem
for the teacher and really necessitated definite lesson planning with
ample material provided for all groups. The capacity of certain
pupils to make so much greater progress than others within the same
limits of time, was one of the reasons why the teacher needed to group
the children according to various capacities instead of teaching all of
them in one class by means of class instruction. Within these groups the
teacher recognized great variations of ability and endeavoring to

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accomplish the greatest results possible found it necessary to supply a large amount of individual instruction. With a few definite instructions and words of encouragement the X group, the best writers, could be encouraged to progress without demanding more attention from the teacher. The middle group might require somewhat more time than the superior one, but it was with the members of the third group that the teacher was required to spend most of her time. Of course, whether this was a desirable arrangement of time is open to argument.

Such a grouping of children was only a tentative one. The children were given to realize that they were privileged to enter another one when their writing reached the standard for that group. Handwriting scales furnished standards for the grade. When the pupils of the lower level attained and maintained these standards, they were excused from the formal writing lesson, being permitted to devote their time to some other subject in which they needed additional time. To the children who were capable but not very industrious this was an incentive to make greater effort. The privilege of being regrouped in a more advanced class was an incentive to the poor writer also. Each child knew definitely which group he was in and what his defects were that caused him to be in this group. As he overcame a difficulty, he enjoyed his achievement and with the skillful

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aid of the teacher was encouraged to continue striving to reach the grade standard.

For several years the trend has been to excuse pupils who have accomplished the standard, but some authorities, among them Horace 4 Healy, do not believe it is a good one. He says,

Pupils leaving the elementary grades at the age of thirteen or fourteen have not sufficiently matured to warrant our belief that muscle and nerve co-ordination will still retain their present degree of efficiency. There is danger that the pupil may relax and revert to bad writing habits. The elementary pupils rely upon initiative faculties and the high school pupil upon the constructive faculties; therefore he advises to continue the supervision of handwriting until the pupil enters the senior high school.

The present arrangement of classes in the Junior High School in Indianapolis, which is typical of what is done elsewhere, fosters this plan of excusing good writers from formal instruction. Just previous to the promotion time the Spelling, English, and Mathematics papers of the 6A pupils are submitted to the Writing Department. Writing supervisors inspect and mark "Excused" such papers as comply with the standards. The children whose papers are not marked thus supply the nucleus of the remedial handwriting class. Any pupils of the Junior High Grades who produce poorly written papers are also assigned to this remedial class in which they receive help individually. These class members understand they are attending a "writing hospital" from which they are permitted to depart as

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soon as their ills have been overcome. The permission to enter another class is given to the pupil with definite understanding that while he has satisfied the demands of the standards in the writing class, he must maintain these in all written work--be it in English, Social Science, or the exact Sciences. It is the duty of the teachers of these classes to aid the writing teacher by demanding that the pupils maintain their high standards.

Movement.-- Changes in the type of movement were produced when the pupil's hand was held resting on the side of the little finger or standing on the ends of the last two fingers; when emphasis was placed on certain types of drills, and upon the correct movement itself. The trend has been away from the painstaking, drawing of each letter in which no freedom of the hand was permitted, and also away from the too-free muscular movement in which no finger action was performed toward a combination of the two. The trend in this phase of handwriting seems to have reached a satisfactory culmination as the prevailing handwriting movement which combines the use of the arms, hand, and fingers has been in existence since 1850.

The teacher must necessarily see that the children while practicing maintain the proper position and correct movement. While observing, she feels the need for certain definite drill. She, then, may select such pupils as need this particular drill, show them at the blackboard the correct method, and have them practice with her until the proper form is achieved. This method of
procedure is a trend away from the old one which was to drill first and then to write; the new one is to write first and then to drill only upon errors. This is a distinct change in emphasis. The handwriting teacher in Eighteen Hundred drilled upon the movement necessary to produce the proper size and form to each letter. In presenting this drill to the children the modern teacher does not stress the movement, she talks about the letters and words and shows them how to accomplish the results and encourages them to imitate the correct method, thereby arousing their interest in the writing produced instead of in the movement used. While the specific aim of the teacher in providing a certain drill may be to correct defects in size, slant, spacing, or endings of the letters, the real value of the drill is to obtain a light and elastic touch. While planning this drill, the teacher endeavors to attract the attention of the children to the necessity of practicing good handwriting in all classes in which writing is required. She does this by selecting words and sentences for practice from other subjects such as Spelling, Social Science, or from any school activity in which the child is interested. While it is the duty of the authorities to select the style of writing, it is the duty of the teacher to see that the child tends to produce this selected style with the movement desired. The importance of the aim of the teacher is so great that it is here repeated. She should endeavor to focus the attention of the child upon what he is writing rather than upon how he is to write it.
Standards.—Each teacher is provided with three standards for the writing pupils in her charge. The standard script Alpha is supplied in the pupils' writing books. Handwriting scales provide standards for speed and quality. The master of the school in 1800 had one handwriting standard, the copy which he produced in his own handwriting for the pupil to copy. Until 1900 the teachers and pupils were furnished one standard which appeared in the copy book and was so perfect that no child could emulate it. The standards for speed furnished by handwriting scales were an innovation of the twentieth century. These scales should be placed in each room and used during the writing class. The teacher may use one to test the quality to see if she is accomplishing what she is attempting to teach. If not, she may change her methods of teaching and again check results by the scale. The child should be encouraged to feel free to compare his own writing with the scale. He will need to be trained in comparing to ascertain how his writing ranks. At various times it would be advisable for the teacher to put the quality rate on the pupil's practice paper, according to the scale, so that he will know where he stands. It is advisable to let the pupil know where he ranks in relation to other members of the class. The teacher keeps records of the individual marks in speed tests.

5 See the Appendix for Zaner Scale, p. 93.
6 See the Appendix for the sample of a graph, p. 94.
The child should know his class rank in this also. These scientific scales are a great asset to both pupils and teachers. The child in comparing his own writing with that on the scale must be taught to look at it impersonally and critically in order to diagnose his own defects. Those he does not recognize, the teacher must help him to observe. She will likewise direct him in the proper method to correct them. The trend in the future seems to be toward greater use of handwriting scales by pupils and teachers.

Goals.-- One hundred years ago the words individual and goals were in the teacher's vocabulary but they bore no relation to a handwriting class. The teacher's aim was to teach all the pupils to produce a facsimile copy of the model produced by him even though it were impossible for them to do so. Today the teacher's aim is to help each individual child to develop his own capacity. The early handwriting teacher recognized one goal, perfection; those of today have a series of goals with an ultimate one which is legible writing produced with ease and speed, but not perfection.

This very careful lesson planning mentioned before necessitates plans for individuals in which these various goals are established. As the class convenes, each child being provided with materials and a knowledge of the work he is to do, immediately

See the Appendix for a sample of a Handwriting Diagnosis Sheet, p. 96.
begins. His object is to reach the goal set for him. Paul
West suggests these specific things to be done while instructing
the pupil how to meet his problem:

1. Intensive copying of other material in English, Spelling, or from dictation
2. Analysis of the pupil to see if eye trouble is causing his lack of perception,
3. Special guidance to the left-handed pupil.
4. The pupil presents his copy to the teacher at the desk, or at any time through the day, and then writes a correct copy for the work poorly done.
5. After the sentence drill is given, the child works on specific words causing difficulty or on letters giving most difficulty.
6. Giving of positive emphasis largely, with special praise for every form that is well made
7. Recognition to be given the best workers
8. Speed drills be provided for the slow writers
9. The faults of work in classes outside the Penmanship class to be analyzed, listed, and drilled upon later.
10. Diagnostic and guide sheets provided each pupil so he may take account of his errors and also discover his progress.

As the pupil compares his handwriting with the scale, he must not be made to feel he is a failure but be encouraged to try again if he has not succeeded. The teacher may give him special help at the blackboard where he may better be able to see his defects, or help him at his desk. If successful, he should be given a new problem with a more difficult objective. This should continue until he reaches the ultimate goal.

Habits.—While a teacher can attempt to test the efficiency of

8 Paul West, op. cit., p. 93.
9 See the Freeman Scale in the Appendix, p. 96.
of her accomplishment in the teaching of handwriting according to the scales, there are some habits which she may have inculcated which she can not measure, perhaps because she is not aware of them. Such desirable habits which she may have instilled in a pupil are:

1. to recognize values, 2. to make him alert to recognize opportunities for appraising his own work, 3. to direct his own practice, 4. to develop a social urge to use the habits acquired in the writing in all other situations.

SUMMARY

During the last one hundred thirty-five years the method of teaching handwriting has passed from mass instruction through the group to the individual. The standards for the pupils' writing have likewise been changed. The early schoolmaster, who was required to be a good scribe, wrote the models for the pupils who endeavored to achieve good writing by attempting the impossible—copying without knowing definitely just how the copy had been produced. Following this period there was a time when the children were furnished, in the copy book, models which also were unattainable. The trend toward endeavoring to supply standards which pupils can achieve seems to have been accomplished with the advent of handwriting scales. According to the standards furnished by these scales perfection in the pupils' writing is not required. When a pupil accomplishes and maintains this required standard, he is
excused from the formal writing class. This permits the pupil additional time to devote to another subject requiring more time and at the same time reduces the size of the writing class allowing the teacher more time for the slow individual.

The trend in the handwriting movement seems to have been concluded having passed through three stages. At first no freedom was permitted to either the fingers or the hand while the writing was painstakingly produced. Later great freedom of the hand with no finger movement was needed to produce writing using the muscular system. The accepted movement today combines these two requiring freedom of use in fingers, arm, and wrist. The two little fingers which hold the hand in an upright position also permit the gliding across the paper thereby aiding the writer to attain speed and rhythm.

The schoolmaster in 1800 had one standard—that which he produced. Later the copy books furnished unattainable standards. By 1900 the handwriting teacher had three standards—that furnished in the writing book and the speed and quality standards furnished in the handwriting scales. The teacher uses the scale to test her method of teaching. She helps the individual pupil to compare and diagnose his own difficulties according to the scale. As an incentive the teacher notifies the pupils of their rank in the class in both speed and quality. From her record of speed and quality tests she also keeps the pupils informed about their own progress.

The early schoolmaster required that a perfect copy of
his model be produced by all pupils in every grade. Today the standards for each grade are different. When a pupil is able to obtain a certain standard, according to a handwriting scale, he is excused. This standard does not demand perfection but necessitates legible writing produced with ease and speed.

The modern method of teaching handwriting helps to instill certain desirable habits which older methods would not have developed.
CHAPTER VI

SUMMARY AND CONCLUSION

History.--Millenniums ago after men conceived a method of talking to each other, they became aware of the necessity of sending messages. As the memory of a messenger who was sent on such errands was not always good, the need to give the carrier some article as a reminder was felt. This urgent need caused the "quipus", a rope with various knots, to become man's first means of message sending. Needs for such messages among the Indians occurred because: tribes were suffering from famine, an unexpected attack by an enemy, a means of declaring war, a means of expressing successful results in a war, merely to satisfy the desire of artistic expression. This latter desire of the early Indians was appeased by very crudely drawn pictures on bark, later by wampum, and also by totem poles. The early Egyptians, Babylonians, and Phoenicians also felt this need of expression. After achieving a great victory or being successful in a hunt, one member of the group expressed the joy of all by carving pictures relating the events on the wall. This art of picture writing underwent changes. One of the first changes was caused by the tool which the Babylonians
used. As this tool was wedge shaped, it produced a type of writing known as cuneiform. As this style of writing developed, the plan of making the pictures express an idea originated. The phonetic method followed. Here students endeavoring to follow the development of writing step by step have encountered an obstacle. The Phoenicians according to the Moabite Stone, were discovered having an alphabet whose origin has not been satisfactorily discovered. The relation of the Phoenician alphabet and that of today is not so difficult to trace. The Phoenicians being traders, carried their alphabet to Greece. The Greeks after much experimentation adopted the Phoenician alphabet with changes which satisfied them. The Greeks were bold seamen and sailed as far as Rome taking their alphabet with them. The Romans used the Greek alphabet only for a short time before they began to make changes. These were so great that the Greek type of writing was eliminated to be replaced by an Italian style of writing which was an improvement in shape and proportion of letters. Another noteworthy contribution by the Romans was that they conceived the idea of separating words by dots. Even though the dots were crowded in not allowing space between the words, it was a contribution to the art of writing as previously the writing had all been connected with no method of distinguishing one word from the other. To the Romans, we owe also the form of modern book and the expression "code of laws". This book form originated from the wax tablets which they used in secular writing as the material was cheaper. The manuscripts were written on papyrus, parchment, and vellum and rolled into scrolls.
Because this form was not easy to handle, the Romans conceived the idea of writing on leaves of parchment shaped like the wax tablets. As these were expensive but very accessible, they were used exclusively for technical works and legal treatises and called "codex". These materials on which the Romans wrote were not original with them as the Egyptians centuries before had used papyrus. Their knowledge of the use of the pencil, pen, and ink likewise was not original with them. The Egyptians used a pencil, not containing the same kind of lead used today, pen (stilus), and ink also manufactured differently from our modern ink.

Between the fourth and the seventeenth centuries there were only several changes made in the types of letters used. Uncial letters, developed from the square, were adopted only to be replaced by the half-uncial. The minuscule, the forerunner of our modern type then became the prevailing style. Cursive writing had been prevalent from the time when uncial letters appeared, and they both declined to be revived in the fifteenth century. In the fourteenth and fifteenth centuries the Gothic style of letters, pointed and very black, were used by scribes in producing manuscripts. By the sixteenth century the art of writing was an accomplishment enjoyed by all intelligent people.

Between the teaching of handwriting in the early schools in England and those in New England there was one great difference. The schoolmasters in the Grammar Schools in England were not good penman. As they did not teach writing, the children were forced,
in the cities, to go to a writing school kept by a scribe.
In the country a writing teacher visited the school and taught
writing for a certain period each year and the schoolmaster
followed up this teaching by the practice. In the New England
schools the schoolmaster to obtain a position had to be a good
scribe. In spite of such difficulties as very crude desks, crude
homemade pens, pencils (plummet), and ink, many pupils became
good writers. Benefiting by the experience of its predecessors,
Indiana instituted the teaching of handwriting in the public schools
with specified teacher requirements to obtain a license. The teachers
were aided in the teaching of writing by being provided with manuals
instructing them in methods of teaching and by having the pupils use
the copy books which were the state adopted texts.

Differences.-- During the nineteenth and twentieth centuries
the greatest differences in the teaching of handwriting in the public
schools have taken place. These changes are evident in materials,
posture, movement, and in aims and methods of teaching. The quill
pens which survived so many years were replaced by a pen holder con-
taining the steel pen point. The copy books also gave evidence of
changes. The first ones containing many horizontal and vertical
lines to limit the specimens of the writer survived about ninety
years. All copy books that followed contained only a single base-
line. With the twentieth century, writing books replaced copy
books. The early schoolmaster had no blackboard. The first ones
used in the schools were very small and crude. The modern school teacher, usually having small slate blackboards extending along two sides of the room, feels that she would enjoy having more blackboard space to use.

Position.— After the necessity to drill upon posture became evident, one of two positions were generally used. In the left position the left side was turned toward the desk, the left arm rested on the desk, and the right arm was held so that the hand was at right angles to the lines on the paper. In the right position, the right side was turned toward the desk, the right arm rested on the desk, and the right hand held at right angles to the paper which was slanting on the desk. In more recent times the front position has been used. Dr. Freeman in his book, The Teaching of Handwriting, describes this position very well. He also includes directions for seating, position of the body, arm, hand, wrist, pen, and paper.

Movements.— The type of the movements that have prevailed are: 1. a system in which the letters were drawn slowly with many pauses between the letters and parts of the letters; 2. a muscular system which permitted little or no finger movement; 3. a muscular system in which consideration was given to ease as well as rapidity; 4. the vertical system in which the pen was drawn rather than pushed to form the letters; 5. a combination arm, wrist, and finger movement to produce a semi-slant writing. This style is similar to that of the other muscular systems, but it is not as slanting.
Aim. -- The New England schoolmaster's aim was to teach his pupils to produce legible writing. During the next period the objective of speed was added and finally writing with ease was stressed. This aim was improved when the teacher endeavored to teach the writing with speed, but also with ease. To aid the teacher to accomplish these three things the Handwriting Committee of the National Education Association agreed upon nine aims that a teacher should keep in mind during the teaching of writing.

Methods of teaching. -- Methods of teaching have passed from mass instruction to group and individual teaching. An early schoolmaster would stand aghast if he were to visit a writing class today in which none of the pupils were not even writing but were studying some other subjects or reading for pleasure, and others were practicing on different problems. Surely he would be astonished at seeing a pupil, without apparent permission, leave his seat to compare his writing with the scale on the board. He would also be surprised to see the teacher going from child to child, giving individual help and encouragement, and, at times, calling only a few pupils to the blackboard so that she could help them overcome a common error.

Types of scales. -- One of the greatest aids which the modern teacher has is the handwriting scale. There are different types of scales: the analytical and the general impression type, the universal and the local; the general and the grade. After
scientific study of the writing process, Dr. Ayres, Dr. Freeman, and Dr. Thorndike produced scales with standards for speed and quality. These scales as previously stated are an asset to the teachers and to the pupils.

Scales as aids.-- Handwriting scales are a real aid to the teacher. By comparison with a scale, she is able to direct the writer's attention to his own deficiency. She then recommends a drill that will help him to acquire the right habit. The child is kept informed of his personal results on diagnostic, speed, and quality tests and of his rank in his class.

While experiments have proved that the typewriter has great advantages for the elementary school pupil, the schools as yet, partially owing to the excessive cost, are not ready to adopt its use. The teaching of writing therefore, as a tool will probably survive in the elementary schools.

There seems to be general agreement that a legible type of writing should be stressed but that little attention needs to be paid to movement. Rather the emphasis should be upon the development of an individual style. Formal drill just for the drill's sake is no longer advocated. Drill must perform a function. It should come after a need for a particular skill has arisen. This need will generally arise in connection with the teaching of social studies as the child makes records in his notebook, writes letters, prepares reports, etc.
CONCLUSION

The writer has tried to show that the art of writing has been a matter of evolution and that there is no reason to believe that a final development has been reached.

Since a decided difference of opinion with regard to several important issues has developed during the last ten years, the writer has felt that she should end her study with the year 1925 or thereabouts.

However, she does want to call attention to the following problems which are now facing those interested in curriculum development and suggests that other students make a study of some of these problems: (1). How far down in the elementary grades can the use of the typewriter be projected? (2). How long a period of time is going to transpire before writing as a subject is taken from the curriculum? (3). How can skill in writing best be developed in a functional way? (4). To what extent is the use of the manuscript style of writing going to be adopted in the public schools throughout the United States?


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