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## The transfer of Latin to English usage.

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THE TRANSFER OF LATIN TO ENGLISH USAGE

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THE TRANSFER OF LATIN TO ENGLISH USAGE

BY

Roger Gerard Bertrand

Thesis submitted for the degree of Master of Science

Massachusetts State College

Amherst, Massachusetts

June 1938

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## CHAPTER I

### INTRODUCTION

Many things have been said concerning the study of Latin in the Secondary Schools. The proponents of the subject have set down as reasons for the presence of Latin in the curriculum that it is of great disciplinary value, that it helps train the mind in inductive and deductive reasoning, that it tends to produce in the student an analytical and synthetical intellect. Again, these pro-Latin people claim for it the value of training the students to voice their ideas clearly and precisely, of helping them in the study of formal English grammar, of enlarging their vocabulary, of improving their spelling. Beside the cultural values ascribed to Latin, such as revealing past Roman history to the students and giving them an insight into the origin of many of our present-day institutions, values of a moral nature, such as character building, are credited to the study of Latin. Relying upon these values, the proponents of Latin claim that this subject has a well-earned and well-deserved place in the curriculum of the Secondary Schools. Consequently, they are preaching that Latin should be maintained in those schools in which it is still in favor, and revived in those schools in which it is losing ground.

On the other hand, the opponents of Latin propose that it should be eliminated from the Secondary Schools. They claim that there is nothing in Latin that could not be learned in English texts with a considerable saving of time and energy.

Theirs also is the claim that Latin being a dead language, no longer spoken in any modern country, it has no place in the curriculum of a modern Secondary School. The fund of current knowledge which the student needs for life is vast enough without increasing the students' load with the addition of an obsolete subject. By pointing out that there exists but a negative correlation between Latin and English composition, the opponents of Latin endeavor to establish the uselessness of the subject, as an aid in English. These people admit that there is some historical knowledge acquired through the study of Latin, but again they see no reason why this knowledge could not be more profitably obtained through the study of ancient history in English books. All in all, if Latin should not be eliminated altogether from the curriculum, it should be left to the inquisitive mind of a few erudites and scholars.

This variance of opinion between the two camps cannot help but generate in the mind of anyone interested in the study of Latin many doubts, questions, and a desire to discover for oneself what are the real facts concerning Latin.

In the presence of such conflicting opinions, many questions come to mind. Should we or should we not eliminate Latin from the Secondary Schools? Does Latin really possess character training qualities or does it not? Does the study of Latin help the students to think clearly and correctly or does it not? Does Latin really help the student in English usage or is that claim unfounded? Such questions as these demand an answer. But, since we are dealing with human beings and anything human is very difficult to evaluate objectively, many of

these questions remain without an objective answer based on actual measurements. There is one question, however, which stirs our interest more than the others, and to which we can find an objective answer. This question reads as follows: Will the students of Latin make more progress in English usage than those students who do not study Latin? Unlike many other claims for Latin, this one can be studied in an objective manner. We are dealing here with knowledge rather than with habits, ideals, or attitudes, which are so difficult to estimate accurately. We plan therefore to attempt to secure an objective answer to the problem.

Having studied Latin for many years, I have found on almost daily occasions that it has helped me considerably in English usage. But, since I spent not one or two years but several years in the study of Latin, this gives me no reason to believe that all who study Latin derive as marked benefits from it. For instance, how much improvement in English usage can be attained in one year of Latin? This is a very short time, but it would be interesting to discover if in so limited a time anything appreciable can be ascribed to the study of Latin.

So we come to the problem we wish to solve in this experiment. Will a ninth grade class studying Latin make more progress in English usage, in one year, than an equivalent class that does not have Latin? The object of this study is to find an objective answer to this question.

CHAPTER II

RELATED LITERATURE

Since Latin has been the object of much controversy throughout the years, it is only natural that all the different claims of both partisans and antagonists should have been sifted through the screens of investigators of the subject. Every phase of Latin transfer to English has been studied in an attempt to determine the real and exact amount of improvement in English which might be attributed to the study of Latin. In order to keep this review of related literature within reasonable bounds, it was found opportunate to select that material which had a direct bearing on this study. This study, as it was intimated in the introduction, purports to deal with transfer of Latin to English usage: more specifically, it is intended to evaluate the transfer of Latin to English vocabulary, spelling, and grammar. Consequently, this review of related material will comprise only those studies which are adapted to transfer training in the following three phases of English usage: (1) the number of words a person has under command, i.e., vocabulary, (2) the ability to write these words accurately, i.e., spelling, (3) the laws which govern the correct order and relations of these words in written or spoken language, i.e., grammar. The related literature will be recalled in accordance with this order.

Vocabulary

On the basis of an experiment undertaken with freshman



high school pupils in first year Latin, Thorndike and Ruger<sup>1</sup> came to some very definite conclusions regarding the transfer of Latin to English vocabulary. They report that: "In the words of Latin derivation the Latin pupils gain in the year about 2 1/2 or 2 1/3 times as many words as the Non-Latins. In the words not of Latin origin there is no demonstrable difference between the pupils who studied Latin and those who do not." To obtain these results, Carr's Latin Tests were given (by Thorndike and Ruger) to (a) 2575 freshman high school pupils in first year Latin and to (b) 2944 first year pupils who were not studying Latin. The tests were given at the beginning, the middle, and the end of the year's work. Since this study covers a fairly large number of cases, we may accept these results as valid and conclude that the ability to define words derived from Latin was substantially increased by a year's study of Latin in the usual way.

In another investigation in the same field Hamblen<sup>2</sup>

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- 1 Thorndike, E. L., and Ruger, G.J., "The effect of first-year Latin upon knowledge of English words of Latin derivation," *School and Society*, 18: 260-270, 417-418, 1923.
  - 2 Hamblen, A. A., An investigation to determine the extent to which the effect of the study of Latin upon a knowledge of English derivatives can be increased by conscious adaptation of content and method to the attainment of this objective." Ph. D. Thesis, University of Pennsylvania, 1925, 81 pp.

reported that when the stress is laid upon the derivation of the words from their Latin origin the gain is even more noticeable. But even without using a special method those who teach Latin manage to increase the vocabulary of their students in a greater amount than those who do not. In other words, Latin students increase their Latin derived English vocabulary more quickly than those pupils who do not study Latin. This experiment dealt with 118 pairs of high school students compared on the basis of their standing on the Terman Group Test of Intelligence. The study was not limited to any particular class in high school but relied on the accuracy of pairing in intellectual ability for its validity. More variables might have been controlled but as it stands, the study is sufficiently controlled to make the results fairly reliable.

In making a slightly more complicated study along the same lines, Haskell<sup>3</sup> came to the conclusion that the improvement in English Vocabulary of these not taking Latin is very small, that if a study of the derivation of words is added to the work in English a little but not much larger improvement takes place, and that a year of Latin in the conventional way improves the vocabulary only a little when etymology is

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3 Haskell, R. I., A statistical study of the comparative results produced by teaching derivation in the ninth-grade Latin classes and in the ninth-grade English classes of non-Latin pupils in four Philadelphia high schools, Ph. D. Thesis, University of Pennsylvania, 1923, 139 pp.

studied in the English class. On the contrary he concludes:

"That the normal and conventional Beginners' Latin Course in the ninth grade produces with conscious effort in the study of Etymology approximately one-fifth of the time of the class period a large and significant contribution to the range of the vocabulary in English of the Latin Pupil as determined by measurements with small groups in four Philadelphia high schools with the Thorndike and Carr English Vocabulary Tests."<sup>3</sup>

In this particular experiment arrangements were made for a careful study of all of the attending conditions. Although the experiment started with 1800 pupils, there remained but 500 whose results were used in the study. As in other studies of this type, the results were arrived at through the comparing of two groups, one called the experimental group, the other called the control group. Pairings were usually made from the scores received by pupils on the Terman Group Tests. It is important to note that there were a sufficiently large number of pairings to make the results reliable.

### Spelling

The second phase of English usage to be studied is that of spelling. We shall see what other investigators have found in that field. Coxe<sup>4</sup> who studied this phase thoroughly and with well-controlled experiments came to the conclusion that

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3 op. cit.

pupils who study Latin for one year gain slightly more in spelling words derived from Latin than those who do not take Latin. For example, the investigator found that when the Buckingham-Coxe Spelling Test was given to the pupils of 58 schools in the beginning, middle, and end of the year those who studied Latin gained on the average 3.6 words per year: while those who did not study Latin gained 2.6 words. In cases of the words which were not of Latin origin there was no demonstrable difference between the two groups. Furthermore, when the teaching of the relation between Latin and spelling, was made a conscious aim the improvement was more noticeable. Comparatively if the improvement in vocabulary of those students who study Latin with no special emphasis on the relation between Latin and spelling is expressed in the number 10, those taking Latin with no stress on the relation between Latin and Spelling will score about 6.7. In the author's own words:

"As to the methods, we can say that Latin study, even with no special emphasis upon its relation to English spelling, does have an appreciable effect. When the similarities between Latin and English spelling are pointed out, the spelling results are still further increased but the greatest results can be achieved when we develop rules which govern the spelling of Latin derivatives.

Further, this last method produces the least interference

with the spelling of Non-Latin words." (Coxe)<sup>4</sup>

Another investigator, Lawler,<sup>5</sup> came to similar conclusions concerning the influence of the study of Latin upon correct spelling. As in other instances, it must be noted that this improvement only applies to words of Latin origin. However, since the total of 63 per cent commonly used English words are affected by Latin, it is evident that an improvement in the pupil's ability to spell so high a percentage of his vocabulary is very appreciable indeed. Lawler has shown that 65 per cent of the misspelling in Grades VII, VIII, and X are remediable by a knowledge of Latin in that 42 per cent of those are directly related to a knowledge of root words, about 13 per cent to prefixes, and 10 percent to suffixes. From which it appears that special stress on Latin roots will greatly improve English spelling, but even without that particular emphasis, Latin still helps materially in the improvement of the student's spelling ability.

### Grammar

Concerning this third and last phase of English usage fewer specific investigations seem to have been carried on, but these are more conclusive in their results than are those

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4 Coxe, W. W., "Influence of Latin on the Spelling of English Words". Doctor's Dissertation at Ohio State University, 1923. Also Journal of Educational Research, 1923, 7: 244-250, 1924, 9: 223-233.

5 Lawler, L. B., "The Potential Remediability of Errors in English Spelling Through the Study of High-School Latin." Dissertation, State University of Iowa, 1925.

dealing with spelling and derivation. Bates<sup>6</sup> reports that those who studied Latin proved superior in the use of grammar as established on the results of grammar tests given in connection with the Classical Investigation. Another investigator, Dallam<sup>7</sup>, obtained the general average of 114 students from which she was able to select two groups of seventeen pupils each, equal in general scholarship. Papers of the thirty-four pupils were placed in one group and carefully graded in spelling, reproduction, dictation, composition, definition, and grammar. The Latin pupils' papers were ahead in six out of the seven abilities and grammar showed the greatest difference. When coefficients of correlation had been established between marks on Latin and certain language traits, it was found that with grammar only was the coefficient large enough to be reliable. Thorndike<sup>8</sup> also contributes to the same cause by finding that those who had studied Latin made an increase of 10 per cent over those of the same ability who had not studied Latin, in stating the principles governing correct usage.

A general conclusion from the foregoing review of re-

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6 Bates, R., "A controlled Experiment in the Teaching of English Grammar Through Latin." Master's Dissertation at the State University of Iowa, 1924. Classical Investigation, Part I, Chapter III.

7 Dallam, M. Theresa, "Is the Study of Latin Advantageous to the Study of English?" Educational Review, 1917, Vol. 54: 500-503.

8 Thorndike, E. L., "The Influence of First Year Latin upon Ability to Read English." School and Society, 1923, Vol. XVII: 165-168.

lated literature seems to be that Latin will help those who study it in the perfection of their English usage. Apparently in the three phases examined, vocabulary, spelling, and grammar, objective tests and well-controlled experiments have established a definite transfer value of Latin to English usage. Even when transfer aims were not stressed, this transfer was noteworthy. In those cases where transfer was emphasized the amount of improvement of the Latin pupils was even more marked. This is because transfer, in general, is not accomplished through the use of identical elements alone but by making the pupils aware of the possibilities of transfer and stressing that point with them. Another factor worthy of note is that in the studies referred to those students who had high I.Q. marks and stood high in scholarship seemed to improve more appreciably than their fellow students of moderate ability. All in all, if Latin does not come up to all that it is claimed to accomplish for the student, there is considerable evidence for the claim that it does aid in the field of English usage.

CHAPTER III

STATEMENT OF THE PROBLEM AND PROCEDURE

Statement of the Problem: Will a ninth grade class (Kirby Junior High School, Chicopee, Mass.) studying Latin make more progress in English usage, in one year, than an equivalent class that does not study Latin?

The City: The Kirby Junior High School is located in the city of Chicopee in the state of Massachusetts. The city is situated on the east bank of the Connecticut river and is bordered on the north and south by the two larger cities of Holyoke and Springfield respectively. Though the population is only about 45,000, the city comprises more territory than most of the larger cities in the state and it contains residential, industrial, and agricultural sections. It is apparent that the population is not confined to one particular interest, and, consequently, the pupils will come from all types of homes. The junior high school consisting of about five hundred pupils may then be said to be a typical one. In Chicopee the six-three-three plan is in force: so the junior high school we are referring to is located, on the basis of grades, between the elementary school and the high school proper. It is really a complete unit in itself and although it is aimed at preparing the students for the high school, it culminates with a graduation at the end of the ninth grade.

The subjects and groups: The subjects, seventy-four



pupils studying Latin and sixty-two not studying Latin were members of five ninth grade classes taking English. Other pupils were taking ninth grade English in the same school, but it was deemed advisable not to include them in the experiment because they did not come under the teaching of the same English teacher. Although the ideal situation would have been a single class in English for both the control group and the experimental group, the pupils' schedules prevented any such arrangement. Since the experiment dealt with Latin and non-Latin pupils, the three classes, A<sup>1</sup>, A<sup>2</sup>, A<sup>3</sup>, taking Latin naturally fell into the experimental group while the two classes B<sup>1</sup> and C<sup>3</sup>, who did not have Latin, fell into the control group. Not all the pupils, however, were participants in the experiment: the paired pupils of each group were the actual participants. There was no differentiation made between the participants and the non-participants, so that not even the teacher himself was aware of the identity of the pupils included in the experiment. This arrangement precluded the possibility of any intentional or unintentional teacher influence of any nature on the experiment. In each of the phases studied the number of pairs involved were practically equal in number, thirty-six pairs in the common English usage section, thirty-six pairs in the vocabulary section, and thirty-eight pairs in the spelling section. One member of each pair belonged to the experimental group and the other belonged to the control group.

Pairing of the subjects: In the first section of the study dealing with the influence of Latin upon common English usage, the pairing of the pupils was done on the basis of:

- (a) Intelligence quotient (within four points as shown by the "Terman Group Test of Mental Ability").
- (b) General average of all school marks in grade nine (within one letter grade).
- (c) Common English usage ability (within three points as determined by the "Gregory Diagnostic Tests in Language")

In the second section of the study dealing with the influence of Latin upon ability in spelling, the pairing of the pupils was done on the basis of:

- (a) Intelligence quotient (within four points as shown by the "Terman Group Test of Mental Ability").
- (b) General average of all marks in grade nine (within one letter grade).
- (c) Spelling ability (within two points as shown by the "Morrison-McCall Spelling Scale" and "Buckingham's Extension of the Ayres Spelling Scale").

In the third section of the study dealing with the influence of Latin upon English vocabulary, the pairing of the pupils was done on the basis of:

- (a) Intelligence quotient (within four points as shown by the "Terman Group Test of Mental Ability").
- (b) General average of all school marks in grade nine.

- (c) Extent of vocabulary (within two points as determined by the "Thorndike Test of Word Knowledge").

In order to make the analysis more accurate and better controlled the following factors were kept constant in both groups:

- (a) The same teacher of English taught to each of the five classes.
- (b) The same course in English was followed by all the pupils.
- (c) All the students attended the same school at the same time.
- (d) The study lasted for a period of one year in school (9th grade).

Materials:

(a) The "Terman Group Test of Mental Ability" was used to establish one of the bases for comparison. It so happened that there were no I.Q. marks available in the school records, so it was necessary to administer an intelligence test as a part of the Experiment. The "Terman" test was selected because of its simplicity and ease of administering to pupils in large groups. Primarily a group test, it is intended for pupils from grade seven to grade twelve. The test is composed of ten sub-tests which take in all the phases of intellectual ability. It is generally recognized as one of the best paper tests to determine intelligence quotients. The wide popularity it enjoys with psychologists is due to its high reliability.

(b) "The Thorndike Test of Word Knowledge" published by the Bureau of Publications, Teachers College, New York City, was used as the pre-tests and the final test for the section of the study pertaining to the influence of Latin upon English vocabulary. The Thorndike test of word knowledge consists of 100 commonly used words to be defined, the definition consisting of recognizing among five words that word which means the same or nearly the same as the word defined, e.g., Builder--employee, hamlet, maker, fund, swindler. There are four equivalent forms of the test, Form A, Form B, Form C, Form D; Form A was used as the pre-test and Form B as the final test. "The test is adequate to measure pupils through Grade 10 with few exceptions, scores above 90 being very rare before Grade 10, and scores above 95 being very rare even with college students."<sup>9</sup> On the question of reliability here is what is said about the test: "The average score that would be obtained from hundreds of such tests will of course diverge from the score obtained from a single test. This divergence will vary up and down from 0, half of the divergence being less than 3 for scores of 10 to 39, less than 3 1/2 for scores of 40 to 59, less than 2 1/2 for scores of 60 to 79, and less than 2 for scores of 80 to 95."<sup>10</sup> This test was used extensively in former studies of this type and found to be very practical.

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9 Sheet of directions, "The Thorndike Test of Word Knowledge". Published by Bureau of Publications, Teachers College, New York City

10 Op. Cit.

(c) The "Gregory Diagnostic Tests of Language" were used in the section dealing with the influence of Latin upon common English usage. These tests are designed "to give at one sitting a survey of pupil achievement in common language expressions and at the same time provide a high degree of diagnosis as a basis for the correction of misconceptions and misuses of the English language."<sup>11</sup> Each test as a whole is divided into three major groups: group 1 (55 sentences) is planned to test the pupils' ability to use pronouns correctly in the sentence, group 2 (60 sentences) purports to measure the pupils' ability to use verbs correctly in the sentence, and group 3 (41 sentences) is designed to test the pupils' ability in miscellaneous constructions, such as the correct choice and use of adverbs, the correct use of plural, singular, and possessive pronouns, the correct choice and use of prepositions, the correct choice and use of conjunctions, the correct choice and use of adjectives. As this short description shows, this test covers English usage fairly thoroughly. The test comes in two forms, Form A and Form B: Form A was used as the pre-test and Form B as the final test.

(d) The "Morrison McCall Spelling Scale" was used as a part-test in the section of the study pertaining to the influence of Latin upon spelling. "All the words in each list of this spelling scale were selected from Ayres Spelling Scale and Buckingham's Extension of Ayres' Spelling Scale, in such

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<sup>11</sup> Manual of directions, "Gregory Diagnostic Tests in Language". Published by the C. A. Gregory Company, 345 Calhoun Street, Cincinnati, Ohio.

a way as to make all lists equally difficult, and the words were required in addition to appear among the 5000 most commonly used words as reported in Thorndike's Word Book."<sup>12</sup> This scale contains eight lists of 50 words each. List 1 was used as the pre-test and list 8 as the final test.

(e) "Buckingham's Extension of the Ayres' Spelling Scale" was also used in the section of the study dealing with the influence of Latin upon spelling. Since the Morrison McCall spelling scale is primarily intended for 8th grade pupils, it was found advisable to add 10 ninth grade words from the Buckingham's Extension of the Ayres' Spelling Scale to list 1 of the Morrison-McCall scale used in the pre-test and 10 other words to list 6 used in the final test.

#### Testing Sequence

(a) The pre-tests in common English usage, vocabulary, and spelling having been administered and the other data in the pairing having been collected, the pupils were paired according to the arrangement stated in the section of this chapter entitled "Pairing of the subjects".

(b) The experiment was begun on November 15, 1937. This date was selected inasmuch as it marked the beginning of a new marking period.

(c) From that time on the pupils followed the regular ninth grade course for which they had signed up. No special training other than the ordinary Latin course was given to the

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<sup>12</sup> Manual of directions, "Morrison-McCall Spelling Scale".  
Published by World Book Company, Yonkers-on-Hudson,  
New York

Latin or experimental group.

(d) On May 19, 1938, Form B of the "Gregory Diagnostic Tests in language" was administered, six months after the investigation had begun.

(e) "The Thorndike Test of Word Knowledge", Form B, was administered on May 24, 1938 with the spelling test taken from the "Morrison McCall Spelling Scale" and "Buckingham's Extension of the Ayres' Spelling Scale". This last test marked the end of the investigation.

CHAPTER IV

COLLECTION OF DATA

The better to analyze the findings of the study, the results are divided into three sections. Section 1 deals with the effect of Latin upon English Usage, section 2 pertains to the effect of Latin on vocabulary, and section 3 refers to the effect of Latin upon spelling. Each section will be discussed in the order named.

Section 1: Effect of Latin on English Usage

PAIRING

As has been stated in the procedure, there were three criteria used in the process of pairing; namely, intelligence quotient, general average of all school marks in grade nine, and ability in English Usage. These results are tabulated in Table I. In order to give a better idea of the closeness of the individual pairings, a more detailed table of the pairings for this section dealing with the effect of Latin upon English Usage has been added in Appendix I. From Table I it is immediately apparent that two very homogeneous groups of thirty-six pupils each have been secured. It is to be noted from this table that in no case did any difference exceed 1 point.

"The Gregory Diagnostic Tests of Language"

Table II represents the results of both groups on this test, which was given as a basis for drawing conclusions on the effect of Latin on English usage. Form A of the test was used as a pre-test and Form B as the final test. Table II



Table I

Means of the Thirty-six Pupils Secured in Each Group on the Basis of the Criteria Used in Pairing for Section 1, Effect of Latin on English Usage.

Criterion	Control Group	Experimental Group	Difference
Intelligence Quotient	100.88	100.55	.33
Average of all school marks made in grade nine	B-	B-	
English usage ability as shown by scores made on Pre-test	126.9	126.1	.8

shows the results obtained on both occasions. In the pre-test there was but a difference of .8 between the two means and this difference was in favor of the control group. In the final test there was but a one-point difference between the means and this time it was in favor of the experimental group. It is to be noted that the means of the control group and the experimental group increased but 1.77 and 3.57 respectively.

Table II

Comparison of Scores Made by the Two Groups on Form A (Pre-test) and Form B (Final Test) of the "Gregory Diagnostic Tests in Language"

	Control Group	Experimental Group
Number:	36	36
Pre-test: Mean <sub>1</sub>	126.9	126.1
Standard Deviation <sub>1</sub>	15.	12.9
Final test: Mean <sub>2</sub>	128.7	129.7
Standard Deviation <sub>2</sub>	10.5	11.1
Standard error of mean <sub>2</sub>	1.75	1.85
<hr/>		
Standard error of the difference <sub>2</sub>		2.54
Difference between Means <sub>2</sub>		1.00
Critical Ratio		.31

There is slight variation between the standard deviations which fact tends to stress the homogeneity of the groups. The Critical Ratio between the two final means is but .31. Thus, according to these figures Latin has little effect upon English Usage. The slight advantage attained by the experimental group is statistically unreliable since to be statistically reliable, the Critical Ratio should be at least three.<sup>13</sup>

## Section 2: Effect of Latin upon Vocabulary

### PAIRING

As in the first section, there were three criteria used in the process of pairing: namely, intelligence quotient, general average of all school marks in grade nine, and extent of vocabulary based on the "Thorndike Test of Word Knowledge". These results are tabulated in Table III. Another table in appendix II gives a more detailed presentation of the individual pairings, showing how little a difference really exists between the individuals paired. From Table III it is again apparent that two very homogeneous groups of thirty-six pupils each have been secured. It is to be noted from this table that in no case did the difference exceed .33.

### "THE THORNDIKE TEST OF WORD KNOWLEDGE"

Practically the same results were obtained from Form A and Form B of "The Thorndike Test of Word Knowledge" as from

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13 Garrett, Henry E., "Statistics in Psychology and Education" (New York: Longmans, Green and Co., 1935) p. 133.

Table III

"Means of the Thirty-six Pupils Secured in Each Group on the Basis of the Criteria Used in Pairing for Section 2, Effect of Latin upon Vocabulary"

Criterion	Control Group	Experimental Group	Difference
Intelligence Quotient	101.88	102.11	.33
Average of all school marks made in grade nine	B-	B-	
Spelling ability as shown by scores made on Pre-test	59.84	59.69	.15

"Gregory Diagnostic Tests in Language". As shown in Table IV, the pre-test means of both groups differed by .15 and this difference was in favor of the control group. In the final test the difference was close to five points and in favor of the experimental group. This apparently marked difference is owed to the fact that the control group made a lower score on the final test than it did on the pre-test. Again the homogeneity of the groups is made evident by the slight

Table IV

Comparison of Scores Made by the Two Groups on Form A (Pre-test) and Form B (Final Test) of the "Thorndike Test of Word Knowledge"

	Control Group	Experimental Group
Number:	36	36
Pre-test: Mean <sub>1</sub>	59.84	59.69
Standard Deviation <sub>1</sub>	6.6	7.2
Final test: Mean <sub>2</sub>	56.	60.84
Standard Deviation <sub>2</sub>	9.6	8.7
Standard error of Mean <sub>2</sub>	1.6	1.45

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Standard error of the difference<sub>2</sub>

2.1

Difference between Means<sub>2</sub>

4.84

Critical Ratio

2.3

variation in the standard deviations.

This test was used as the criterion for the evaluation of the effect of Latin on vocabulary. The Critical Ratio secured on the basis of the scores made on this test was 2.3. Although this score is very close to the required three for statistical reliability, it is not quite sufficient to be called reliable. Therefore, according to these results, Latin has little marked effect on vocabulary.

### Section 3: Effect of Latin upon Spelling.

#### PAIRING

Once again there were three criteria used in the process of pairing: namely, intelligence quotient, average of all school marks in grade nine, and spelling ability based on the "Morrison McCall Spelling Scale" and "Buckingham's Extension of the Ayres Spelling Scale". These results are tabulated in Table V. As for the preceding sections a detailed table has been added in appendix III to show the actual individual pairings. From Table V once more it is evident that two very homogeneous groups have been secured. Another fact worthy of note is that in no case did the difference exceed .26.

#### "THE MORRISON MCCALL SPELLING SCALE" AND "BUCKINGHAM'S EXTENSION OF THE AYRES SPELLING SCALE"

In this section of the study, as in the two preceding sections, the results obtained from the spelling tests were not indicative of any marked gain. Lists 1 and 6 of the

Table V

"Means of the Thirty-eight Pupils Secured in Each Group on the Basis of the Criteria Used in Pairing for Section 3, Effect of Latin on Spelling"

Criterion	Control Group	Experimental Group	Difference
Intelligence Quotient	101.27	101.6	.21
Average of all school marks made in grade nine	B-	B-	
Spelling ability as shown by scores made on Pre-test	51.4	51.66	.26

"Morrison-McCall Spelling Scale" and the additional words selected from "Buckingham's Extension of the Ayres Spelling Scale" produced scores of the same trend as the scores of the tests given in the other two sections. As shown in Table VI, the pre-test means differed by .26 and this difference was in favor of the experimental group. In the final test the difference was only .34 in favor of the experimental group. As

Table VI

"Comparison of Scores Made by the Two Groups on Lists 1 and 6 of the "Morrison McCall Spelling Scale" and Ten words selected from "Buckingham's Extension of Ayres Spelling Scale"

	Control Group	Experimental Group
Number:	38	38
Pre-test: Mean <sub>1</sub>	51.4	51.66
Standard Deviation <sub>1</sub>	5.4	5.7
Final test: Mean <sub>2</sub>	51.75	52.09
Standard error of Mean <sub>2</sub>	.69	1.02
<hr/>		
Standard error of the difference		1.23
Difference between Means <sub>2</sub>		.34
Critical Ratio		.19



in previous cases the homogeneity of the two groups of thirty-eight pupils is made apparent by the slight variation in the standard deviations.

These tests were used as criteria for the evaluation of the effect of Latin on spelling. Since the Critical Ratio secured on the basis of the scores made on these tests was only .19 it is far from being statistically reliable. Consequently, the necessary conclusion is that Latin has no effect on spelling.

It is significant to note that in each of the tests that were given by the investigator to both groups there was but a slight difference in the means, noticeable similarity in the standard deviations, and, consequently, a very low Critical Ratio. In other words, in each test given to both groups there was no significant difference between the results obtained by those who had had Latin and those who had not. Presumably, then, Latin had no effect upon the general English ability of the pupils. This constitutes all the data collected in this study.

CHAPTER V

SUMMARY AND CONCLUSIONS

Some of the controversial advantages claimed for Latin might never pass out of the realm of opinion because they involve human elements which escape the ruler of accurate measurements. With the introduction of objective testing into the field of educational research, however, many erstwhile theories about Latin can now be appraised scientifically and mathematically. Through the use of these objective tests, the effect of Latin upon general English usage was investigated in this study. The questions that arose were: "Does Latin have an appreciable effect on common English usage?", and "Do pupils who study Latin make more progress in common English forms, vocabulary, and spelling than do the pupils who do not study Latin?" The problem that evolved from these questions read as follows: "Will a ninth grade class (Kirby Jr. High School, Chicopee, Mass.) studying Latin make more progress in English usage, in one year, than an equivalent class that does not study Latin?"

Five classes of ninth grade pupils were involved in this study. Three of the classes, A<sup>1</sup>, A<sup>2</sup>, A<sup>3</sup>, were used as the experimental group because they studied Latin: two other classes who did not study Latin, B<sup>1</sup> and C<sup>3</sup>, were used as the control group. The actual experimental individuals were very carefully paired, and the result was thirty-six closely matched pairs of pupils in the section pertaining to the effect

of Latin on common English usage, thirty-six like pairs in the section dealing with the effect of Latin upon vocabulary, and thirty-eight pairs in the section adapted to the study of the effect of Latin upon spelling. These pupils composed the participants in the experiment, while the remaining pupils in the five classes of which the paired pupils were members were the non-participants. One member from each pair was in one of the three classes designated as experimental classes, and the other member was from one of the other two classes which were designated as control classes.

The three classes containing the experimental group followed the regular ninth grade course in Latin which is known as "First Year Latin", while the two classes containing the control group did not take the Latin course. In fact every attempt was made to limit the variables between the two groups to one, the study of Latin by the experimental group.

"The Gregory Diagnostic Test In English Usage" was used in evaluating the effect of the study of Latin upon common English usage. This test was administered to both groups at the start and then at the end of the investigation, Form A being used as the pre-test and Form B as the final test. The results seemed to indicate that one year's study of Latin has little bearing on the progress made by ninth grade pupils in common English usage.

"The Thorndike Test of Word Knowledge" was employed to estimate the effect of Latin upon vocabulary. Form A of this

test was administered to both groups as a pre-test and Form B was used as the final test in vocabulary ability. As in the preceding phase, the results seemed to point out that ninth grade pupils who study Latin for one year are little apt to make more progress in vocabulary than those pupils who do not study Latin taught in the usual way.

"The Morrison-McCall Spelling Scale" and "Buckingham's Extension of the Ayres Spelling Scale" were used as a basis for judging the effect of Latin upon Spelling ability. At the beginning of the experiment the same list of words was dictated to both groups of pupils and another list of equal difficulty was dictated to both groups at the end of the experiment. Once again it is to be concluded from the results obtained that one year of Latin has no appreciable effect upon spelling ability.

On all three occasions when the same pre-tests were given to both groups, fairly similar results were obtained; in fact whatever difference in scores existed in the pre-tests was in favor of the control or non-latin group. In the final tests, however, in all three sections, the experimental group had the upper hand, but since the Critical Ratio did not amount to three in any case, such gains as may have been made by the experimental group cannot be accepted as statistically reliable. The standard deviations of both groups on each test tended to be fairly equal so that two very homogeneous groups of pupils had been secured. Consequently, in view of the foregoing results, a ninth grade class studying Latin will only make about an equal progress in English usage as an equivalent class that does not study Latin.

CHAPTER VI

EDUCATIONAL IMPLICATIONS

This chapter entitled "Educational Implications" is intended to obviate some of the objections which might arise because this study comes to conclusions unsupported by other results of studies in the same field as quoted in the second chapter of this investigation under the heading of "Related Literature". In fact these other studies reported considerable gain in English through the study of Latin.

In most of these studies, however, the teaching of Latin was carried on with special emphasis upon the possibilities of transfer. With this aim in mind it is only natural that a considerable amount of transfer should have been accomplished. On the other hand, this study investigated the amount of transfer achieved by Latin students in an ordinary Latin class in which no stress was laid upon transfer. Since there is a difference between the studies in the method of attack of the subject-matter, no wonder, then, that there be a difference in results recorded.

In the second place, this study also differs with other investigations in the types of tests used to evaluate the amount of transfer. In some of the other studies, tests especially designed to cover those phases of English which are most closely related to Latin forms were used as a criterion. In this study, standard tests in English usage were selected with the intention of using as a measuring stick tests which

would not particularly favor the Latin group. The test in English usage which was administered is not purposely designed to evaluate ability in those grammar forms which are most kindred to Latin forms. The vocabulary test also does not especially stress words of Latin origin. For the section on spelling, lists that did not stress words of Latin derivation were secured. Undoubtedly, all these tests did contain some elements of similarity to Latin forms, but in no case were tests chosen because of that similarity alone.

A third factor to be noted is the fact that this study covered the first year of Latin only. Much of this first year is given over to the study of technicalities in Latin so that items of similarity to English easily escape the pupils. An investigation into the effect of one year of Latin other than the first year might lead to different conclusions.

In fine, therefore, it is pointed out that this study does not pretend to conclude beyond the results achieved under specific conditions. First, these results are only applicable to the school and the class used in the experiment; second, the tests used did not purport to measure progress in that particular phase of English which is strictly derived from Latin; third, Latin, in this school, was taught in the usual way, with no emphasis on derivation. These are the limitations under which the study was conducted and the results of the study are based on them.

APPENDICES

- I Individual Pairings for Section on English
- II Individual Pairings for Section on Vocabulary
- III Individual Pairings for Section on Spelling

Appendix I

"Showing the Individual Pairings of the Pupils for the Section  
Dealing with the Effect of Latin on Common English Usage"

Control Group

Experimental Group

Pr.	I.Q.	Sch. Gr.	Eng. Sc.1	Eng. Sc.2	Dif.	I.Q.	Sch. Gr.	Eng. Sc.1	Eng. Sc.2	Dif.
1	90	C+	119	113	-6	90	C+	118	114	-4
2	89	B	127	130	3	92	B	127	128	1
3	102	C+	119	118	-1	98	B	122	135	13
4	122	B-	136	145	9	120	B	133	138	5
5	109	A-	138	139	1	111	A-	133	142	9
6	114	B	138	144	6	110	B+	134	141	7
7	109	B+	136	133	-3	106	A-	139	142	3
8	110	B	136	140	4	108	B	135	135	0
9	81	C	108	110	2	82	C-	105	94	-11
10	80	C+	121	121	0	79	C-	120	123	3
11	84	B-	118	109	-9	81	C+	119	115	-4
12	116	A-	136	143	7	118	A-	132	146	14
13	91	C+	133	135	2	91	C	130	133	3
14	87	C+	116	128	12	81	C+	118	108	-10
15	102	B	132	133	1	101	B	133	140	7
16	113	C	125	134	9	112	C+	123	130	3
17	109	C+	124	138	14	106	C+	127	123	-4
18	109	B	130	130	0	108	B+	128	139	11
19	112	B	125	120	-5	108	B	122	141	19
20	99	B	126	138	12	94	C+	124	128	4
21	108	B	130	130	0	108	B	127	139	12
22	100	B-	129	139	10	98	C+	128	136	8
23	97	A-	138	133	-5	102	A-	140	126	-14
24	95	B	129	121	-8	96	B-	130	133	3
25	95	C-	116	135	19	100	C	119	131	12
26	105	C	126	112	-14	107	C	119	118	-1
27	102	B-	113	123	10	99	B-	118	113	-5
28	99	C+	115	112	-3	102	C+	113	117	4
29	93	B	123	130	7	91	B-	121	130	9
30	96	C+	135	134	-1	99	C	137	138	1
31	99	C+	135	128	-7	100	B-	132	144	12
32	99	B	137	141	4	99	B-	131	138	7
33	104	C+	134	141	7	102	C-	134	134	0
34	102	C	117	116	-1	98	C	120	133	13
35	99	B	117	111	-6	100	C	122	134	12
36	101	B-	116	134	18	96	C+	116	112	-4

M: 100.88 B- 126.9 128.7 100.55 B- 126.1 129.7

S.D. 9.6 B 15.0 10.5 10. 12.9 11.1

Critical Ratio

Eng. Sc.2 .53



Appendix II

"Showing the Individual Pairings of the Pupils for the Section  
Dealing with the Effect of Latin upon Vocabulary"

Control Group

Experimental Group

Pr.	I.Q.	Sch. Gr.	Voc. Sc.1	Voc. Sc.2	Dif.	I.Q.	Sch. Gr.	Voc. Sc.1	Voc. Sc.2	Dif.
1	88	B	61	52	-9	91	C+	61	53	-8
2	99	B	49	33	-13	99	B+	49	55	6
3	105	A-	66	71	5	107	B+	65	70	5
4	111	B	67	65	-2	114	B+	70	79	9
5	114	B	61	66	5	110	B+	61	63	2
6	122	B-	74	73	-1	122	B	76	74	-2
7	80	C+	48	41	-7	81	C+	46	41	-5
8	95	B	63	59	-4	96	B-	63	61	-2
9	101	B-	64	63	-1	104	B-	66	66	0
10	109	C+	57	59	2	108	B-	57	41	-16
11	85	C-	43	43	0	85	C	41	48	7
12	90	C+	63	60	-3	87	C-	64	64	0
13	88	B	50	50	0	87	B+	48	46	-2
14	89	B	57	52	-7	90	C+	58	55	-3
15	92	C+	52	53	1	91	B-	52	52	0
16	91	C+	58	57	-1	92	C	60	56	-4
17	93	B	56	56	0	94	B	54	54	0
18	95	C-	56	50	-6	98	C	55	61	5
19	97	B-	61	59	-2	98	B	62	62	0
20	99	C+	55	53	-2	96	C+	57	51	-6
21	97	A-	65	59	-6	101	B+	67	54	-13
22	100	B-	59	61	2	98	C+	58	69	11
23	99	B	64	55	-9	102	A-	62	62	0
24	103	B-	57	43	-14	103	B	55	57	2
25	102	B-	54	53	-1	105	C+	56	55	-1
26	102	C	52	57	5	106	C+	50	52	2
27	104	C+	56	64	8	106	C+	57	61	4
28	108	B	66	63	-3	106	B	64	63	-1
29	109	B	45	37	-8	108	B+	46	54	8
30	109	A-	67	43	-24	108	B	67	67	0
31	114	B-	55	49	-6	114	C+	53	58	5
32	111	C-	66	60	-6	107	C	65	64	-1
33	112	B	71	73	2	112	C+	72	73	1
34	113	C	54	48	-6	114	B-	53	51	2
35	118	B	68	64	-4	121	B	70	68	-2
36	102	B	64	58	-6	100	B-	62	61	-1
Means:	101.88	B-	59.84	56		102.11	B-	59.69	60.84	
S. D.	9.2		6.6	9.6		9.6		7.2	8.7	
Critical Ratio										
Voc. Sc.2			2.5							

Appendix III

"Showing the Individual Pairings of the Pupils for the Section  
Dealing with the Effect of Latin upon Spelling"

Control Group

Experimental Group

Pr.	I.Q.	Sch. Gr.	Sp. Sc.1	Sp. Sc.2	Dif.	I.Q.	Sch. Gr.	Sp. Sc.1	Sp. Sc.2	Dif.
1	80	C+	52	46	-6	81	C+	50	50	0
2	80	B-	42	46	4	81	C+	43	46	3
3	81	C	35	40	5	82	C-	35	31	-4
4	87	C+	51	53	2	86	C+	53	52	-1
5	89	B	58	55	-3	92	B	56	57	1
6	90	C	47	49	2	89	B	46	46	0
7	93	B	55	58	3	91	B-	54	52	-2
8	95	B	50	55	5	96	B-	49	53	4
9	97	A-	59	57	-2	95	A	58	55	-3
10	97	B-	49	53	4	99	B-	49	45	-4
11	95	B+	52	55	3	94	B	54	54	0
12	102	B-	44	49	5	102	C+	43	45	2
13	100	B-	53	52	-1	98	B	55	55	0
14	99	C+	55	50	-5	99	C	57	58	1
15	101	B-	55	48	-7	104	B-	57	53	-4
16	103	C+	39	47	8	100	B-	40	36	-4
17	102	B	59	56	-3	101	B	59	58	-1
18	102	C+	51	48	-3	102	C+	49	55	6
19	105	C-	50	50	0	106	C+	50	53	3
20	104	C+	56	57	1	106	B	58	54	4
21	108	B	54	50	-4	106	A-	55	57	2
22	112	B	50	51	1	108	B	52	54	2
23	109	C+	52	49	-3	108	B	51	44	-7
24	109	B	51	50	-1	108	B	52	47	-5
25	109	A-	46	49	3	108	B+	46	59	13
26	109	B+	52	43	-9	110	A	55	57	4
27	110	B	56	57	1	111	A-	57	57	0
28	118	B	54	58	4	118	A-	56	51	-5
29	88	B	54	52	-2	87	B+	54	53	-1
30	92	C+	48	51	3	91	C+	48	44	-4
31	93	C	54	54	0	92	C	52	53	1
32	99	B	38	41	3	99	B-	38	41	3
33	103	B-	52	50	-2	103	C	52	49	-3
34	105	A-	47	45	-2	107	B+	49	49	0
35	111	B	54	54	0	114	B+	56	59	3
36	112	B-	50	48	-2	114	B-	52	50	-2
37	114	B	56	57	1	122	B	57	58	1
Means	101.27	B-	51.4	51.75		101.06	B-	51.66	52.09	
S. D.	10.		5.4	4.2		10.		5.7	6.24	
Critical Ratio										
Sp. Sc. <sup>2</sup>			.19							

BIBLIOGRAPHY

- Thorndike, E. L., and Ruger, G. J., "The Effect of first year Latin upon knowledge of English words of Latin derivation" *School and Society*, 18: 260-270, 417-418, 1923
- Hamblen, A. A., An investigation to determine the extent to which the effect of the study of Latin upon a knowledge of English derivatives can be increased by conscious adaptation of content and method to the attainment of this objective," Ph. D. Thesis, University of Pennsylvania, 1925, 81 pp.
- Haskell, R. I., A statistical study of the comparative results produced by teaching derivation in the ninth-grade Latin classes and in the ninth-grade English classes of non-Latin pupils, Ph. D. Thesis, University of Pennsylvania, 1923, 139 pp.
- Coxe, W. W., "Influence of Latin on the Spelling of English Words", Doctor's Dissertation at Ohio State University, 1923. Also Journal of Educational Research, 1923, 7: 244-250, 1924, 223-233.
- Lawler, L. B. "The potential Remediability of Errors in English Spelling Through the Study of High School Latin." Dissertation, State University of Iowa, 1925.
- Bates, R. E., "A controlled Experiment in the teaching of English Grammar Through Latin." Master's Dissertation at the State University of Iowa, 1924. Classical Investigation, Part I, Chapter III.
- Dallam, M. Theresa, "Is the Study of Latin Advantageous to the Study of English?" *Educational Review*, 1917, Vol. 54: 500-503.
- Thorndike, E. L. "The Influence of First Year Latin upon Ability to Read English." *School and Society*, 1923, Vol. XVII: 165-168.

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