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PUBLIC INTELLIGENCE

A Study of the Attitudes and Opinions of Voters

By

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*Professor of Sociology in the
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PREFACE

Much has been said and written in recent years about the short-comings of the voter. Many diagnoses of his condition have been offered, and not a few remedies proposed. But there has been little exact investigation of the questions at issue, such as would indicate their specific character and extent, or the nature and comparative influence of the underlying factors; such, therefore, as would provide a basis for a realistic, "practical" attack on this most important group of problems. The present monograph reports the findings of a quantitative study designed to throw some further light on this situation.

The results of any such study are necessarily presented in statistical form. Most of the discussion will be intelligible to readers not familiar with statistical methods. Examination by readers of this class has been facilitated by putting the more technical matter in footnotes, and including simple expositions of this material in the main text. Those interested in this feature, however, will find technical terms and formulae explained at convenient points, mostly in footnotes.

The persons who assisted in the study are too numerous to mention by name. They were mostly students and colleagues at the University of Kansas and various other institutions. The investigation would scarcely have been feasible without their cooperation. Mention should be made, however, of certain specific contributions to the undertaking. Grants authorized by the Graduate Research Committee of the University of Kansas provided necessary financial assistance. Drs. Stuart A. Queen and Carroll D. Clark, respectively a former and the present Chairman of the Department of Sociology in the same institution, have cooperated in various ways. The Committee on Humanistic Studies, especially Professors R. D. O'Leary, F. H. Hodder and F. H. Guild, have offered many valuable suggestions and criticisms. The study is indebted, above all, to Professor E. B. Dade, of the University of

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I

NATURE OF THE STUDY

During the years 1924 to 1927, inclusive, data regarding 1250 voters were gathered with the assistance of students at the University of Kansas, and a number of persons connected with other institutions. These data and statistical analyses thereof are here presented. A questionnaire was used in the collection of data. By its means a "true-false" test of political opinions was administered, and information on the voter's age, sex, occupation, schooling, political affiliation, legal residence, and other characteristics was obtained. This questionnaire is reproduced in Appendix A.

Scores of "political intelligence" were computed on the basis of the true-false test. This was not presented to the voter *as* a true-false test, but as a list of statements about which opinions differed. The scores thus obtained have been classified and compared according to age, sex, occupation, schooling and other categories in which voters may be distributed. In addition, the partisan affiliations of the voters have been compared with those of their fathers, and percentages of identity in this matter computed and analyzed for a like series of categories.

Of the 1250 voters, 960 were legal residents of Kansas, and the remaining 290 were distributed among nineteen other States, 120 of them in Missouri. Nine hundred and fifty-three of the voters were males; 297, females. A selection of voters adequately representative of the country as a whole was not feasible because of the procedure employed in gathering the data. The attempt was made to obtain complete information on all questions, and this entailed solicitation of voters' co-operation in personal interviews, checking for omissions by field workers (mostly student assistants) before interviews were terminated, and in many instances subse-

quent inquiries to cover questions omitted despite these precautions. A great majority of the voters were selected on the basis of accessibility to the student assistants. Most of them, however, resided in the home communities of the assistants, or other convenient localities.

But efforts were made to minimize the non-representative character of the selection. A number of social science teachers in States other than Kansas were asked to have questionnaires filled out by voters convenient for them or for their students to reach. Their cooperation yielded many of the usable returns from those States. These provide some check on the representative character of the voters concentrated in Kansas. In addition, pains were taken to restrict selection of Lawrence voters to a minimum.

In two respects, however, the non-representative character of the selection was deliberately accentuated. Owing to special interest on the part of persons cooperating in the study, a considerable number of teachers were asked to fill out questionnaires; and, because of the longer experience of men as voters, field workers were instructed to have a major portion of questionnaires filled out by men.

While the selection is not a representative one for the country as a whole, its non-representative character may easily be overestimated. The several classifications in which voters have been distributed, in the tabulation and analysis of data, may perhaps be taken as indicating fairly representative samples for the various age, sex, occupational and other categories. Most conspicuously non-representative is the *residential* concentration of voters; but even here a check is afforded by the voters outside this area of concentration. As will appear, this check indicates that, as regards "political intelligence", the selection as a whole may not be far from representative.

Most of the significant information on the age, schooling, reading habits and other characteristics of voters may be conveniently presented in the discussion of these as political influences. The occupational complexion of the selection has exceptional significance, however, and should perhaps be described at the outset.

The item of the questionnaire on this point reads thus: "Principal occupation for past five years." The question is, of course, framed in terms too general to permit a classification of reported occupations according to specific vocational interests. This and certain other questions were constructed in general terms so as not to discourage voters, most of whom have no experience in such matters, by confronting them with an elaborate document such as a more detailed questionnaire might have seemed. Moreover, a detailed classification of occupations would have been of little value in view of the comparatively small number of voters covered by the investigation. But in many instances the answers to this question did not permit of classifications that were deemed important, namely, the assignment of voters to what may be termed vocational classes. Consequently, field workers were instructed to check answers with that purpose in view and to ask voters, where necessary, for information of classificatory value. The classification provided for seven main categories, as follows:

(1) Farmers, including all engaged in agriculture or stock-raising, whether as tenants or land-owners.

(2) Manual Workers (often designated, hereafter, as "manuals"), including all engaged in manual occupations for *wages*. It is probable that a few are included in this category who were not employed by a *business proprietor*, as, for instance, some carpenters. Where manual workers could not be confidently assigned to this class on the basis of wage employment, they were included in Unclassified (our seventh main category).

(3) Non-manual Workers (often referred to as "non-manuals"), including all engaged for wages or salaries in "brain work" or the so-called "white-collar" occupations, exclusive of professional workers. The same explanations apply here as to Manuals, with regard to erroneous classifications and inclusion of the unclassifiable in Unclassified.

(4) Business Proprietors. Probably a number of voters belonging to this class could not, on the basis of the data, be confidently included in it, and were therefore assigned to Unclassified.

(5) Professional Workers (conveniently designated as "profes-

sionals"), including all persons in vocations classifiable under this head, irrespective of whether they work on salary for an employer, or independently on a fee basis.

(6) Housewives, including, of course, the wives of men in various vocational classes. The category probably includes a small number of housekeepers employed for wages.

(7) Unclassified, which, as the term suggests, is a catch-all category for voters who could not be classified under other heads. It includes (a) a considerable number for whom sufficient data were not obtained to permit of their classification as Manuals, Non-manuals, or Business Proprietors, but whose reports indicated that they could be classified in one or another of these groups, were adequate data available; (b) a number with two or more occupations falling in more than one of the first six main vocational classes; (c) a small number with occupations that could not be subsumed under any of the first six categories; (d) eleven voters whose occupations were not specified; and (e) four voters with no occupation.

Voters engaged in two or more occupations coming within a single vocational class have been included under that class. Those reporting themselves "retired" have been assigned to the several classes of which they were members when actively occupied.

Appendix B lists the occupations included in the several classes (other than Farmers and Housewives, of which no significant sub-

Table 1. Distribution of voters by sex and vocational class

Vocational Class	Male	Female	Total
Farmers	85		85
Manual workers	209	6	215
Non-manual workers	191	18	209
Business proprietors	125	2	127
Professional workers	220	77	297
Housewives		141	141
Unclassified	123	53	176
Total	953	297	1250

divisions were apparent), with the number of voters reporting each occupation. Table 1 exhibits the distribution of voters by vocational class and sex.

It is, of course, clear from this table that the selection of voters as a whole is by no means a representative sample of the entire country as regards vocational complexion. Professional workers, for example, are greatly over-represented, while farmers and ·housewives are much under-represented. Similarly, for the reason already indicated, the selection is unrepresentative as regards sex composition.

As previously suggested, however, the voters of *specific classes* under these and other general classifications may often be regarded as representative samples of those classes. Those, for example, in particular occupations (as farmers, or lawyers, the latter a subdivision of Professionals), or with certain amounts of schooling, may be fairly representative for the country at large. One may not assert that this is so, but only suggest it, in the absence of evidence to the contrary, as not altogether improbable. The unrepresentative nature of the entire group, and the possibly representative character of specific categories, have a bearing on the interpretation of the data.

MEASUREMENT OF POLITICAL INTELLIGENCE

As previously indicated, study of the voter's "political intelligence" involved the application, in an adapted form, of the measuring device known as the true-false test, developed and utilized mainly in testing achievements of pupils in school. A critical exposition of the test applied in this study is essential to a correct understanding of the results.

The statements of the test pertained only to three general public questions—the League of Nations, the tariff, and the compulsory arbitration of industrial disputes. It was assumed that statements restricted to a few important questions would supply a fair test of political intelligence. All these questions had recently been matters of vigorous public discussion, perhaps to a greater extent than other questions claiming public attention, with the exception of prohibition. The tariff, of course, has been a topic of popular though somewhat intermittent discussion for a century, while the League of Nations, though of recent origin as a controversial issue, had been a matter of widespread public interest for a number of years. The compulsory arbitration of industrial disputes had not been so commonly discussed in the country at large, but it was a mooted question in the State of Kansas at the time of the study, owing to the recent enactment of the so-called Industrial Court Law. This act had, indeed, attracted nation-wide attention, and the problem was one of more or less popular interest even apart from that special circumstance. Questions offering a more significant test than these three could not, perhaps, have been chosen.

The criterion controlling the selection of statements for the test is clearly of cardinal importance. It called for and assumed the possibility of statements on which the judgments of experts would be in agreement. It therefore excluded statements about which experts would differ. Tentative lists of statements were submitted, for appraisal on this basis, to competent students of the several questions involved. The final list included only statements

which, according to advice thus obtained, would not be matters of controversy among experts. This procedure is open to the possible criticism that unanimity of scientific opinion on such matters may not be legitimately assumed and in any case could scarcely be determined by consultation with a very small number of experts. During the progress of the study itself doubt arose regarding the conformity of certain statements to the criterion set up, and these were not included in the analysis of the returns. Readers may judge for themselves whether the statements that were used (indicated on pp. 9-11) include doubtful ones that may in a measure vitiate the results.

The question may also be raised whether the test is not characterized by a liberal bias on certain of the topics implicated. Such a question is not readily answered. Naturally, an effort was made to avoid bias of any sort and, on the positive side, to select as tests of political intelligence statements whose scientific appraisal was beyond dispute. If the selection has been successful in this sense, what may appear as liberalist or other bias is sanctioned by scientific opinion.

A friendly critic has questioned whether some of the statements really concern matters of fact rather than matters of opinion. This criticism has been treated, by implication at least, in the exposition of the technique of selection and its underlying assumptions. Many questions on which popular opinions differ are scarcely matters of controversy among experts. Such opinions figured in the test. Any very significant test of political intelligence must of necessity deal with opinions of this order, since they are of the very essence of politics, albeit politics is also concerned with matters of fact and with questions on which experts differ. Debatable opinions in the scientific sense were not involved in the test, in so far as the method of selecting statements served its purpose.

Moreover, certain significant results of the study would scarcely be explicable save on the assumption that the test afforded, at least as a whole, a reliable index of political intelligence. Amount of schooling and number of periodicals read regularly are positively correlated with scores yielded by the test. The professional class

rates higher, as we should expect, than any other vocational class. College teachers, clergymen, and non-college teachers achieved higher ratings than other occupational groups, which is also about what one would expect. Voters adhering to the same parties as their fathers rated lower than voters departing from paternal preferences. While comparative ratings in other instances may occasion surprise, those cited have the value of cumulative evidence, indicating as they do, that various groups concerning whose general intellectual superiority there would be little question achieved superior ratings on this test.

The scores made on any such test must be interpreted in terms of its specific statements and the kinds of information and understanding involved in judging those statements correctly. *This* test would not seem to be an unduly difficult one. A few of the original statements were excluded from the computation of scores because it was concluded, on later consideration, that they presupposed more information or greater independence of judgment on public questions than could reasonably be expected from a wide variety of voters. Correct appraisal of the statements included in the computations would seem to require no more than the minimum of information and critical judgment compatible with competent citizenship. Of the twenty statements actually used (see pp. 9-11) it would be easy to identify ten that could be correctly evaluated by a moderately informed voter, which (with merely chance markings of the other ten statements) would suffice to classify the voter as a competent citizen, according to an assumption later indicated (pp. 17-20). It may be pointed out, moreover, that judging specific statements relative to complex questions is easier than judging those questions themselves; easier, too, notwithstanding a common opinion to the contrary, than judging candidates for the more important public offices, since this involves an evaluation not only of a candidate's policies on various public questions, but of his fitness for the execution of those policies. But the scores of voters covered by the study are scores on *this* test, and one could readily construct tests that would give either higher or lower average scores than

were yielded by this test. The relative character of the scores should be borne in mind.

Limitations characterizing verbal tests of this sort need not, perhaps, be reviewed. These would seem to have been somewhat over-stressed in the literature on the subject, in view of the fact that social interactions are mediated mainly by verbal communications and, so far as they become matters of record, are expressed in the same medium. Suffice it for our purposes to point out, first, that statements of the kind employed in this test are just the sort that enjoy general currency in the press and on the platform, that are reflected, though indirectly for the most part, in the choices made by voters at the polls, and that, therefore, represent vital influences on the formation of public policy; and, second, that the technique of administering the test was designed to exclude as completely as possible all conditions affecting the voter's rating except what he thought or felt regarding the statements submitted to him. It is altogether probable, as studies by Dr. Read Bain and others would indicate, that, had the tests been taken on different dates, the ratings of many *individual* voters would have been different; but it does not follow that the *statistical* results for the entire group, or for its various component classes, would have been substantially different.

For reasons already indicated, only twenty of the thirty statements incorporated in the test were used in the computation of scores. For convenience of reference these are reproduced here with the correct marking (true or false) given in parenthesis:

The League of Nations

> We are taking part in many activities of the League of Nations without belonging to it, and therefore sharing to a great extent in its benefits. (True)

> Washington's warning against entangling alliances with European nations means that we should not now enter the League of Nations. (False)

> Entrance into the League of Nations would be disloyalty to the Constitution, since the Constitution gives Congress alone the right to declare war. (False)

The distance of the United States from Europe does not in itself make it possible for us to keep out of European disputes. (True)

Giving the League of Nations any control over our foreign affairs would be contrary to the principles of self-government. (False)

It is our duty to join the League of Nations because one of our own Presidents took the lead in establishing it. (False)

Differences in race, language and customs of the various countries of the world will make the development of an efficient League of Nations difficult. (True)

The Tariff

A high tariff is not necessary to the continued prosperity of American industry. (True)

A protective tariff increases the cost of living. (True)

Tariff laws in the past have been framed to promote the welfare of the farmer and wage-earner equally with that of the manufacturer. (False)

It is impossible for Congress to handle tariff questions in a way that is just to all concerned. (True)

High tariffs are one cause of unfriendly feeling between countries. (True)

Compulsory Arbitration of Industrial Disputes

The wage-earner has been compelled to use the strike to better his condition, and largely because the state has not afforded him needed protection. (True)

Compulsory arbitration would practically prevent the peaceful settlement of labor disputes by the parties directly concerned. (False)

Practically none of the efforts made thus far by employers and employees to settle their differences peaceably have proved successful. (False)

American courts have not on the whole been as fair to the wage-earner as to the employer. (True)

The injunction in labor disputes can be used more effectively by the employer than by the employee. (True)

The continual disputes between capital and labor show that some sort of compulsory arbitration is desirable. (False)

Labor leaders and agitators are responsible for most of the trouble between employers and employees.

(False)

Organized labor's opposition to compulsory arbitration shows that it is not concerned in the welfare of the public. (False)

Of these statements, seven pertain to the League of Nations, five to the tariff, and eight to compulsory arbitration of industrial disputes. The true and false statements are not distributed under the three general questions, in proportion to the total number of used statements on these questions. This asymmetrical distribution of true, false, and all used statements would not in itself seem to affect the reliability of scores, and certainly not comparative ratings for the various categories of voters, since this feature was uniform for them all.

The score on a true-false test may be expressed as a fraction, of which the numerator is the number of statements correctly marked minus the number incorrectly marked, and the denominator the total number of statements in the test, including any that may not, in the particular case, have been marked at all. The highest score possible, according to this method, is 1. In the testing of pupils a negative score yielded by this method is counted as zero, the assumption being that, in such a case, a preponderance of incorrect over correct markings is a matter of chance, so far as the pupil's knowledge is concerned.

As the computation of scores proceeded, doubt arose concerning the validity of this procedure unless it were adapted to the circumstances affecting the formation of popular opinions on public questions. More than twenty per cent (255) of the voters had negative scores, and more than eleven per cent (144) zero scores. No doubt many of the negative scores represented a chance prepon-

derance of incorrect over correct markings; but it is probable that an equal number of positive scores represented a like preponderance of correct over incorrect markings; and, on these assumptions, such negative and positive scores would offset each other. Negative scores might therefore be taken to indicate the "conditioning" of voters to erroneous opinions, or rather, to a larger number of erroneous than of correct opinions.

On this interpretation, a negative score is significant *as* a negative score and could not be properly treated as a zero score. Negative scores would seem to indicate (in a statistical sense) voters who, so far as political intelligence is concerned, are civic liabilities rather than civic assets. Pupils in school are not affected by comparable circumstances, since they are not conditioned by their instruction to erroneous opinions on topics covered by true-false tests. In the analysis that follows, negative scores have been accepted at their face value, and treated as negative numbers in the computation of averages and other statistical measures. This method, whether or no its validity be questioned as a general procedure, does not affect the comparative ratings of the various categories under which voters are classified, since, of course, it was applied to them all. All scores have been reduced to a percentage basis. According to this, the highest possible score is 100, and the lowest possible score (since negative scores are recognized) is —100.

Scores are multiples of ten where all statements were marked, or where an even number of statements were left unmarked. An illustration will make this clear. If seventeen statements were marked correctly and three incorrectly, the score would be $\frac{17—3}{20} \times 100 = 70$. Most of the scores were, of course, multiples of ten. The comparatively small number (approximately one hundred) that ended in the digit 5, because an odd number of statements were left unmarked, have been assigned, alternately, to multiples of ten just above and below the actual scores. This greatly facilitated computations, and represented no serious inaccuracy in the computation of statistical measures.

A larger number of statements would probably have afforded

a more reliable test. The original number (30) was deliberately made small in order to minimize the labor of voters asked to co-operate in the study. This procedure may be defended on the ground that the object was less to test the individual voter as such, than to appraise the intelligence of a considerable number of voters, and to compare the ratings of the various categories under which this number might be classified. It is probable, of course, that scores of individual voters respectively higher and lower than their several intelligences would justify, largely offset each other and affect the statistical results but slightly.

These considerations have no bearing, however, on the relia-bility (or dependability) of twenty compared with a larger num-ber of statements as a test of political intelligence. Fortunately, the reliability of the number used can be estimated in exact terms. The ratings of all voters as a group on each of the twenty statements taken separately, the mean (arithmetic average) of these twenty ratings, and the standard error of this mean were computed. The mean score on all statements is 21.4, and the standard error is 5.9. This signifies that had a different number of statements been used (either larger or smaller), but selected in a similar way, the chances are two to one that the mean score would not have differed from the mean score on our twenty statements by more than 5.9. Or, in terms of the probable error (which is 67.45% of the standard er-ror), the chances are even that the mean score on any similar selec-tion of statements would not have differed from the mean score on our twenty statements by more than 4.0. These are compara-tively small quantities, considering the range of possible scores, which extends from —100 to +100. The standard errors for spe-cific categories of voters are of much the same order as that for the entire number, as will be seen by consulting Tables 20-25, which present the standard errors of the means of *fifteen* statements (used for a special purpose) for the voters as a whole and for various classes thereof. The ratings of all voters as a group on each of the twenty statements are given in Table 19, with the accompanying footnote.

An additional comment may be offered. An indefinite number

of statements such as figured in the test were not available for test purposes. In addition to meeting the criterion of scientific consensus, the attempt was made to select statements that were neither too easy nor too difficult to provide a truly significant test, and that were of the sort featured in popular discussions of the three general questions covered by the test. It was not easy to identify, as meeting these requirements, the comparatively small number actually used, and it is certain that no very great number of *such* statements could have been found. This being so, ordinary statistical measures of "reliability" have only a limited significance in this case, presupposing, as they do, an indefinite number of statements from which various tests might have been constructed. Evaluation of the findings in terms of the specific statements of this test is, therefore, more important than any estimation of the test's reliability in the conventional statistical sense.

SCORES ON TRUE-FALSE TEST OF POLITICAL INTELLIGENCE

Sex and Residential Distributions

Table 2 presents the distribution of scores on the true-false test, by sex and legal residence. Only two categories of legal residences are employed: Kansas, and States other than Kansas. Voters of the latter category are designated, for the sake of brevity, as non-Kansas voters, non-Kansas males, or non-Kansas females, as the case may be.

The most striking feature of these figures is the low mean scores for all categories of voters, the highest mean score in any category being 29.1 for non-Kansas females. A second striking feature is the small range of mean scores from lowest to highest, 20.7 to 29.1, a difference of only 8.4. Worthy of note also is the similarity of standard deviations for all categories, the difference between the lowest and highest being only 3.1.[1] This would indicate approximately the same type of distribution for all categories. The similarity of mean scores and types of distribution for mutually exclusive categories of voters tends to create a presumption that the group as a whole is a fairly representative one.

Figure 1 represents the distribution of scores for all voters. The graph approximates in form the normal curve of distribution (the so-called bell-shaped curve), though with moderate positive

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[1] The high numerical values of standard deviations compared with mean scores are due to the fact that negative scores are recognized. Had the negative score —100 been made zero, the numerical values of all scores would have been increased by 100. The proper proportions of standard deviations to mean scores would then have been readily apparent.

For the convenience of readers unacquainted with statistical concepts, the significance of the standard deviation may be briefly explained. In a normal or slightly skewed distribution (the type represented by our group of voters and most of its specific classes), approximately two-thirds of all cases differ from the mean by various amounts ranging from zero to the value of the standard deviation. For example, the mean score of all voters is 21.4 and the standard deviation of the mean is 32.0, which means that approximately two-thirds of the group have scores falling within the limits of 21.4 ± 32.0, or from —10.6 to 53.4. There are, of course, no scores of just these values, since all scores are multiples of ten. Carrying the explanation a bit further, approximately 95% of all cases in this type of distribution differ from the mean by twice the standard deviation, or less, and approximately 99% by three times the standard deviation, or less.

Table 2. Distribution of scores* of voters on true-false test, by sex and legal residence

Category of voters	SCORES																		Totals	Mean Score	Stand. devi.
	—70	—60	—50	—40	—30	—20	—10	0	10	20	30	40	50	60	70	80	90	100			
All voters	2	8	13	26	37	68	101	144	147	140	141	118	112	76	54	34	22	7	1250	21.4	32.0
All Kansans	2	6	11	20	28	42	84	114	108	108	112	97	90	57	41	23	11	6	960	21.2	31.4
All non-Kansans		2	2	6	9	26	17	30	39	32	29	21	22	19	13	11	11	1	290	22.2	33.8
All males	2	7	9	18	31	56	76	117	110	108	108	84	84	57	40	22	18	6	953	20.7	32.1
All females		1	4	8	6	12	25	27	37	32	33	34	28	19	14	12	4	1	297	23.7	31.7
Kansas males	2	5	8	13	23	33	61	91	80	83	88	72	68	41	29	16	9	5	727	20.8	31.4
Kansas females		1	3	7	5	9	23	23	28	25	24	25	22	16	12	7	2	1	233	22.3	31.7
Non-Kan. males		2	1	5	8	23	15	26	30	25	20	12	16	16	11	6	9	1	226	20.3	34.3
Non-Kan. females			1		1	3	2	4	9	7	9	9	6	3	2	5	2		64	29.1	31.2

* Highest possible score = 100; lowest possible score = —100.

Table 3. Percentage distribution of scores* by sex and legal residence

Category of voters	SCORES																	
	—70	—60	—50	—40	—30	—20	—10	0	10	20	30	40	50	60	70	80	90	100
Kansans	0.2	0.6	1.1	2.1	2.9	4.4	8.7	11.9	11.3	11.3	11.7	10.1	9.4	5.9	4.3	2.4	1.1	0.6
Non-Kansans		0.7	0.7	2.1	3.1	9.0	5.9	10.3	13.4	11.0	10.0	7.2	7.6	6.6	4.5	3.8	3.8	0.3
Males	0.2	0.7	0.9	1.9	3.3	5.9	8.0	12.3	11.5	11.3	11.3	8.8	8.8	6.0	4.2	2.3	1.9	0.6
Females		0.3	1.3	2.7	2.0	4.0	8.4	9.1	12.5	10.8	11.1	11.4	9.4	6.4	4.7	4.0	1.3	0.3
All voters	0.2	0.6	1.0	2.1	3.0	5.4	8.1	11.5	11.8	11.2	11.3	9.4	9.0	6.1	4.3	2.7	1.8	0.6

* Highest possible score = 100; lowest possible score = —100.

skewness. It will be seen that had all negative scores been counted as zero, the resulting distribution would have been markedly a-symmetrical. The approximately normal distribution obtained by recognizing negative scores attests the validity of that procedure.

Figure 2 shows the percentage distribution of scores for Kansas and non-Kansas voters; and Figure 3 shows a like distribution for male and female voters. Percentages are given in Table 3. The similarity of distribution for the several categories is clearly indicated by the figures.

More significant than mean scores, in some respects, is the distribution of individual scores on each side of a line assumed to divide competent from incompetent voters. Opinions will naturally differ as to where, considering the nature of our test, such a line
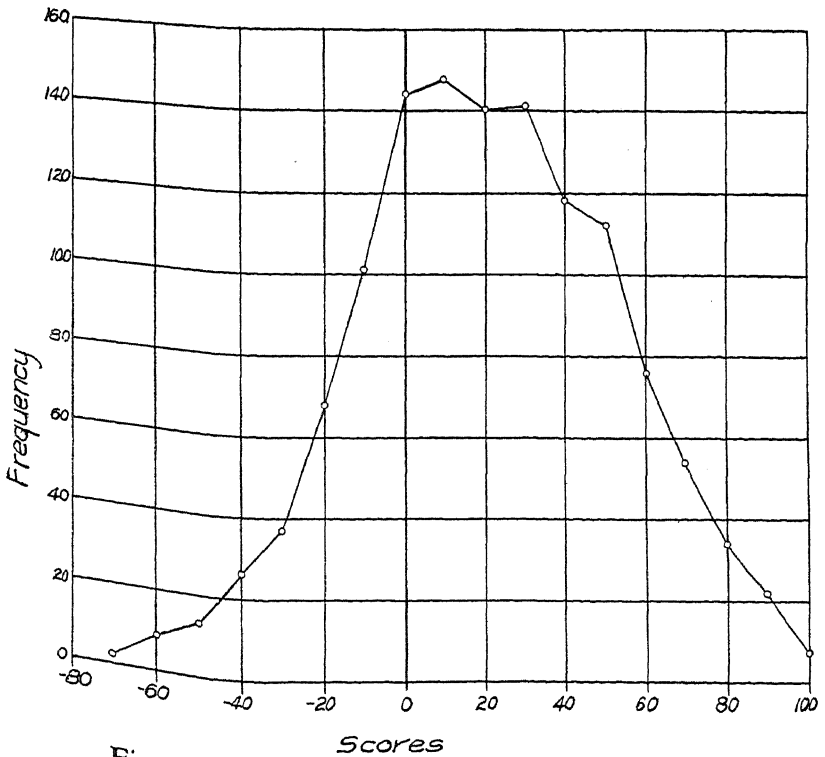
Fig. 1. Distribution of Scores on True-False Test.

should be located. It might be argued that all voters with positive scores are civic assets, and should tend to support sound policies on public questions; that only voters with negative or zero scores should be regarded as civic liabilities, incapable of making positive contributions to public policy. It might be as readily argued, on the other hand, that only voters with relatively high positive scores could be relied on for the most part to favor sound policies on public questions, and could therefore rightly be regarded as competent citizens; and that those with lower scores increase the probabilities of unsound decisions, and place public policy on a lower level than
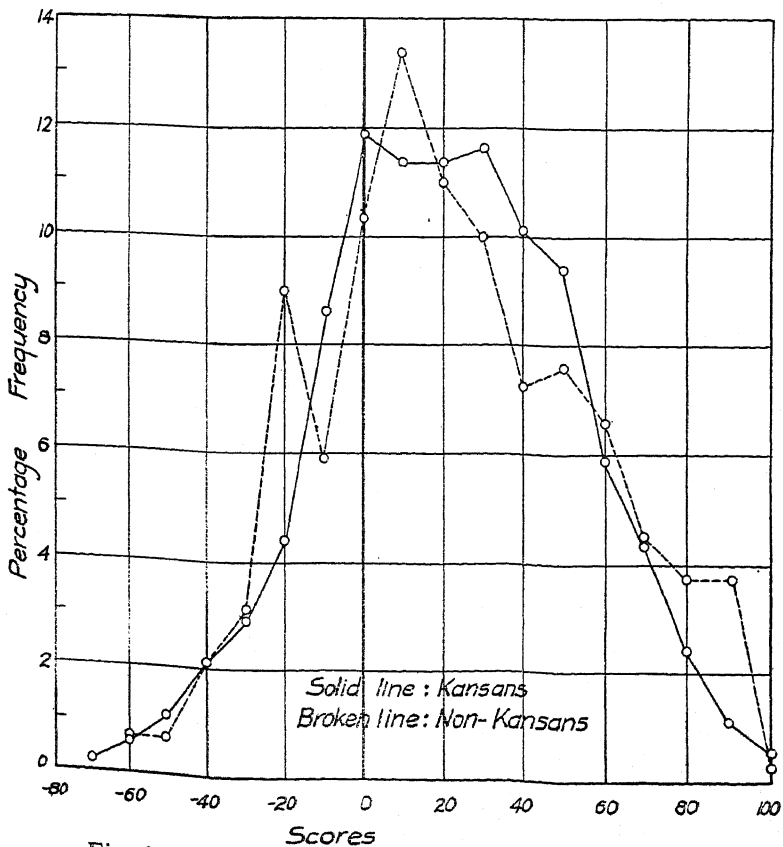
Fig. 2. Per Cent Distribution of Scores, Kansas and Non-Kansas Voters.
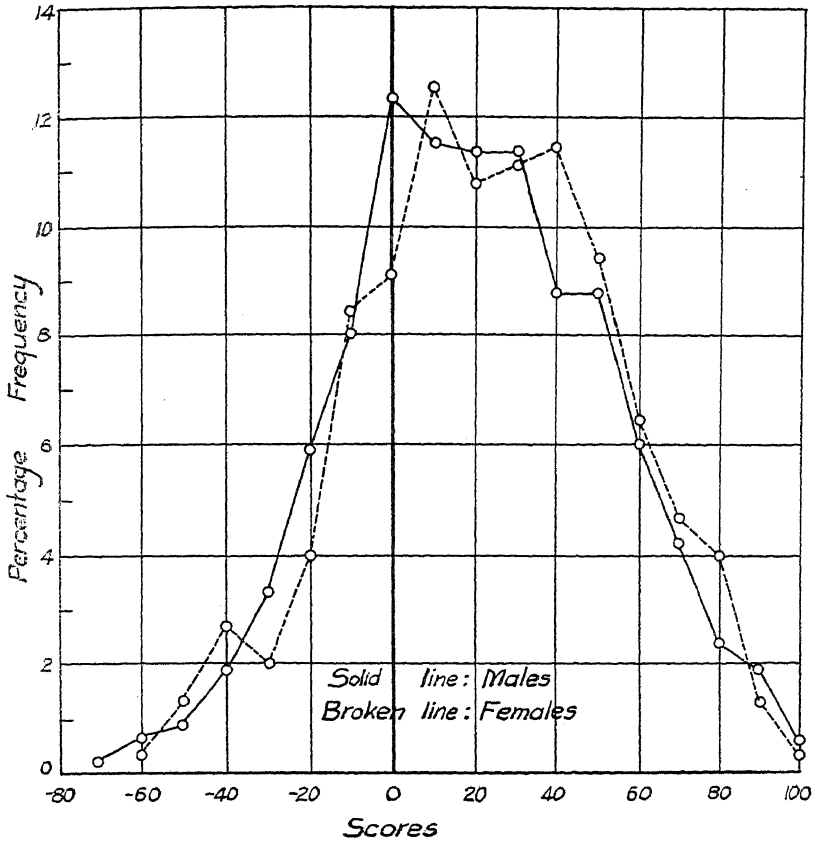
Fig. 3. Per Cent Distribution of Scores, Male and Female Voters.

it would be without their participation. As our test was a relatively easy one, dealing only with elementary matters of fact or opinion, and presupposing for correct judgments no great measure of information or independent thought, it seems reasonable to assume that competent citizens should have achieved relatively high scores. This assumption will be made as one basis for interpretation of the results.[2]

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[2] This type of analysis seems preferable, in the present study, to the analysis of skewness in the distribution of scores. The abstract numbers in which skewness is expressed would have little but academic interest in this case, whereas percentages of the various categories with scores above and below the assumed level of civic competency are quite significant.

The assumption must, of course, be made specific, and it will be further assumed that only voters with scores of 50 or above are competent citizens, and that those with scores of 40 or below are incompetent as citizens. (As explained on page 12, all scores are multiples of ten). This second assumption is obviously somewhat arbitrary in character, as it would perhaps be quite as reasonable to place the line between competent and incompetent citizens either below or above the locus here chosen. No doubt some, for example, would assume that on such a test only voters with scores of 70 or above could rightly be judged competent citizens. On that assumption fewer than ten per cent of our total number would qualify. The assumption here accepted would seem, all things considered, to imply a lenient conception of what civic competency involves. In any case, the debatable, arbitrary character of this assumption should not be lost sight of in the interpretation of results. There are no absolutes in such matters.

Table 4 indicates the percentage distributions of scores grouped as specified, by sex and legal residence. In each category the per cent with scores of 50 or above is strikingly small compared with the per cent having lower scores. Remarkable, too, are the small differences between the various categories in this respect, the greatest difference being only five per cent, that between Kansas males and non-Kansas females. Of interest, too, is the fact that as re-

Table 4.   Percentage distribution of grouped scores, by sex and legal residence

Category of voters	Per cent with scores of 40 or below	Per cent with scores of 50 or above
All voters	75.6	24.4
All Kansans	76.3	23.7
All non-Kansans	73.4	26.6
All males	76.2	23.8
All females	73.7	26.3
Kansas males	76.9	23.1
Kansas females	74.2	25.8
Non-Kansas males	73.9	26.1
Non-Kansas females	71.9	28.1

gards scores of 50 or above, females of all categories slightly out-classed males of corresponding categories, and by approximately the same amount in each category.

VOCATION AND POLITICAL INTELLIGENCE

Sex and legal residence are less closely associated than other factors with differences in political intelligence. This is seen in the

Mean Scores by Vocational Class
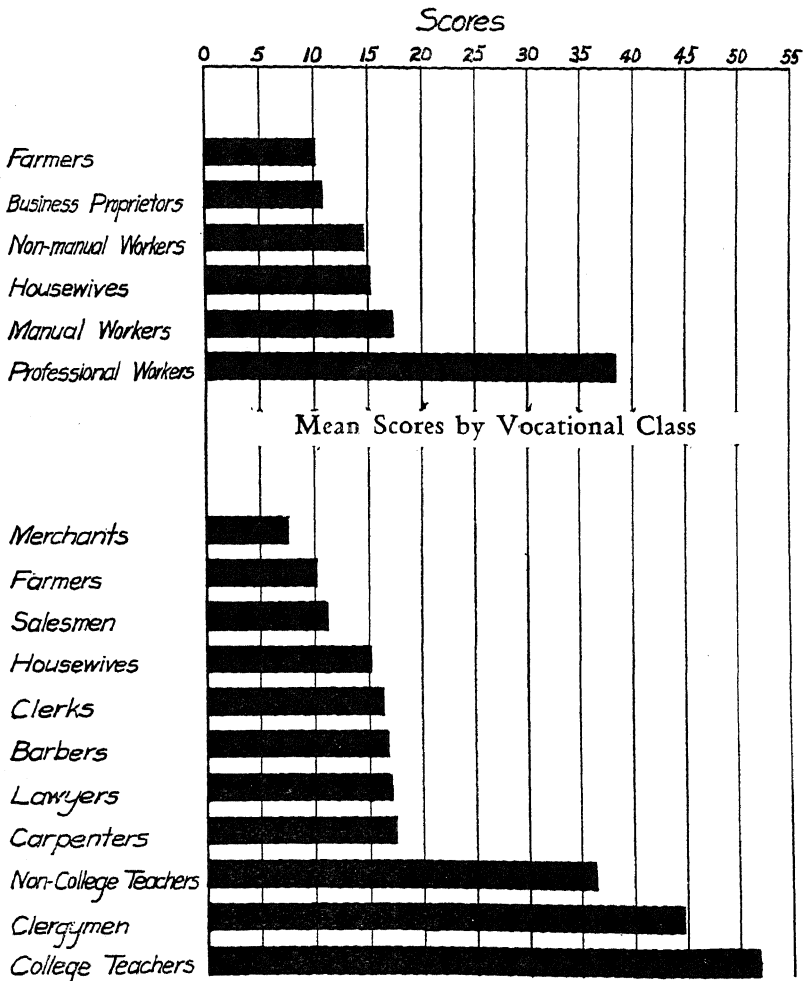
Mean Scores by Specific Vocation
Fig. 4.

Table 5. Mean scores, and percentage distribution of grouped
scores, by vocational class

Class	Number in class	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Farmers	85	10.2	27.0	88.2	11.8
Manual workers	215	17.1	24.8	87.9	12.1
Non-manual workers	209	14.6	28.1	86.1	13.9
Business proprietors	127	10.8	30.8	87.4	12.6
Professional workers	297	38.5	34.0	50.2	49.8
Housewives	141	15.1	32.1	82.3	17.7
Unclassified	176	24.0	32.4	71.0	29.0
All voters	1250	21.4	32.0	75.6	24.4

analysis of scores by vocational class, presented in Table 5. As will
be noted, mean scores and percentage distributions of grouped
scores are quite similar for four of the six classes [3]—Farmers, Man-
uals, Non-manuals and Business Proprietors. The comparatively
low rating of business proprietors may occasion surprise; only one
class having a lower mean score, and but two classes lower percent-
ages with scores of 50 or above. Housewives had a somewhat
higher percentage of "competent citizens" (scores of 50 or above)
than any of these classes, but their mean score was slightly below
that of manual workers. Percentages of competent citizens were
low for all these classes, ranging from 11.8 for farmers to 17.7 for
housewives. Professionals were markedly superior to all other
classes in both respects, having a mean score of 38.5, and 49.8 per
cent with scores of 50 or above.[4]

Table 6 presents a similar analysis for specific occupations rep-
resented by sufficient numbers to permit of statistical measures.

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[3] Not counting Unclassified.

[4] The comparatively high rating of Unclassified on both measures is probably explicable
by the inclusion of a large number who had combined teaching or study in college or uni-
versity with other occupations (which rendered them ineligible for other classifications).
Teachers received high ratings compared with other occupational groups (see Table 6);
and 250 college or university students who took the true-false test (the bulk of them
juniors and seniors) made a mean score (39.3) somewhat higher than that of non-college
teachers. Almost half of the total number in Unclassified had been thus occupied. Thirty-
two had been teachers and college or university students; thirty others had combined study
in institutions of higher learning with other occupations; while twelve more had been
engaged in teaching and other vocations.

Two entire vocational classes—farmers and housewives—are included as specific occupational groups. The other groups are distributed among various vocational classes: barbers and carpenters coming in the Manuals; clerks and salesmen in the Non-manuals; merchants in Business Proprietors; and lawyers, clergymen, college teachers, and non-college teachers in Professionals.

Mean scores range from 7.7 for merchants to 51.8 for college teachers, with clergymen and non-college teachers occupying posi-
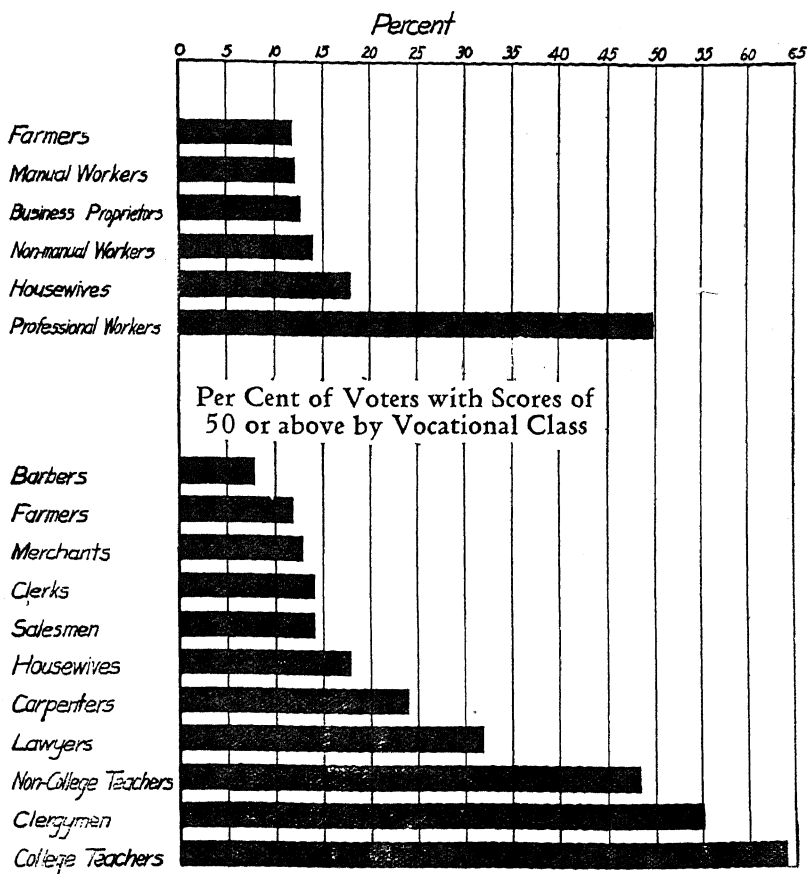
Per Cent with Scores of 50 or above
by Specific Vocation
Fig. 5.

tions well toward the top, and farmers and salesmen not far from the bottom. Percentages of competent citizens (scores of 50 or above) in the various groups range somewhat differently, with barbers taking the lowest position, followed by farmers and merchants; and college teachers, clergymen and non-college teachers occupying the same relative positions as for mean scores.

Graphic representations of the showings on the two measures, for vocational classes and specific occupational groups, are given in Figures 4 and 5.

It is unnecessary, perhaps, to point out that vocational influences affecting political intelligence are quite complex. Vocation itself is selective of intelligence, at least of specific kinds, and this selectivity no doubt bears some relation to differentiations of political intelligence. Vocational and related activities contribute in widely varying measure to the development of interest and intelligence in public affairs. Educational training requisite to engagement in the various vocations also differs greatly in both content and amount. Of these influences the present study covered only amount of schooling, though without relating it explicitly to vocational classifications. The study also covered certain reading habits that must

Table 6. Mean scores, and percentage distribution of grouped scores, by specific occupation

Occupational group	Number in group	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Farmers	85	10.2	27.0	88.2	11.8
Barbers	39	16.9	22.6	92.3	7.7
Carpenters	21	17.6	28.9	76.2	23.8
Clerks	50	16.6	25.3	86.0	14.0
Salesmen	57	11.2	27.6	86.0	14.0
Merchants	86	7.7	31.5	87.2	12.8
Lawyers	22	17.3	44.7	68.2	31.8
Clergymen	29	44.8	31.2	44.8	55.2
College teachers	92	51.8	29.8	35.9	64.1
Other teachers	97	36.6	31.6	51.5	48.5
Housewives	141	15.1	32.1	82.3	17.7
All voters	1250	21.4	32.0	75.6	24.4

be more or less affected by vocational influences, but these interrelations were not analyzed.

SCHOOLING AND POLITICAL INTELLIGENCE

The questionnaire item on schooling was so devised as to permit the reduction of school attendance to a uniform quantitative basis. According to the most common classification, and the one accepted for purposes of this study, graduation from the elementary school signifies eight years of schooling, high-school graduation four additional years, and graduation from college another four years.

Many voters, of course, had attended school before present grades and divisions were established. They were instructed to record the equivalents of their schooling as nearly as possible in terms of classifications now current. Similarly, the full-time equivalents of part-time instruction were to be indicated. Where it seemed necessary, the data were edited in conformity with the uniform basis of classification thus set up. For example, voters recording nine years of elementary school attendance were credited with only eight years, and those reporting graduation from the high school in three years were credited with four years of secondary schooling. With all such revisions, however, only an approximation to uniformity could be attained. The data could doubtless have borne much more editing, had the requisite information been available. Moreover, schooling twenty or thirty or forty years ago has no exact equivalents in schooling today, because formal education has changed so radically. Differences in the content and quality of instruction, whether between schools of the same or of different periods, could not be reached by a questionnaire such as was employed. The likelihood that some voters exaggerated the amounts of their schooling only needs mentioning. To what degree it may invalidate comparisons there is, of course, no basis for judging.

Table 7 presents mean scores on the true-false test, and percentage distributions of grouped scores, by amount of schooling.

The lack of any consistent relation between scores and amount of schooling is apparent on even a casual inspection of the figures.

Not until the twelfth year of schooling has been passed does an upward trend appear, either in mean scores or in percentages with scores of 50 or above; and not until the fourteenth year is reached (the sophomore year in college) do the ratings on both measures become consistently higher than for all lesser amounts of schooling (not counting those with a negligible number of representatives).

Some striking anomalies are presented by the figures. Voters who completed the ninth year of schooling (the first year of the

Table 7. Mean scores, and percentage distribution of grouped scores, by amount of schooling

Amount of schooling in years	Number of voters	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
0	1	10.0			
1	0				
2	1	40.0			
3	5	32.0			
4	22	7.7	28.3	90.9	9.1
5	21	15.2	26.0	85.7	14.3
6	47	13.6	25.3	87.2	12.8
7	35	16.3	25.6	82.9	17.1
8	218	13.0	26.7	89.0	11.0
9	45	8.2	30.9	88.9	11.1
10	76	17.2	28.7	84.2	15.8
11	15	16.1	23.5	84.3	15.7
12	170	11.5	29.0	89.4	10.6
13	72	15.8	31.2	83.3	16.7
14	81	19.3	30.6	79.0	21.0
15	67	24.6	33.1	68.7	31.3
16	101	30.3	33.3	60.4	39.6
17	80	47.5	30.5	40.0	60.0
18	44	31.1	30.4	61.4	38.6
19	43	54.4	35.2	32.6	67.4
*20 or more	40	47.5	31.5	30.0	70.0
Not specified	30	25.0			
All voters	1250	21.4	32.0	75.6	24.4

* Voters in this category had an estimated average schooling of 21 years.

high school) had a lower mean score than any except the four-year group, and rated fourth lowest in percentages with scores of 50 or above. High-school graduates (the twelve-year group) were excelled, in mean scores, by all groups with less schooling except the four- and nine-year groups; and, in percentage of competent citizens, by all except the four-year group. Similarly, the eighteen-year group (voters who completed two years of post-graduate study) had a lower mean score than the seventeen-year group, and a lower percentage with scores of 50 or above than either the seventeen- or the sixteen-year group. These anomalies will be discussed later.

Mean scores by amounts of schooling are graphically represented in Figure 6. Inspection of the diagram at once raises a doubt whether the relations between the two variables can best be described in terms of a single linear correlation covering all amounts of schooling. Measures of such a correlation were, however, computed. While these are significant, more instructive results are obtained by dividing the schooling series into two segments, with high-school graduation (completion of twelfth year) as the point of division. Correlations were calculated for the two series thus obtained: 0 to 12 years, and 13 to 20 years and beyond. (Voters with 20 years or more of schooling were grouped together; the estimated average amount of their schooling was 21 years.)[5]

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[5] Letting X represent amount of schooling in years, and Y mean score on the true-false test, the average relationship of Y and X for all amounts of schooling is expressed by the regression equation

$$Y = -7.8 + 2.41 \, X$$

The standard error (S_Y) is 7.7; and the coefficient of correlation (r) is +.80. (Technical terms are explained at the end of this footnote.)

The relationship between the two variables for all amounts of schooling from 0 to 12 years is expressed in the equation

$$Y = 15.2 - 0.22 \, X$$

The standard error (S_Y) is 3.1; and the coefficient of correlation (r) is —.16. These measures would indicate a negative correlation between schooling and political intelligence, for schooling up to twelve years. While the coefficient of correlation is small, it is more than four times its standard error ($\sigma_r = .037$) and may therefore be accepted as significant.

We should expect, as a corollary of these findings, a closer association between schooling and political intelligence, for the series of 13 to 20 years or more of schooling. This expectation is borne out by the statistical analysis. The average relationship of Y (mean score) and X (amount of schooling) is expressed in the equation

$$Y = -47.7 + 4.94 \, X$$

The standard error (S_Y) is 6.3; and the coefficient of correlation (r) is +.87.

The statistical measures for the various schooling series are brought together in Table 8.

The most significant conclusions from the statistical analysis are (1) that there is little connection between political intelligence and schooling up to and including high-school graduation; and (2) that there is a fairly close and consistent association of the two variables beyond that point. These conclusions apply, of course, only to types of schooling offered in the past. But they apply to schooling of the *recent* past, and therefore such as is offered at the present time, since almost ten per cent (123) of the voters studied were

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It should be borne in mind that the dependent variable is the *mean score* of the schooling group, not the score of the individual voter. This gives coefficients of correlation higher, and standard errors lower, than obtain for individual scores. Measures of the relations between schooling and individual scores were computed for 998 voters (for whom partial and multiple correlations were also computed). For this entire number (with schooling of 0 to 20 years or more), the coefficient of correlation is $+.296$; for 614 of this group (with schooling of 0 to 12 years) the coefficient is $-.018$; and for 384 of the same group (schooling, 13 to 20 years or more) the coefficient is $+.294$. The coefficient of the group, 0 to 12 years, is too small to be of any significance. The regression coefficients for these groups, in the order given, are 2.29, -0.15 and 4.61, respectively. The small differences between these and corresponding coefficients when the mean score is taken as the dependent variable are due to exclusion from one series of many voters included in the other.

It will be seen that statistical measures have high predictive values when the mean score is taken as the dependent variable, but relatively low values when the individual score is the variable. The significance of such measures will depend, of course, on the specific uses made of them. If, to take a hypothetical example, the suffrage were limited to the politically intelligent, statistical measures of this sort would be extremely valuable if the unit of selection were the schooling *group*, but much less valuable if the selectional unit were the individual voter.

For partial and multiple correlations of schooling and other measurable factors with the test scores, see p. 50.

For the benefit of readers not familiar with statistical concepts, certain terms that figure in the discussion from this point on may be explained. Regression equations are ordinary algebraic equations expressing the relationships of two or more "unknown" quantities (or "variables") to each other. Thus, if one substituted 10 for X (years of schooling) in the first equation above, the *computed* score (Y) would be 16.3.

The regression coefficient is simply the numerical coefficient of the independent variable (for example, 2.41 in the same equation above).

The standard error (S_y) is an estimate of the "reliability" of values of the dependent variable (mean scores in the present case) computed according to the regression equation. It is quite similar in meaning to the standard deviation of the mean, explained on p. 15. Taking the same illustration, the standard error of 7.7 signifies that there are two chances to one that the actual mean score of voters with ten years of schooling would not differ more than that amount from the mean score *computed* according to the regression equation, or 16.3.

The coefficient of correlation (r) expresses the degree of relationship between the variables, or unknown quantities, of the regression equation (in this case, X and Y). Correlation varies from 1, which is perfect correlation, to 0, which is absence of any correlation. Positive (or $+$) correlation means that as one variable increases, the other also increases; and negative (or $-$) correlation means that as one increases, the other decreases.

A coefficient of correlation is considered of little or no significance unless it is at least three times *its* standard error (symbolically expressed, σ_r).

Readers still bothered by these terms will find in the text discussion non-technical explanations of the main results.

in the age group of 21 to 24 years, and more than fifteen per cent (193) in the age group of 25 to 29 years: a sufficiently large percentage, taking both groups, for the influence of recent schooling to be reflected in the figures for the entire selection.

In interpreting the results the bearing of selective factors—
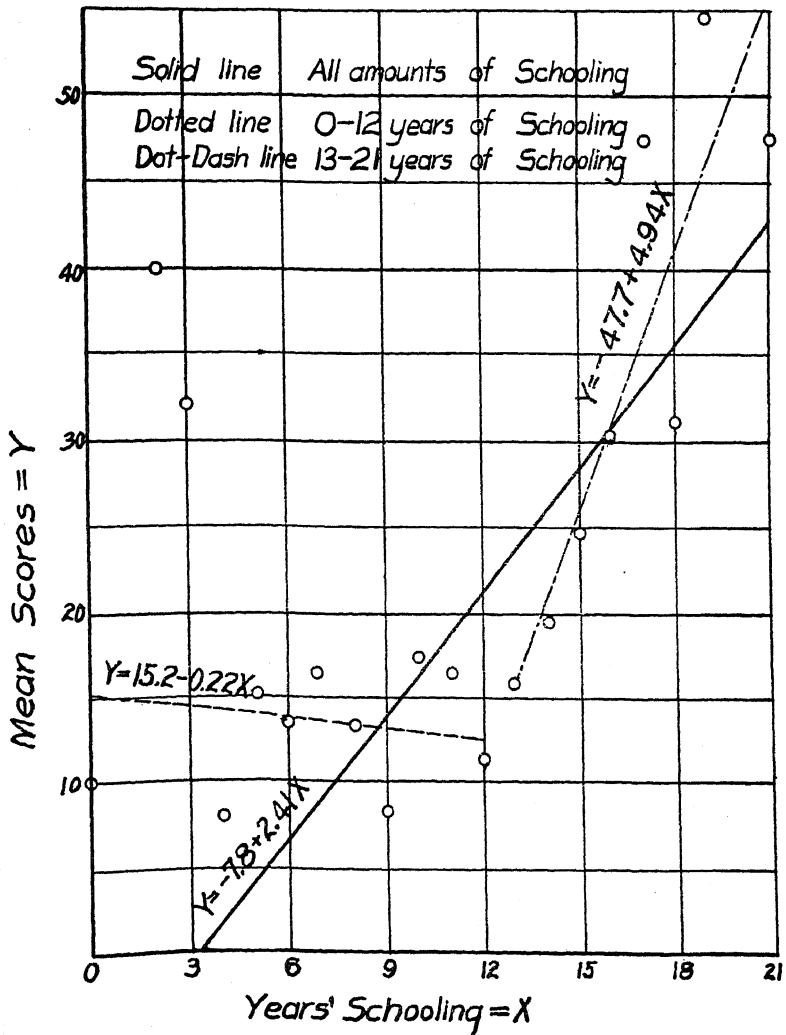
Fig. 6. Relation Between Schooling and Scores on True-False Test.

specifically, what is sometimes termed the educational "sieve"—should not be overlooked. There are no definite indications in the data that high-school attendance is selective of superior "general intelligence," such as might be reflected in scores on true-false tests of political intelligence; but this does not, of course, prove that no such selectivity is there involved. It is quite certain, however, that institutions of higher learning are selective in this sense. Moreover, attendance at such institutions is a prerequisite to engagement in certain vocations, particularly professional callings, whose interests and activities may be more conducive to the growth of political intelligence than those of other occupations. The final conclusion is somewhat problematic. No doubt higher education contributes substantially to superior political intelligence, but we cannot say on the basis of the data just how much it contributes, because the data reflect selective as well as educational influences.

Table 8. Correlations between schooling and mean scores on true-false test

Amount of schooling	Number of voters	Regression equation of Y (mean score) on X (schooling)	Standard error (S_y)	Coefficient of correlation (r)
0 to 20 yrs. or more	1220	$Y = -7.8 + 2.41X$	7.7	$+.80$
0 to 12 yrs.	692	$Y = 15.2 - 0.22X$	3.1	$-.16$
13 to 20 yrs. or more	528	$Y = -47.7 + 4.94X$	6.3	$+.87$

Some of the anomalies in the comparative ratings of the schooling groups may be briefly discussed. The fluctuations in mean scores for the first twelve years of schooling may perhaps be due to accidents of the literally random selection of cases. Certain marked fluctuations might be differently explained. The low comparative rating of the nine-year group (both in mean score and in percentage of "competent citizens") may be connected with the fact that many high-school students drop out at the end of their first year because of incapacity for work of high-school grade. The comparatively low rating of the eighteen-year group (on both measures) may be connected with the vicissitudes of study for graduate degrees. Perhaps many with this amount of schooling

were obliged, because of limited intellectual ability, to spend two years in satisfying requirements for a master's degree (whereas one year is the normal amount); and perhaps others, aspirants for the doctor's degree, became discouraged in their second year of graduate study with their limited progress toward this goal, and abandoned their efforts to attain it. These, of course, are purely hypothetical explanations that might not be supported by factual evidence, were such evidence available.

READING HABITS AND POLITICAL INTELLIGENCE

Schooling, of course, has some influence on reading habits. The present study sought information on the relations between political intelligence and the perusal of daily and periodical publications. The voter was asked to specify the number of daily newspapers read, and also the *names* of magazines or periodicals read *regularly*.

Table 9. Mean scores, and percentage distribution of grouped scores, by number of daily newspapers read

Number of papers read	Number of voters	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
0	16	15.6	27.0	81.3	18.7
1	241	24.9	30.7	72.6	27.4
2	597	20.1	32.0	77.7	22.3
3	313	19.5	31.6	77.6	22.4
4	51	27.5	37.0	60.8	39.2
5	20	29.0	33.2	70.0	30.0
6	5	48.0			
7	2	20.0			
Not specified	5	38.0			
All voters	1250	21.4	32.0	75.6	24.4

Table 9 presents mean scores on the true-false test, and percentage distributions of grouped scores, by number of daily newspapers read. Figure 7 represents graphically the relations between the two variables. It will be observed that the small number of voters who read no daily newspaper had a lower mean score, and lower percentage with scores of 50 or above, than any other group;

and that readers of two or of three dailies rated lower on both measures of political intelligence than readers either of one or of four or five dailies.[6]

The statistical analysis would indicate only a slight positive correlation between political intelligence and the perusal of daily
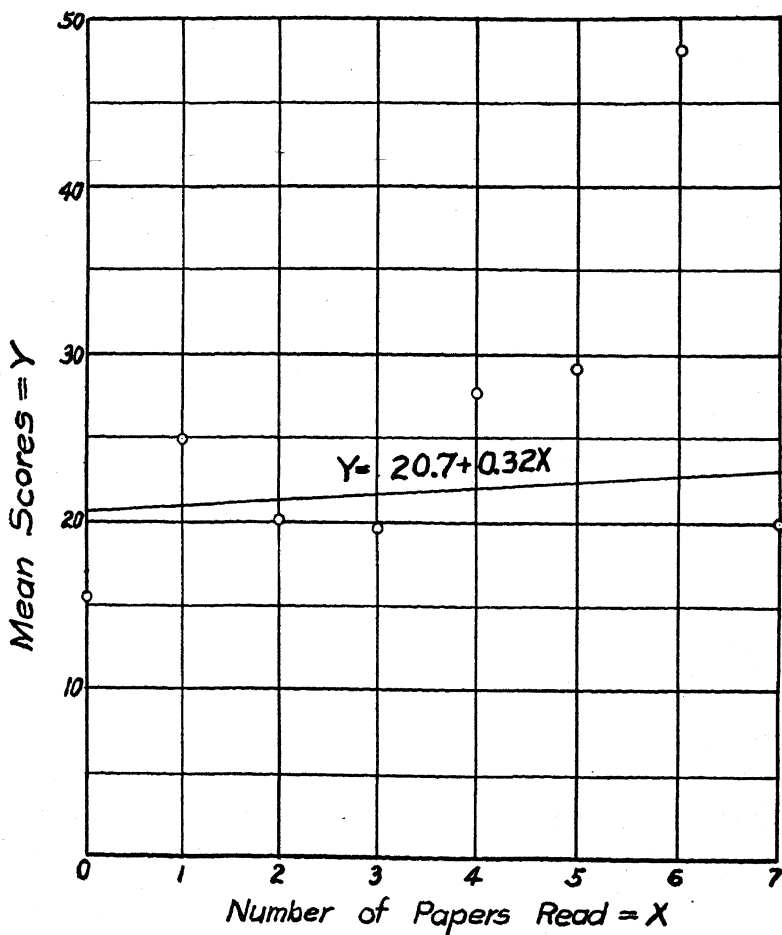
Fig. 7. Relation Between Perusal of Daily Newspapers and Scores on True-False Test.

[6] The average relationship between the two variables, Y (mean score) and X (number of daily newspapers read), is expressed in the equation: $Y = 20.7 + 0.32 X$. The standard error of estimate (S_y) is 3.1, and the coefficient of correlation (r) is $+.14$.

newspapers. This may, however, somewhat obscure the significance of data presented in the table. Why the readers of only one daily should have a mean score above the mean for all voters, and the readers of two or three dailies mean scores below that figure, one can not say—there is no basis of judging. These three categories— readers of one, two, and three dailies, respectively—included 1151, or 92.4 per cent, of all voters (1245) who specified the number of dailies read. The coefficient of correlation reflects mostly the scores of these numerically preponderant groups (and is of doubtful significance for that reason). Yet it is significant that voters who read no daily newspaper rated substantially lower, in mean scores and percentages of "competent citizens", than any other group, though selective influences may be here involved; and the fact that readers of four or five dailies rated higher, on both measures, than readers of any smaller number probably has some significance, although we cannot say, on the basis of the data, just what it is. The fact remains, however, that, barring voters who read no daily newspaper, the relation between political intelligence and perusal of daily newspapers appears to be somewhat tenuous.[7]

Voters were asked to specify *names* of magazines and periodicals read regularly; and field workers were instructed to advise voters that periodical publications of all classes should be reported. Data thus secured permitted statistical analyses of relations between "political intelligence" and number of magazines read, and also between that and the perusal of particular publications.

Table 10 presents mean scores, and percentage distributions of grouped scores, by number of magazines read regularly. Figure 8

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[7] One unforeseen circumstance introduced an element of unreliability in reports of voters on the number of daily newspapers read. A large percentage of voters lived within the territory where *The Kansas City Star* and its morning edition, *The Kansas City Times*, are widely read. There is reason to believe that some readers of both these papers reported it as *one* paper, whereas they should have reported it as *two*. Corrections were made where possible, but this could not be done in most cases, since the voter was asked to specify only the *number* of daily newspapers read. In many instances *names* were reported, which permitted a check to be made. There is no basis for estimating how serious are the errors thus occasioned.

The coefficient of correlation between *individual* scores and number of newspapers read for the same group of voters (1245) is $+.012$. This is too small, being less than its standard error, to indicate any association of the two variables. The regression equation is, of course, identical with that for mean scores.

represents graphically the relations between the two variables. A mere glance at the figures shows that ratings on both measures increase as the number of magazines read regularly increases, though there are fluctuations.[8]

Table 10. Mean scores, and percentage distribution of grouped scores, by number of magazines read regularly

Number of magazines	Number of voters	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
0	289	13.3	28.3	88.2	11.8
1	129	16.0	28.4	82.9	17.1
2	208	21.9	29.2	77.9	22.1
3	228	19.6	30.6	78.5	21.5
4	126	22.2	34.7	73.0	26.7
5	80	25.6	33.3	71.3	28.7
6	38	37.1	35.2	50.0	50.0
7	19	46.3	32.5	36.8	63.2
8	11	42.7			
9	5	48.0			
10 or more *	24	61.3	27.9	16.7	83.3
Not specified	93	27.1			
All voters	1250	21.4	32.0	75.6	24.4

* Estimated mean, 11.3.

As in other relationships, selective influences are involved. Perusal of magazines doubtless reflects, in some measure, level of "general intelligence", as well as amount of schooling, vocational

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[8] The average relationship between mean scores (Y) and the number of magazines read regularly (X) is expressed in the equation: $Y = 11.9 + 3.60 X$. The standard error of estimate (S_y) is 3.2, and the coefficient of correlation (r) is $+.93$. These measures indicate, of course, a close relationship between political intelligence and the perusal of periodical publications.

The coefficient of correlation between *individual* scores and number of periodicals read regularly (taking the 998 cases available for partial and multiple correlations) is $+.25$. The regression equation is: $Y = 12.1 + 3.63 X$. The same observation applies here as in case of schooling, respecting predictive values of measures of relationship for individual and mean scores, respectively. See p. 50 for partial and multiple correlations of test scores with perusal of periodicals and other measurable factors.

The reliability of all the measures of relationship between these two variables is affected by the asymmetrical distribution of voters among the various classes of magazine readers. The large number of voters reading no magazines accounts for the marked asymmetry of the distribution. See Figure 9.

interests, and other factors that have an influence on political intelligence, independent of magazine reading as such.

Table 11 presents mean scores, and percentage distributions of grouped scores, for readers of specified magazines. It covers only publications represented by sufficient voters to allow the application of statistical measures. To facilitate comparisons, the order of
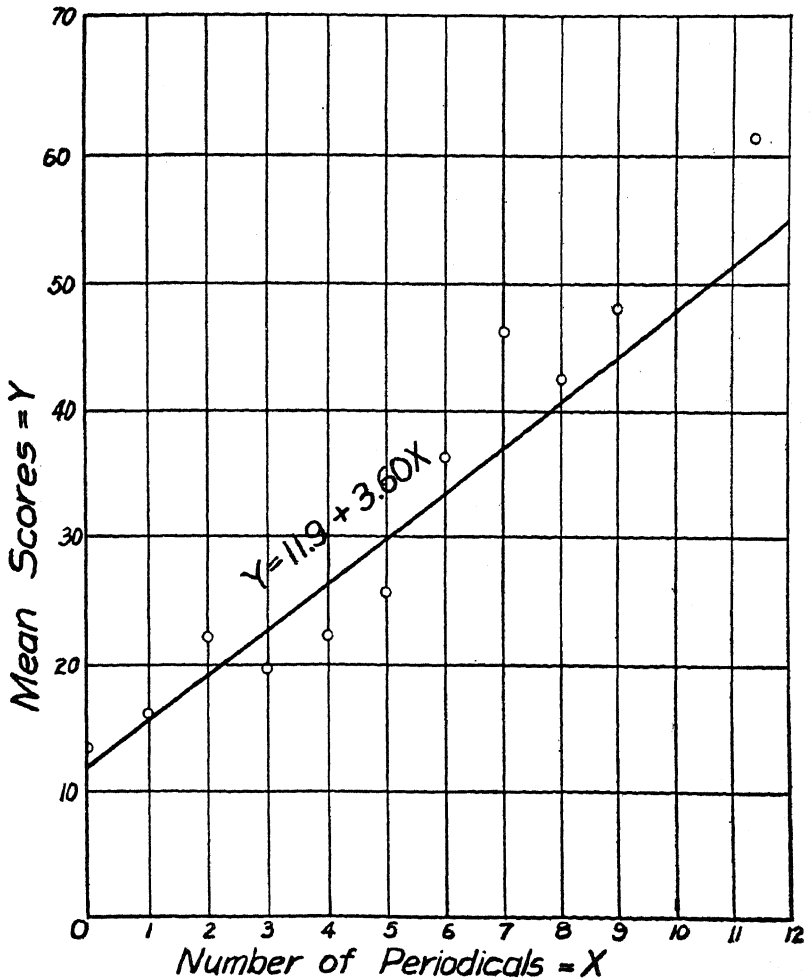
Fig. 8. Relation Between Periodicals Read Regularly and Scores on True-False Test.

Table 11. Mean scores, and percentage distribution of grouped scores, of readers of specified periodicals *

Periodical	No. of voters reading	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
New Republic	55	66.0	24.7	14.5	85.5
Nation	30	62.0	24.8	13.3	86.7
Survey	29	58.3	28.6	27.6	72.4
Christian Century	18	57.2	23.5	27.8	72.2
Century	19	56.3	33.9	21.1	78.9
Scribner's	16	55.0	31.4	25.0	75.0
American Mercury	38	52.9	26.5	31.6	68.4
Atlantic Monthly	64	50.0	31.5	34.4	65.6
Harper's	31	48.7	39.4	38.7	61.3
Time	23	48.3	31.3	34.8	65.2
Life	15	46.7	28.4	40.0	60.0
Current History	21	44.8	40.2	42.9	57.1
Forum	16	41.3	36.1	43.7	56.3
World's Work	58	35.0	34.3	53.4	46.6
Good Housekeeping	29	34.1	32.4	65.5	34.5
Dearborn Independent	15	32.7	22.0	73.3	26.7
Collier's	56	30.4	30.3	58.9	41.1
Am. Rev. of Revs.	50	30.0	31.3	68.0	32.0
Liberty	42	26.9	34.7	69.1	31.0
Literary Digest	348	25.8	33.2	69.0	31.0
McCall's	25	24.0	33.9	76.0	24.0
Geographic	100	23.8	32.3	69.0	31.0
Hearst's	24	22.5	32.2	79.2	20.8
Outlook	22	21.8	34.5	68.2	31.8
American Magazine	297	21.3	31.5	74.1	25.9
Pathfinder	25	21.2	27.5	72.0	28.0
Saturday Evening Post	270	21.0	29.0	77.8	22.2
Red Book	32	18.1	23.1	87.5	12.5
Ladies' Home Journal	95	15.8	32.7	78.9	21.1
Cosmopolitan	51	14.9	31.4	84.3	15.7
Woman's Home Comp.	49	12.4	33.5	77.6	22.4
Capper's Weekly	33	12.4	33.1	81.8	18.2
Country Gentleman	41	10.7	30.4	87.8	12.2
Delineator	18	6.7	35.9	83.3	16.7
All voters	1250	21.4	32.0	75.6	24.4

* A few of these publications have been discontinued since the data were collected.

presentation is from high to low mean scores. This does not correspond, except as to general trend, with the order of high to low percentages of "competent" citizens.

What was said about selective influences relative to magazine reading in general applies, with qualifications, to the perusal of particular publications. Attention should be called to the fact that
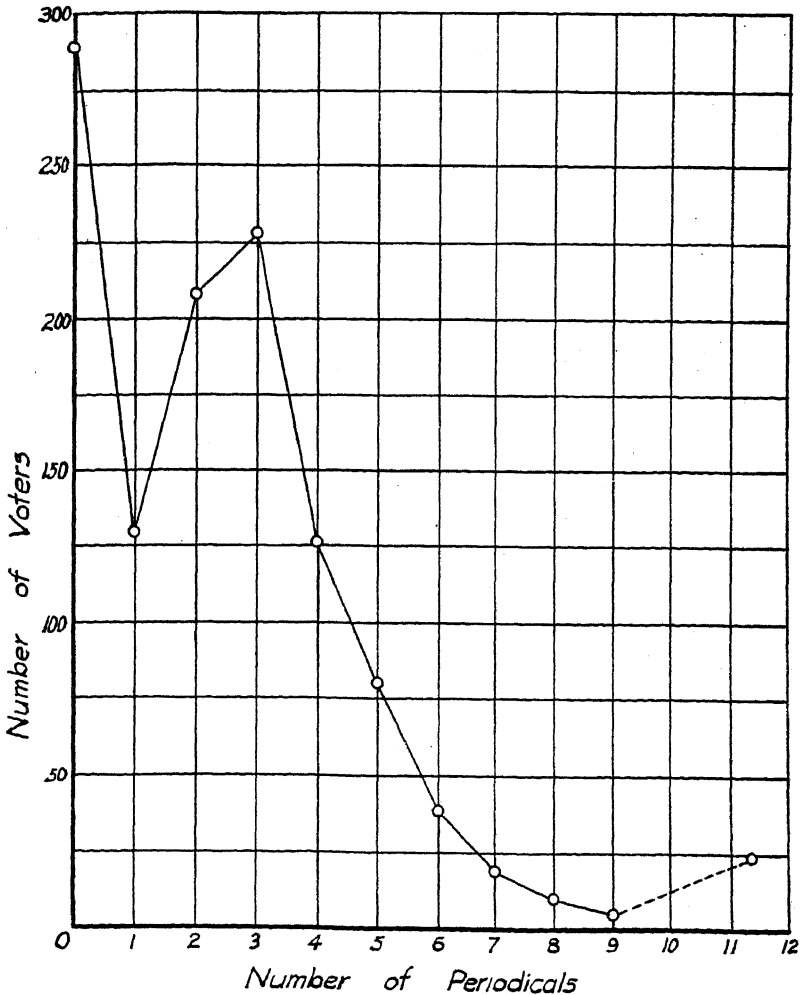
Fig. 9. Distribution of Voters by Number of Periodicals
Read Regularly.

many journals listed in the table give little or no space to the discussion of public affairs, and to the probability that many readers of journals which do include such discussions limit their attention to other features. Ratings of readers on the two statistical measures are therefore not to be accepted, without qualification, as reliable indices to the standards represented by the various magazines themselves, even in their treatment of public questions.

PARTISAN AFFILIATIONS AND POLITICAL INTELLIGENCE

The voter was asked to specify the party voted for "most frequently." Scores on the true-false test have been classified and analyzed according to the political preferences thus recorded. A great majority of the voters were, of course, Republicans or Democrats, a preponderance of them Republicans, owing to the strongly Republican complexion of the localities in which most of the voters were concentrated. A considerable number stated that they were "independent" in politics, or supported "the best man," or voted for members of various parties, or otherwise disavowed partisan preferences. All such were classified as "Independents." Only a small number of Socialists was reached by the study, and other minor parties were scarcely represented at all.

Mean scores, and percentage distributions of grouped scores, by political party are presented in Table 12, and graphically represented in Figure 10. Contrary to the practice in other cases, both statistical measures have been applied to the very small number of Socialists, because of the probable interest in their ratings.

Table 12. Mean scores, and percentage distribution of grouped scores, by political preference

Political preference	Number of voters	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Democratic	349	27.1	29.3	73.6	26.4
Republican	751	15.8	31.5	80.2	19.8
Socialist	10	55.0	21.6	30.0	70.0
Independent	135	34.7	34.5	59.3	40.7
Others, including 1 unspecified	5	32.0			
All voters	1250	21.4	32.0	75.6	24.4

The order of ratings from high to low, on both measures, is from Socialist to Independent to Democratic to Republican. This is also the same as the order of increasing size—from smallest to largest—of the various groups.

Interpretation of the marked differences between these groups must necessarily be somewhat speculative. Differential selectivities should perhaps be weighted rather heavily. A minority, and especially a minor, party probably attracts to its banner relatively more

Mean Scores of Voters by Political Party

Per Cent of Voters with Scores of 50 or
above by Political Party
Fig. 10.
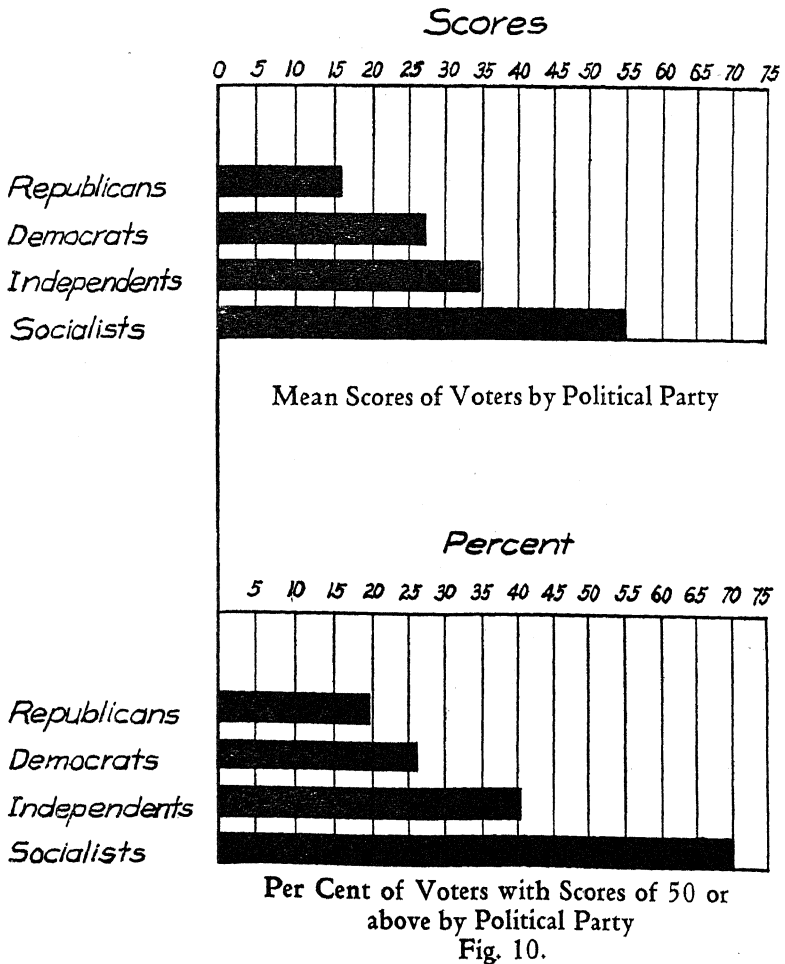
voters of independent judgment than a majority party. We should therefore expect Republicans to rate lower in heavily Republican communities than members of other parties. In predominantly Democratic communities we might reasonably expect the comparative ratings of Democrats and Republicans to be the reverse. Similarly, it commonly requires a higher degree of intelligence and independence to identify oneself with an unorthodox group such as the Socialist party than with the heterogeneous class known as Independents who are, by comparison, highly respectable. "Independence" usually means, of course, a readiness to support either of the two major parties, depending on issues, personalities and other circumstances of the particular campaign. It is more often associated with superior intelligence than undeviating adherence to one of the two dominant parties.

The lower ratings of Republicans than of Democrats may also be due, in part, to a wider divergence of Republican doctrines from expert judgments on statements covered by the test. A comparison of partisan teachings on the tariff, the League of Nations, and the compulsory arbitration of industrial disputes (particularly, as regards the latter, in the State of Kansas at the time the test was administered) would seem to support this proposition. This, of course, does not imply that Republican teachings on other questions depart more widely than Democratic teachings from the consensus of expert opinion. Indeed, there is some evidence, though it is not altogether conclusive, that Republicans rated higher than Democrats on the League of Nations statements. On *five* of those statements (used for a special purpose) the mean score of Republicans was higher, but the standard error of the mean was much higher in their case, this indicating that the mean was less reliable as a measure of intelligence. (See Table 24.)

AGE AND POLITICAL INTELLIGENCE

Age, of course, does not represent a specific factor in political intelligence, but rather the development, the growth or decline, of the manifold influences associated with sex, schooling, vocation, reading habits, partisan interests, and other phases of behavior and experience that affect political attitudes and opinions. It also rep-

resents the maturation of a man's "general intelligence", with whatever bearing this may have on his political intelligence. The data on relationships between age and scores on the true-false test are to be viewed from the perspective thus indicated.

Table 13. Mean scores, and percentage distribution of grouped scores, by age

Age group	Number in group	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
21-24 years	123	28.2	30.4	68.3	31.7
25-29 "	193	21.4	31.2	77.2	22.8
30-34 "	120	26.8	32.3	- 67.5	32.5
35-39 "	128	26.1	31.3	74.2	25.8
40-44 "	160	20.4	32.5	76.9	23.1
45-49 "	105	17.8	32.8	79.0	21.0
50-54 "	100	17.4	32.5	80.0	20.0
55-59 "	80	13.9	32.8	80.0	20.0
60-64 "	38	11.6	29.3	86.8	13.2
65-69 "	26	17.3	35.6	76.9	23.1
70-74 "	14	16.4			
75-79 "	11	19.1			
Not specified	152	21.6			
All voters	1250	21.4	32.0	75.6	24.4

These data are presented in Table 13, and those relative to mean scores are graphically represented in Figure 11.[9] One is struck on a glance at the table by the steady decline in mean scores from the 21-24 year group to the 60-64 group, interrupted only by the 25-29 group, which had a substantially lower score than either the preceding or the succeeding group. There is a corre-

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[9] The voter was asked merely to specify year of birth. His age was computed by subtracting that from the year in which he filled out the questionnaire. Age thus computed could vary from almost a year less to almost a year more than actual age, depending on the voter's birthday and the day of the year on which the questionnaire was administered. There is thus some overlapping of the age groups in which voters have been classified. The inaccuracies are probably, however, mutually compensatory; and the midpoints used in measuring relationships are scarcely affected. Due cognizance was taken of the fact that voters with a computed age of 21 could not have an actual age less than that.
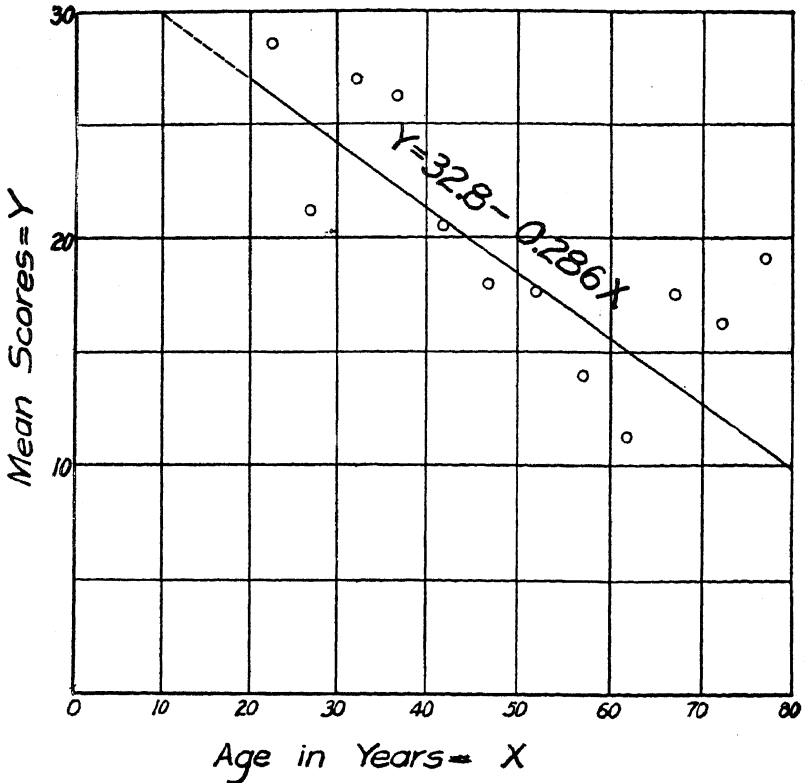
Fig. 11. Relation Between Age and Scores on True-False Test.

sponding decline in percentages of competent citizens, though with more fluctuations.[10]

The negative correlation of age and political intelligence is contrary to what might have been expected, since it is generally supposed that we grow in wisdom if not in knowledge with advancing years. Interpretation is not easy. We do not know whether intelligence in other directions is correlated with age. If we did, we

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[10] The average relationship between the two variables, mean score (Y) and age (X), is expressed in the equation: $Y = 32.8 - 0.286 X$. The standard error of estimate by this equation (S_Y) is 2.9; and the coefficient of correlation (r) is —.80. These measures indicate, of course, a close negative relationship between age and political intelligence.

The average relationship between age and *individual* scores (998 cases) is expressed in the equation: Y (score) $= 32.0 - 0.282 X$ (age); and the coefficient of correlation (r) is —.11.

should be able to determine whether the negative association of age and political intelligence is exceptional, and therefore to be accounted for by special circumstances. Some of the possibilities may, however, be considered.

It is probable that the younger age-groups had more schooling than older ones, and that, in particular, a larger percentage had some "college education". If so, their different ratings on the two measures of political intelligence might thus be accounted for in whole or in part, since, as was shown, schooling beyond high-school graduation is closely correlated with political intelligence. Partial and multiple correlations of age, schooling, and perusal of periodicals with *individual* scores tend to support this hypothesis.[11]

The hypothesis would, however, leave unexplained the gradual increase in mean scores after the 60-64 year group is passed. It may be suggested as a complementary hypothesis that increasing absorption of the voter from his majority onward in domestic, occupational, and other non-civic interests is largely responsible for his relatively low intelligence in public affairs. There is no doubt, generally speaking, that adult interests are increasingly centered, from early manhood to old age, in family and vocational responsibilities. The civic interests that may have been developed in school probably decline in proportion. Our institutional arrangements make little provision for their post-school cultivation. Citizens as such are not organized for study of public questions and participation in public affairs. Other interests are organized and by their pressure gradually push civic interests into the background. This hypothesis is compatible with the increase of mean scores in case of the last three age-groups, for when the age of sixty-five is reached the pressure of domestic and occupational responsibilities is apt to be somewhat diminished, releasing time and attention for other interests, of which public affairs may claim a share.

Social Mobility and Political Intelligence

Data were secured regarding voters and their fathers which throw some light on the relationships between political intelligence

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[11] See pp. 50-51.

and certain kinds of social mobility. One species of mobility is denoted by difference in State of birth and State of legal residence. Table 14 presents mean scores, and percentage distributions of grouped scores, by difference or identity of birthplace and legal residence, with *geographic division* rather than State as the basis of distinction. Those of different birthplace and residence are further subdivided into native-born and foreign-born voters.

Table 14. Mean scores, and percentage distribution of grouped scores, by identity or difference of geographic divisions of birthplace and of residence

Class of voters	Number in class	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Birthplace and residence identical	808	19.4	31.6	78.8	21.2
Birthplace and residence different (native-born voters)	391	25.8	37.7	68.5	31.5
Foreign-born voters	48*	19.8	29.5	79.2	20.8
State of birth not specified	3	13.3			
All voters	1250	21.4	32.0	75.6	24.4

* Nativity distributed as follows: England, Scotland, and Wales, 10; Germany and Austria, 9; Norway, Sweden, and Denmark, 8; Canada, 5; Ireland, 4; Russia, 4; other countries, 8.

As age represents the time factor, so difference between birthplace and residence represents a kind of space factor in influences conditioning political intelligence. This, of course, varies widely for voters whose birthplace and residence are in different geographic divisions, ranging from the difference between two contiguous States falling in separate geographic divisions, to that between two widely separated divisions, or between a foreign country and the United States. Naturally, space factors in a similar but more limited sense condition voters residing in the geographic division of their birth.

It will be seen that, of native-born voters, those whose birthplace and legal residence fall in different geographic divisions have substantially higher ratings on both measures of political intelligence, than those with identical divisions with respect to birth and residence; and that even foreign-born voters, despite cultural handicaps, fall but little below the ratings of all voters, while com-

ing up to those of voters with identical birthplace and residence (slightly above on one measure and slightly below on the other).

Probably selective as well as social influences are responsible for these differences. Not unlikely, migrants from one geographic division to another, or from foreign countries to the United States, are more often characterized than non-migrants by initiative, curiosity and imagination of a sort conducive to political intelligence. Moreover, new social contacts going with the change doubtless tend to challenge old beliefs and attitudes, and intensify interest in public questions. Migrants from abroad, particularly those aspiring to American citizenship, are naturally curious about political matters here, and perhaps more active than the majority of native-born citizens in seeking information about them.

Table 15 presents a comparison of voters whose legal residences were respectively identical with and different from the birthplaces of their fathers, taking geographic division as the basis of distinction between identity and difference. Voters with residences different from the birthplaces of their fathers are subdivided into those with native- and foreign-born fathers, respectively. The latter are further classified by the *nationalities* of their fathers, when groups thus differentiated are large enough to permit of statistical measures.

The three main categories differ very little as regards mean scores, or percentage distributions of grouped scores. Mobility of the sort involved appears to have little if any influence on political intelligence. This might or might not have been expected. Hypothetical explanations of the facts as we find them are readily offered. The mobility in question is, so to speak, diluted over a long time span, and broken in two by the cleavage between successive generations. Two-generation mobility does not necessarily imply mobility of voters (the second generation in this case), particularly after the voting age is reached. We might perhaps have anticipated that differentials in selective factors, such as initiative and intellectual capacity, would have a bearing on political intelligence, but the data do not in themselves support such a supposition.

Table 15. Mean scores, and percentage distribution of grouped
scores, by identity or difference of geographic divisions
of voter's residence and of father's birthplace

Class of voters	Number in class	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Voter's residence and father's birthplace identical	255	21.6	30.6	76.9	23.1
Voter's residence and father's birthplace different (fathers native-born)	753	21.5	32.7	74.4	25.6
Voters with fathers born in foreign countries *	230	21.0	30.9	78.3	21.7
In England, Scotland, or Wales	56	28.9	28.1	69.6	30.4
In Ireland	21	21.4	35.9	71.4	28.6
In Norway, Sweden, or Denmark	33	20.6	27.9	87.9	12.1
In Germany or Austria	58	16.4	31.4	82.8	17.2
In Canada	24	21.3	31.0	62.5	37.5
Father's birthplace not specified	12	20.0			
All voters	1250	21.4	32.0	75.6	24.4

* Birthplaces of fathers other than those indicated in the table are distributed as follows:
Russia, 9; Czechoslovakia, 6; Poland, 4; Italy, 3; other countries, 16.

The ratings of voters with foreign-born fathers (approximately
four fifths of the voters themselves being native-born) would sug-
gest that "second-generation immigrants" have succeeded about as
well as other voters in assimilating our political culture. There are
material differences in a few cases between voters of different na-
tional backgrounds; those of British extraction, for example, having
a substantially higher mean score than any other nationality group;
higher, too, than the mean score of all voters. No plausible ex-
planation of these differences comes to mind. The accidents of
selection may be largely responsible. Perhaps in case of the British
a tradition conducive to the development of exceptional political
intelligence may have been a factor; and they had, of course, an
initial linguistic advantage over other voters of foreign extraction,
except the Canadian group.

A comparison may be made of voters coming in *vocational classes* respectively identical with and different from those of their fathers. Table 16 indicates the ratings of these two categories on both statistical measures. Voters of vocational classes indentical with those of their fathers rated lower on both measures than voters of classes different from those of their fathers.

No doubt, differential selectivity is a factor in these differences. Voters choosing vocations of different classes from those of their fathers are probably characterized on the average by greater initiative and intelligence than those choosing vocations of the same classes as their fathers followed. This factor, however, is bound up with vocational influences themselves, and its political consequences may be expressed for the most part by way of those influences. A comparison of the vocational classes of voters and their fathers, respectively, will make this clear.

Table 16.* Mean scores, and percentage distribution of grouped scores, by identity and difference in the vocational classes of voters and their fathers

Class of voters	Number in class	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Vocational classes same as fathers'	250	19.2	30.5	80.4	19.6
Vocational classes different from fathers'	588	23.1	32.5	73.1	26.9

* Necessarily excluded from comparisons indicated in the table are housewives, and voters who came, or whose *fathers* came, in the heterogeneous group designated as Unclassified. See pp. 3-4 for meaning of the term vocational class.

The voters as a class represented a higher vocational level than their fathers occupied, if we may take scores on the true-false test as a criterion. By grouping the fathers in the same vocational classes as the voters, and giving each such class the same mean score as the corresponding class of voters, we should get a hypothetical mean score for all fathers of 15.8, compared with a mean for all voters of 21.4. Voters and their fathers are not and cannot be made exactly comparable, since no fathers are women, and our 1250 voters included 297 of that sex. If we make them as comparable as possible by excluding Housewives from the voters, and the

heterogeneous group designated as Unclassified from both voters and fathers, we have resulting adjusted scores of 21.9 for voters, and 14.8 for fathers of voters. The rise of the voters as a group above the vocational level of their fathers (in the sense above indicated) must, of course, be credited to voters who chose vocations of classes different from those of their fathers. Many voters must have chosen vocations on a lower level (in the same sense) than that of their fathers (the number who did so was not ascertained); for the greater spread between the adjusted mean scores of all voters and all fathers, than between voters whose vocational classes were respectively identical and non-identical with those of their fathers, could not otherwise be explained.

Table 17 presents the numerical and percentage distribution of all voters and their fathers by vocational class. The vocational classifications of voters and fathers are not exactly comparable with each other, owing to the inclusion of housewives and, for that matter, other women in the voters; and also to different percentages of voters and fathers in the heterogeneous Unclassified group. The figures, however, show roughly the amount and nature of the *net* vocational-class mobility from one generaton to the next, as represented by this group of voters. Specific occupational mobility within the limits of the several vocational classes is not, of course, expressed in any of the data on class mobility.

Table 17. Distribution of voters and their fathers, by vocational class

Vocational Class	Voters		Voters' fathers	
	Number	Per cent	Number	Per cent
Farmers	85	6.8	521	41.7
Manual workers	215	17.2	195	15.6
Non-manual workers	209	16.7	87	7.0
Business proprietors	127	10.2	192	15.3
Professional workers	297	23.7	116	9.3
Housewives	141	11.3		
Unclassified	176	14.1	139	11.1
Total	1250	100.0	1250	100.0

The relation of *partisan mobility* to political intelligence is indicated by the figures of Table 18. As one would expect, voters of partisan affiliations different from those of their fathers rate higher than those of the same affiliations as their fathers. This, of course, is a statistical statement and does not imply that voters different from their fathers in this respect are always, or even generally, more intelligent politically than voters having the same political preferences as their fathers.

Table 18. Mean scores, and percentage distribution of grouped scores, by identity and non-identity in the partisan affiliations of voters and their fathers

Class	Number in class	Mean score	Standard deviation	Pct. scores 40 or below	Pct. scores 50 or above
Voters of partisan affiliations identical with fathers'	843	19.3	31.5	78.2	21.8
Voters of partisan affiliations different from fathers'	306	26.5	32.8	69.3	30.7
All voters *	1250	21.4	32.0	75.6	24.4

* For various reasons the partisan affiliations of 101 voters could not be compared with those of their fathers. See pp. 67-68 for detailed explanation.

Interpretation here is not difficult. Paternal influence in such matters is commonly quite strong, and voters who emancipate themselves from it doubtless possess on the average greater initiative and intelligence than other voters. This, of course, is reflected in their intelligence on public questions as well as in their departure from the political preferences of their fathers.

The relations between the partisan affiliations of voters and those of their fathers will be analyzed later with reference to sex, age, vocational, educational and other differentiations of voters.

COMPARISON OF INFLUENCES ON POLITICAL INTELLIGENCE

The associations of "political intelligence" with various influences on the voter's development have been analyzed. It has been possible only in the case of age, schooling, and reading habits, respectively, to measure these relationships. Influences connected with vocational interests and partisan preferences, though not sus-

ceptible of a like quantitative treatment, appear to have been quite as significant. Probable factors in political intelligence not treated at all in the present study include, among others, those connected with pecuniary income, religious belief, and racial heredity. Obviously, too, only general classes of influences could be reached by the methods of the investigation. The many diverse influences within a specific category—a certain vocation or schooling group, for example—could not be treated. These, taken together, may be even more significant than the common characteristic that distinguishes any such group from others of the same general category.

Exact comparative analysis of factors associated with scores on the true-false test has been limited, of course, to those categories that could be treated quantitatively. Three classes of factors have been thus analyzed—age, schooling, and number of periodicals read regularly. Data for this particular purpose were available for only 998 voters. For reasons indicated on page 33, number of daily newspapers read by the voter is not included in this phase of the analysis.[12]

By comparing (1) the multiple and partial correlations with (2) the simple correlations between scores and the respective independent variables, it will be seen that schooling and periodicals occupy approximately the same relative positions in the two series; but that age occupies quite different positions. While the simple correlation of age and scores indicates a substantial negative association of the two variables, the partial and multiple correlations indicate only a slight, if any connection between them. The coefficient of partial correlation between scores and age, while of negative sign, is less than twice its standard error, and is therefore of doubtful significance.

Otherwise stated, when the amount of schooling and number of

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[12] Letting Y be the *individual* score on the test; X_1, age; X_2, amount of schooling (in years); and X_3, the number of periodicals read regularly, the average relationship between scores and the three independent variables taken together is expressed in the equation: $Y = 2.2 - 0.138 X_1 + 1.61 X_2 + 2.29 X_3$.

The standard error of estimate (S_y) by this equation is 29.9 and the coefficient of multiple correlation (R) is $+.330$.

The coefficients of partial (or net) correlation between scores and the three independent variables are as follows: for age (r_{yx1}), $-.057$; for schooling (r_{yx2}), $+.18$; for periodicals (r_{yx3}), $+.15$.

periodicals read regularly are equalized, or held constant, with respect to age, the conditions associated with age appear to have little, if any, influence on political intelligence. Moreover, it seems possible that the vocational interests of older voters put them at a disadvantage in this matter, compared with younger voters. It will be recalled that the voters as a whole were on a higher vocational level than their fathers, if we take as the basis of comparison a criterion based on the mean scores of the various vocational classes.[13] We may not unreasonably suppose that older voters compare with young ones somewhat as fathers of voters do with voters themselves, there being a like disparity of age. This presumptive vocational difference, could its influence be measured, might counterbalance or even reverse the slight negative association of age and scores indicated by the multiple and partial correlations. This would qualify, but not render altogether groundless, what was said earlier [14] regarding the connections between age and political intelligence; for we might still assume that, were conditions generally more conducive to competent citizenship, there would be a development, with advancing years, of political knowledge and insight.

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[13] *Supra,* pp. 47-48.
[14] Pp. 42-43.

INTELLIGENCE OF VOTERS ON SPECIFIC PUBLIC QUESTIONS

Voters' scores on the several questions covered by the true-false test may now be analyzed. This will reveal facts about opinions and attitudes not discovered through treatment of scores on the test as a whole. The reliability (in the statistical sense) of the test on each of the three questions, and on the combination of them all, may also be estimated by this means.

For these purposes five statements under each of the three general questions were used, or fifteen statements altogether. Scores have been computed, for various classes of voters, on each of these statements; and from these, mean scores on the fifteen statements as a whole, and on the five statements for each of the three general questions, have been computed. By treating group scores on the individual statements as the variates in this case, standard errors of the means on each of the three general questions, and on the combination of them all, may be calculated.[1]

From the various mean scores obtained, indexes of "intelligence" on the three general questions may be derived. Different sorts of indexes could be calculated from the data. Indexes of the intelligence of farmers as regards arbitration of industrial disputes, for example, could be obtained by dividing their mean score on the five statements under that head (1) by the mean score of all voters

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[1] An illustration may assist in visualizing the procedure. Of the entire 1250 voters, 671 marked statement 3 correctly, 564 marked it incorrectly, and 15 failed to mark it at all. The score (on the basis of 100 as perfect) $= \frac{(671-564) \times 100}{1250} = 8.6$. On the other four selected statements under the League of Nations (Nos. 4, 5, 7, and 9 in the test as given) the scores of all voters as a class are 49.0, —7.7, 64.6, and 35.8, respectively. The mean score on the five League statements is 30.1, and the standard error of this mean (σ_m) is 11.8. Mean scores and standard errors for statements on the two other general questions, and for the statements on all three questions taken together, may be computed in the same way; and likewise for specific classes of voters as well as for the entire number. It will be seen that the standard errors thus computed are measures of reliability, not of total scores obtained by a certain number of voters regarded as a sample, but of statements on selected public questions taken as a sample.

The standard error of the mean (σ_m) and its use as a measure of "reliability" are explained later (page 56, including footnote).

on the same question; or (2) by the mean score of some arbitrarily selected group taken as a standard—for instance, voters with seventeen years or more of schooling (who ranked higher on all three general questions than any other category of voters analyzed in this part of the study); or (3) by the mean score on all three public questions of the farmers themselves. In addition, any given mean score is itself in the form of an index, being a percentage of a theoretically possible perfect score of 100 on the same question.

Any one of the three methods indicated would yield significant results. The third is employed here, because it has the merit, when indexes of various groupings on the three general questions are compared, of indicating influences making for relatively high or low ratings, as the case may be, on these several questions.

To illustrate the procedure, the indexes of all voters on the League of Nations, the tariff, and the compulsory arbitration of industrial disputes are obtained by dividing the mean scores on these questions (30.1, 31.7, and 14.4, respectively) by the mean score on all three questions combined (25.4), which gives indexes on these questions of 118, 125, and 57. According to this procedure, a group's mean score on the three questions combined (25.4 in the illustration) is given an index of 100. The standard errors of the various means furnish a check on the "reliability" of the results.

The possibilities of this procedure are seen when, for example, we compare the index of all voters on compulsory arbitration of industrial disputes, with indexes of various classes on the same question. The index of all voters is 57; of manual workers, 87; farmers, 47; business proprietors, —73; professional workers, 68; Democrats, Republicans and Independents, 58, 44, and 85, respectively.[2]

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[2] It must be borne in mind throughout that the index of a group (e.g., the business proprietors) on a certain question is computed by dividing its mean score on that question by its mean score on all three questions combined, and multiplying the quotient thus obtained by 100. If a group has an exceptionally low index on one question, therefore, it will have a correspondingly high index on one or both of the two other general questions. Thus, business proprietors have indexes on the League of Nations and the tariff of 191 and 182, respectively, compared with indexes for all voters on the same questions, of 118 and 125. The sum of any group's indexes on the three questions must equal 300 (though sums of

Table 19. Scores of voters and various classes thereof on statements of true-false test * . (note, p. 55).

Class of voters	League of Nations					Tariff						Industrial arbitration			
	3	4	5	7	9	11	12	13	16	20	21	25	26	29	30
Sex groups															
Males	6.2	47.1	−11.1	64.6	36.7	21.1	35.0	30.2	27.0	42.2	45.8	19.4	34.7	−34.4	4.4
Females	16.2	54.9	3.4	64.3	33.0	25.6	45.8	45.1	9.8	40.4	52.2	28.6	45.8	−42.1	−6.4
Age groups															
21-29 years	15.5	56.0	−0.3	71.2	29.7	29.7	28.5	33.9	27.8	50.6	52.2	26.3	40.5	−41.8	6.6
30-39 "	7.7	44.8	−6.0	62.5	44.8	21.8	45.2	35.1	35.1	43.1	62.5	26.2	41.5	−14.5	14.5
40-49 "	4.2	41.9	−16.2	64.5	34.7	7.2	42.6	26.0	19.2	35.5	49.4	14.3	37.4	−31.3	−1.9
50-59 "	−6.7	46.1	−23.9	67.8	40.6	31.7	35.6	33.3	23.9	39.4	44.4	11.7	33.3	−54.4	−17.2
60-69 "	−1.6	45.3	−9.4	50.0	18.8	25.0	28.1	46.9	18.8	46.9	18.8	4.7	40.6	−59.4	−25.0
70-79 "	−20.0	60.0	−28.0	48.0	32.0	44.0	52.0	68.0	36.0	36.0	4.0	36.0	56.0	−52.0	−36.0
Schooling groups															
0-4 years' schooling	−10.3	51.7	−24.1	65.5	24.1	3.4	37.9	27.6	44.8	51.7	51.7	−37.9	44.8	−65.5	−37.9
5-8 " "	−12.1	35.8	−30.8	55.5	33.0	10.0	32.1	26.5	26.5	41.4	51.7	−10.9	45.2	−39.9	−2.2
9-12 " "	−8.5	34.8	−17.8	58.2	33.9	14.3	23.4	20.2	21.9	28.1	37.4	16.1	36.8	−39.5	−2.6
13-16 " "	6.9	59.5	−5.9	70.7	43.3	24.9	38.9	35.5	18.1	47.0	44.2	37.4	33.3	−44.9	−5.0
17-21 " "	66.7	76.3	43.5	81.2	37.7	49.8	63.8	65.7	26.1	57.5	63.8	65.2	28.0	−8.2	30.4
Political groups															
Democrats	24.1	45.6	8.3	35.8	17.2	38.1	53.3	55.3	30.7	59.9	52.1	5.7	49.3	−26.9	7.2
Republicans	−3.3	49.1	−20.9	77.2	46.7	11.2	26.2	19.2	18.2	30.9	41.1	26.4	30.9	−48.3	−6.4
Independents	27.4	57.0	20.0	65.9	26.7	39.3	57.8	53.3	25.9	54.8	64.4	37.8	40.0	−3.0	29.6
Vocational groups															
Farmers	−1.2	15.3	−21.2	41.2	23.4	24.7	3.5	31.8	22.4	20.0	29.4	5.9	29.4	−34.1	−1.2
Manual workers	−11.6	37.7	−31.6	63.7	29.8	11.6	27.9	25.1	34.9	42.8	61.4	−6.5	57.2	−22.3	4.7
Non-manual workers	−3.8	40.7	−21.1	68.9	44.0	11.0	29.7	19.6	26.8	40.2	43.1	1.9	27.3	−45.9	−7.2
Business proprietors	−1.6	48.0	−16.5	52.8	32.3	11.8	34.6	11.0	22.8	29.1	15.7	8.7	26.0	−71.7	−22.8
Professional workers	49.8	76.8	31.0	74.1	37.7	41.4	55.2	55.2	24.6	53.5	60.3	63.6	25.6	−19.2	15.5
Housewives	−10.6	39.0	−24.8	56.0	41.1	14.2	41.8	39.7	5.0	37.6	44.7	17.7	45.4	−44.0	−7.1
All voters	8.6	49.0	−7.7	64.6	35.8	22.2	37.6	33.8	22.9	41.8	47.3	21.6	37.4	−36.2	1.8

Table 19 presents scores of all voters as a class, and of various component groups, on the fifteen statements analyzed in this phase of the inquiry. It will be seen that, as in the case of total scores by individual voters, negative scores are recognized and treated as such. The justification is virtually the same in the two cases and need not be presented again.[3] The wide spread from the lowest score (—36.2) to the highest score (64.6) of voters as a whole is worthy of note. Readers who are interested may gain a notion of the relative competency of voters on questions of the sort involved by comparing the various statements [4] together with the scores of voters thereon. If our group of voters fairly represents the voting

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indexes as recorded in the tables are occasionally 1 more or less than that number, because fractions are not given).

A bit of algebraic exposition should make these relations clear. Let the small letters, a to o, inclusive, stand for the scores of any given group on the fifteen statements used in this part of the study: the first five letters for the League statements, the second five for the tariff statements, and the third five for the industrial-arbitration statements. The mean score on the League will then be $\frac{a+b+c+d+e}{5}$; and likewise with mean scores on the other two questions. The sum of the three mean scores will be $\frac{a+b+c \ldots +o}{5}$. This will, of course, be three times the mean score on all three question, which will be $\frac{a+b+c \ldots +o}{15}$. Otherwise stated, the score on all questions combined is the mean (arithmetic average) of the scores on the three questions taken separately.

Changing the symbols, and letting x, y, and z represent mean scores on League, tariff, and arbitration, respectively, and u the mean score on all questions combined, u will equal $\frac{x+y+z}{3}$. Then the index on the League, for illustration, will be $\frac{x}{u} \times 100$; and the sum of the indexes on all three questions will be $\frac{x+y+z}{u} \times 100$. Substituting for u in this equation its value, $\frac{x+y+z}{3}$, the sum of the three indexes will be $\frac{x+y+z}{\frac{x+y+z}{3}} \times 100$, or 300.

Since, therefore, the three indexes in any given case amount to 300, the lower the index on one question, the higher it must be on one or both of the other two questions.

Necessary explanations of other procedural details may be conveniently given in connection with the systematic presentation of results.

[3] See pp. 11-12.

[4] Statements in tables are numbered the same as in the original true-false test, reproduced in Appendix A.

* The scores of voters as a whole on Statements 1, 2, 23, 27 and 28 of the test (the other five statements used, in addition to those listed above, in computing individual scores and group averages on the test as a whole) were 20.2, 9.2, 8.7, 49.9, and —39.5, respectively.

Omitted from the table are various groups too small or indefinite or heterogeneous to be of much significance, including Socialists, Unclassified (by vocation), and voters whose age, schooling, or politics (as the case may be) was not specified.

Each series of groups includes, of course, all voters, except for the omissions indicated.

population of the country, it is clear, for example, that the opinions of voters as a whole on questions of the kind involved in Statements 5, 28, and 29 are something of a liability from the standpoint of public policy; and that these opinions on questions of the sort represented by Statements 3 and 30 are not much of an asset. The data of Table 19 permit similar comparisons for specific groups of voters.

Table 20 presents mean scores and intelligence indexes of all voters on the three general questions. The indexes given in this and succeeding tables are to be evaluated, as regards "reliability", with reference to the standard errors of the mean scores (σ_m). These measures indicate that, in many cases, other true-false tests similarly constructed might yield substantially different series of mean scores, particularly on the League of Nations and compulsory arbitration of industrial disputes, and hence intelligence indexes on the several questions bearing quite different numerical relations to one another. The standard errors of the means on all questions combined indicate also that voters might have achieved total scores on other tests somewhat higher or lower than those on this test. These measures of "reliability" have, however, only a limited significance, as is shown on pp. 13-14. It is more instructive to think of mean scores and intelligence indexes in terms of the particular statements serving as tests, without attaching any great weight to possible showings on other, hypothetical tests of a similar character.[5]

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[5] The standard error of the mean of a sample has a meaning similar to that of the standard deviation of a sample, explained on page 15. Roughly characterized, the standard error in a given case signifies a two to one probability that the mean of any other sample similarly selected would not differ from the mean of the actual sample by more than the amount of the error. Thus, the mean score of all voters on the tariff is 31.7 and the standard error of the mean is 3.5; there are two chances in three, therefore, that their mean score on any other similar test would not have been less than 28.2 or more than 35.2.

This description pertains, however, to the means of considerable samples—samples of fifteen or more, according to current statistical assumptions; whereas in the present phase of our study samples of five on each of the three public questions were employed. The distribution of the *means* of small samples seems not to have been definitively studied, but recent work on the standard deviation of small samples presumably indicates the probable distribution of the means of such samples. W. A. Shewhart obtained experimentally for samples of *four* from a normal universe (the type involved in our study) a probability of 90% (as against 99.7% for considerable samples) incidence of all items within the limits described by the mean of a single sample plus and minus three times its standard

Very striking is the low index on compulsory arbitration of industrial disputes; worthy of note also is the small difference between the indexes on the League of Nations and the tariff, one of which is a rather new question, the other a very old one.

Table 20. Means scores and intelligence indexes of all voters on selected public questions

Question	Mean score	Standard error (σ_m)	Index
League of Nations	30.1	11.8	118
Tariff	31.7	3.5	125
Arbitration of industrial disputes	14.4	13.2	57
All questions	25.4	6.4	100

We have no very dependable basis for interpreting these features. We cannot determine, for instance, whether the statements on industrial arbitration are intrinsically harder to judge correctly than those on the other two questions; there are no available criteria for the measurement and comparison of difficulties in such matters. Perhaps a social scientist would not, on inspection, deem the statements relative to compulsory arbitration more difficult for the ordinary voter to judge correctly than statements on the other questions. In any case, indexes on this question are lower for all categories of voters, with a single exception, than indexes on either of the other two. They also vary more widely from one group to another than indexes on the other questions, though, as we should expect, indexes on any of these questions are far from uniform for different groups of voters.

Table 21 presents mean scores and intelligence indexes, by sex. The only substantial difference between the two sexes lies in the higher index of men on the tariff, and the higher index of women on the League of Nations, which perhaps indicates differences in relative intensities of interest in the two questions. The closer ap-

proximation of men to mean scores and indexes for all voters reflects their numerical preponderance over the women.[6]

Table 21. Mean scores and intelligence indexes on selected public questions, by sex

Class	All questions			League of Nations			Tariff			Industrial arbitration		
	Mean	σ_m	Index	Mean	σ_m	Index	Mean	σ_m	Index	Mean	σ_m	Index
Males	24.6	6.3	100	28.7	12.3	117	31.1	3.2	126	14.0	12.5	57
Females	27.8	7.0	100	34.4	10.2	124	33.3	6.2	120	15.6	15.8	56
All voters	25.4	6.4	100	30.1	11.8	118	31.7	3.5	125	14.4	13.2	57

Mean scores and intelligence indexes of various age groups are presented in Table 22. The features of particular interest are (1) the steady decrease of indexes on industrial arbitration as one passes from the 30-39 to the older groups, though with an upward turn in case of the oldest group; and (2) absorption of the corresponding increase by indexes on the tariff, and practically none by League indexes, considering the general trend. (As explained on pp. 53, 55, a relatively low index on one question goes with a relatively high index on one or both of the other two questions).

Interpretations must of necessity be hypothetical. The lower indexes of the older groups on industrial arbitration might be plausibly attributed to less interest or stronger prejudice concerning labor questions, or to both these influences operating together (they are no doubt positively correlated in many cases); and the assumed growth of prejudice with increasing age might, in turn, be due to more partisan, propagandistic discussion of labor questions, by the press and other agencies, than of tariff and international questions, and the longer exposure of older voters to such influences. Judging from the figures, the indexes on the tariff merely benefit from the decline in the indexes on arbitration.

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[6] It is perhaps unnecessary to explain that had all twenty statements of the test been used in this part of the study, mean scores on all questions combined would have been identical with mean scores of the same groups when total scores of individual voters were treated as the variate. Mean scores based on fifteen statements are higher than mean scores on twenty statements (where comparisons are possible); being, for example, 25.4 for all voters compared with 21.4 obtained from the scores of individual voters based on twenty statements.

Comparison of the mean scores on the three questions indicates that the lower mean scores of the older groups on all questions combined are due to progressively diminishing competency of voters, with increasing age, on labor questions implicated in the test, and a similar but much less marked diminution of competency on the international questions (League of Nations). Mean scores on the tariff vary much less, and the older groups compare favorably with the younger ones on this question.

The analysis suggests that, notwithstanding the negative correlation of age and scores previously demonstrated (pp. 41-42), older voters might be as intelligent on public affairs as younger ones. They would seem, however, to be more influenced by biased discussions, perhaps because in their case the cumulative effect of such factors is most pronounced; and to be less competent on the newer questions (e.g., the League of Nations), perhaps because interests largely crystallized and attitudes already fixed are conducive to prejudiced judgments.

Table 22. Mean scores and intelligence indexes on selected public questions, by age

Age Group	All questions			League of Nations			Tariff			Industrial arbitration		
	Mean	σ_m	Index	Mean	σ_m	Index	Mean	σ_m	Index	Mean	σ_m	Index
21-29 years	28.4	6.7	100	34.4	11.7	121	34.1	3.8	120	16.8	14.8	59
30-39 "	31.0	5 7	100	30.8	11.5	99	36.1	3.7	117	26.0	11.6	84
40-49 "	21.8	6.5	100	25.8	12.8	118	26.1	5.5	120	13.6	12.8	62
50-59 "	20.4	8.1	100	24.8	15.4	122	32.8	2.3	161	3.6	16.0	17
60-69 "	16.6	7.7	100	20.6	10.7	124	33.1	5.2	200	—4.1	15.6	—25
70-79 "	22.4	9.6	100	18.4	16.0	82	·47.2	5.4	211	1.6	18.4	7
All voters *	25.4	6.4	100	30.1	11.8	118	31.7	3.5	125	14.4	13.2	57

* Includes 152 voters whose ages were not reported.

Table 23 presents an analysis of intelligence on specific public questions in relation to schooling. The groupings represent two divisions for the elementary-school period, and one each for high-school, college, and post-graduate periods.

The figures seem to indicate but little that is significant respecting selective differentiations of intelligence on the several questions,

in relation to schooling. It is worthy of remark, perhaps, that the 0-4 year group had a substantial negative score on industrial arbitration, but higher scores on the League and the tariff than either of the two succeeding groups. Of interest, too, is the consistent increase of scores on arbitration, from the lowest to the highest group, especially in view of the fact [7] that there is a slight negative

Table 23. Mean scores and intelligence indexes on selected public questions, by amount of schooling

Amount of schooling	All questions			League of Nations			Tariff			Industrial arbitration		
	Mean	σ_m	Index	Mean	σ_m	Index	Mean	σ_m	Index	Mean	σ_m	Index
0- 4 years	15.2	10.5	100	21.4	15.4	141	33.1	7.5	218	—9.0	21.4	—59
5- 8 "	17.5	7.5	100	16.3	14.6	93	27.3	4.6	156	8.8	15.6	50
9-12 "	17.1	6.2	100	20.1	12.8	118	21.6	2.0	126	9.6	12.8	56
13-16 "	26.9	7.3	100	34.9	13.3	130	32.9	4.6	122	13.0	15.0	48
17-21 "	49.8	5.9	100	61.1	7.8	123	52.6	6.4	106	35.8	12.1	72
All voters *	25.4	6.4	100	30.1	11.8	118	31.7	3.5	125	14.4	13.2	57

* Includes 30 voters whose schooling was not specified.

correlation between total individual scores (covering all three questions) and amounts of schooling up to and including high-school graduation. Finally, the substantially larger index on arbitration of those having graduate study compared with all other groups, is not without significance, suggesting, as it does, progressive emancipation from biasing influences affecting such questions, when the higher levels of schooling are reached, but perhaps reflecting as well superior intellectual capacity on the part of that group.

Mean scores and intelligence indexes by political preference are presented in Table 24. Worthy of note are the relatively high score and index of Republicans on the League of Nations, compared with Democrats; and their substantially lower scores and indexes on the tariff and industrial arbitration. This suggests that the higher mean score of Democrats on the three questions combined may be credited to partisan "conditioning" influences, though in part, perhaps, as suggested in the previous analysis of total scores (pp. 39-40), to superior general intelligence repre-

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[7] See pp. 27-28.

Table 24. Mean scores and intelligence indexes on selected public questions, by political party

Party	All questions			League of Nations			Tariff			Industrial arbitration		
	Mean	σm	Index	Mean	σm	Index	Mean	σm	Index	Mean	σm	Index
Democrats	30.4	6.1	100	26.2	5.9	86	47.5	5.0	156	17.5	11.7	58
Republicans	19.9	7.7	100	29.8	16.2	150	21.1	3.0	106	8.7	14.6	44
Independents	39.8	4.8	100	39.4	8.2	99	46.2	5.4	116	33.8	9.7	85
All voters *	25.4	6.4	100	30.1	11.8	118	31.7	3.5	125	14.4	13.2	57

* Includes 15 voters not classified under the groupings of the table.

senting the outcome of selective influences. In all probability, the lower ratings of Republicans on the tariff and industrial arbitration are due in large measure to a greater divergence of Republican than of Democratic doctrines from scientific judgments on these questions. This difference between Democratic and Republican teachings was accentuated in the State of Kansas as regards industrial arbitration, at the time questionnaires were filled out, since the Republican leadership of the State was then sponsoring a policy of compulsory arbitration not sanctioned by expert opinion on labor questions.

Independents have higher mean scores on all three questions than Republicans or Democrats, with the exception of the score of Democrats on the tariff, which is slightly higher than that of the Independents. The index of Independents on industrial arbitration is well above that of either Democrats or Republi-

Table 25. Mean scores and intelligence indexes on selected public questions, by vocational class

Class	All questions			League of Nations			Tariff			Indust. arbit.		
	Mean	σm	Index	Mean	σm	Index	Mean	σm	Index	Mean	σm	Index
Farmers	12.6	5.2	100	11.5	9.5	91	20.5	4.2	162	5.9	10.5	47
Manuals	21.7	7.5	100	17.6	15.4	81	28.5	4.7	132	18.9	15.3	87
Non-manuals	18.3	7.4	100	25.7	14.8	140	25.5	4.4	139	3.8	13.7	21
Business props.	12.0	7.8	100	23.0	12.3	191	21.9	4.2	182	—8.8	15.8	—73
Professionals	43.0	6.2	100	53.9	8.3	125	46.0	5.3	107	29.2	13.7	68
Housewives	19.7	7.5	100	20.1	14.2	102	27.7	6.7	141	11.3	15.1	57
All voters *	25.4	6.4	100	30.1	11.8	118	31.7	3.5	125	14.4	13.2	57

* Includes 176 voters designated as Unclassified.

cans, and the sum of their indexes on the tariff and the League correspondingly lower. This illustrates a tendency, discussed later, for relatively high scores on the three questions combined to be associated with relatively high indexes on industrial arbitration, indicating increase in *relative* competency on this question with increase in general political intelligence.

Table 25 presents mean scores and indexes of intelligence, by vocational class. Very striking is the wide range of the indexes on industrial arbitration, also presented graphically in Figure 12. These extend from the negative index of —73 for business proprietors to the high positive index of 87 for manual workers, respectively the lowest and the highest index on this question for any category of voters analyzed. It is significant, too, that non-manual workers (the so-called white-collar class) have a very low index, that farmers fall substantially below the index for all voters, and that professional workers rise above that index by about the same amount.

The relative positions of farmers and professional workers can be interpreted largely in terms of their respective levels of general political intelligence, since, as will be shown later, there is a positive correlation between mean scores on all questions combined and indexes on industrial arbitration. In the case of business proprietors, manual workers and non-manual workers, however, potent influences are involved that cannot be described in this way. These, as the classification itself indicates, are associated with vocational and economic status. Membership in the class of business proprietors involves influences making for a marked preponderance of incorrect over correct judgments on labor questions, while membership in the class of manual workers is associated with influences of an opposite character, with membership in the class of non-manual workers occupying an intermediate position. The very low index of non-manual workers may be reasonably attributed to influences growing out of their relations with the business class.

By considering ratios of League and tariff indexes for these classes to the indexes for all voters on the same questions, farmers,
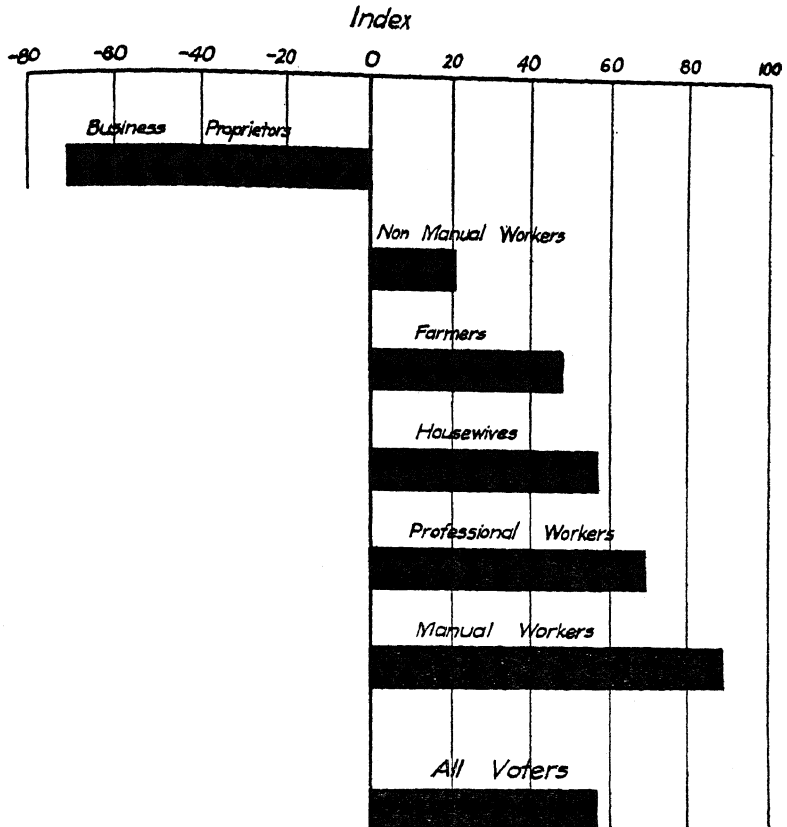
Index

Fig. 12. Intelligence Indexes of Vocational Classes on Industrial
Arbitration.

manual workers and housewives are found to be relatively more
intelligent on the tariff than on the League; and non-manual work-
ers, business proprietors and professional workers relatively more
intelligent on the League. Interpretations of likenesses and differ-
ences here would necessarily be in terms of the various influences
conditioning the interests, attitudes and opinions of the several
classes. To take a hypothetical example, the greater comparative
intelligence of business proprietors on the League than on the tariff
may be due to biasing influences on tariff questions, while the rela-
tively greater intelligence of housewives on the tariff may be due

to relatively slight interest in international questions. Such interpretations, in the absence of relevant data, are necessarily speculative in character.

Inspection of figures in various tables has suggested the possibility of correlations between (1) mean scores on all questions combined and (2) indexes on particular questions. This possibility has been studied by using the rank method of correlation in an adapted form. The mean scores and indexes for all categories of voters were consolidated for this purpose, rank orders of means and indexes were determined, and coefficients of correlation were calculated on this basis. This procedure is, of course, irregular, since various classifications of the *same* facts are treated as if they were independent of one another. It may be justified on the grounds that (1) it would seem not to violate the essential principles underlying the rank method of estimating relationships between variables; and (2) the results are presented only for what they may

Table 26. Rank orders * of mean scores on all questions, and of indexes on specific questions, for various categories of voters

Category of voters	All questions		League		Tariff		Arbitration	
	Mean score	Rank	Index	Rank	Index	Rank	Index	Rank
Males	24.6	9	117	14	126	12	57	10
Females	27.8	7	124	8	120	16	56	12
21-29 years of age	28.4	6	121	11	120	15	59	7
30-39 ,, ,,	31.0	4	99	16	117	18	84	3
40-49 ,, ,,	21.8	11	118	12	120	17	62	6
50-59 ,, ,,	20.4	13	122	10	161	6	17	18
60-69 ,, ,,	16.6	19	124	7	200	3	—25	20
70-79 ,, ,,	22.4	10	82	21	211	2	7	19
0- 4 years' schooling	15.2	20	141	3	218	1	—59	21
5- 8 ,, ,,	17.5	17	93	18	156	8	50	13
9-12 ,, ,,	17.1	18	118	13	126	13	56	11
13-16 ,, ,,	26.9	8	130	5	122	14	48	14
17-21 ,, ,,	49.8	1	123	9	106	22	72	4
Democrats	30.4	5	86	20	156	7	58	8
Republicans	19.9	14	150	2	106	21	44	16
Independents	39.8	3	99	17	116	19	85	2
Farmers	12.6	21	91	19	162	5	47	15
Manual workers	21.7	12	81	22	132	11	87	1
Non-manual workers	18.3	16	140	4	139	10	21	17
Business proprietors	12.0	22	191	1	182	4	—73	22
Professional workers	43.0	2	125	6	107	20	68	5
Housewives	19.7	15	102	15	141	9	57	9

* Rank orders of groups with the same tabular indexes on specific questions were determined by calculating indexes to the requisite number of decimal places (not shown in the table).

be worth, that is, merely as indications (to be interpreted in terms of the procedure itself) of the correlations under study. The requisite data are assembled in Table 26.[8]

Table 27. Correlations between mean scores on all questions and indexes on particular questions, for various classifications of voters

	Correlations (ρ) between mean scores and indexes on		
Basis of classification	League of Nations	Tariff	Industrial arbitration
Age	—.71	—.53	+.71
Schooling	—.20	—.90	+.60
Vocation	—.43	—.94	+.89
All classes consolidated *	—.20	—.70	+.72

* Includes classifications by sex and political party as well as by age, schooling and vocation. See Table 26.

As a check on this procedure (which is irregular in the sense noted a moment ago), correlations between mean scores on all questions combined and indexes on particular questions were computed for each classification of voters with a sufficient number of groups to permit application of the rank method. The results are presented in Table 27, and therewith, for purposes of comparison, correlations for all classes of voters consolidated.

For each classification and for all classifications consolidated, the form of the results is the same. There is a marked positive correlation between mean scores and indexes on industrial arbitration; a marked negative correlation between mean scores and indexes on the tariff; and a less marked negative correlation between mean scores and indexes on the League of Nations.

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[8] Correlations are computed by Spearman's formula, $\rho = 1 - \dfrac{6\Sigma D^2}{N(N^2-1)}$, in which "D is the difference in the corresponding ranks in two related series and N has the usual meaning." ρ (rho) is roughly equivalent to r, or the coefficient of correlation calculated according to the more common Pearsonian formula. See Chaddock, R. E., *Principles and Methods of Statistics* (1925), 299 ff.

The coefficients of correlation calculated in the way indicated are as follows:

For mean scores on all questions combined and indexes on the League of Nations, $\rho = -.20$.

For mean scores and indexes on the tariff, $\rho = -.70$.

For mean scores and indexes on compulsory arbitration of industrial disputes, $\rho = +.72$.

This means that with growing political intelligence there is an accelerated increase of intelligence on industrial arbitration, but a diminishing increase of intelligence on the tariff and League of Nations. Expressed differently, as we proceed from the low- to the high-score groups, scores on individual arbitration increase faster than general scores, and scores on the tariff and League increase more slowly.

Explanations have been offered in previous connections (pp. 58-62). Labor questions of the sort involved in the true-false test are perhaps more difficult, less studied, more affected by bias or prejudice, and therefore less easy for the average voter to judge correctly than tariff or international questions; and those unfavorable influences progressively diminish with increasing education and political intelligence. Converse statements would apply to questions on the tariff and League of Nations.

V.
FAMILY INFLUENCES ON POLITICAL PREFERENCES

DATA AND INTERPRETATIONS

It is a matter of common observation that the partisan preferences of voters are greatly influenced by those of near relatives, particularly parents. Our study sought further light on the subject, by procuring data on the voting habits of both voters and their fathers, and analyzing them with reference to age, sex, vocational, educational, and other differences. The two items of the questionnaire designed to obtain the primary data are as follows:

"Political party for which the voter votes most frequently," and "Party for which father has voted most frequently (if an American citizen)."

Answers to questions thus framed are presumably inaccurate in some instances. Voters not casting their ballots consistently for a single party might not always recall correctly the party voted for most frequently. It seems likely, however, that in cases of real doubt on this question, the voter would record himself as an Independent, rather than as an adherent of one political party. We may assume that the answers indicated parties with which the voters felt themselves to be identified, except in cases of "independent" voting. There is a possible exception. Some adherents of Socialist or other radical parties might have hesitated to avow such affiliations, even though all were assured that information on this and other questionnaire items would be held confidential. A number of voters were unable to give information regarding the political preferences of their fathers, and some others, no doubt, because of misinformation or faulty memory gave incorrect data. No attempt was made to test the reliability of the evidence on this question. The effect of inaccuracies on statistical findings would perhaps be negligible.

The political preferences of 101 voters could not be strictly compared with those of their fathers. Forty-nine of the fathers were not American citizens; 5 were "non-voters", though Ameri-

can citizens; the political affiliations of 21 were not specified; the affiliation of one *voter* was not specified; and 25 Independent voters reported Independent fathers.[1]

The proper classification of the Independent voters with Independent fathers presented a problem. Independence in politics denotes an absence of definite political affiliations and, as a social phenomenon, a great variety of political behavior. It did not seem correct, therefore, to assume identity of political habit in the case of Independent voters with Independent fathers. And it seemed quite as incorrect to assume a differentiation of political behavior that would classify such voters as unlike their fathers in political habits. These voters were, therefore, judged to be unclassifiable in this respect. In so far as the political independence of fathers may have conditioned a *habit* of independence on the part of voters covered by the study, the procedure followed diminishes slightly the percentages of identity in the political preferences of voters and their fathers, and correspondingly increases the percentages of difference.

Of the 1149 voters comparable with their fathers in this matter, 843 had identical, and 306 had different, political preferences. The percentages are 73.4 and 26.6, respectively. Percentages vary, of course, for different categories of voters, though within comparatively narrow limits.[2]

The significance of these findings may be considered before entering upon the more detailed analysis. Some more or less arbitrary assumptions must be made as a basis for interpretation. We require an assumption as to the number of general political choices open to our group of voters. In national politics, four or more choices have been available: Republican, Democratic, Socialistic,

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[1] The questionnaire did not allow for the fact that, in certain States during certain periods, "unnaturalized immigrants" have been admitted to full or limited participation in the suffrage. Since citizenship and suffrage are commonly identified, both in law and in popular opinion, it seems unlikely that any serious errors have been occasioned by this feature of the questionnaire.

[2] No attempt has been made to estimate directly the "reliability" of any such percentages as measures of paternal and associated influences on political preferences. This is done to some extent, indirectly, in the analysis by groups, since group percentages may be regarded as samples of the universe including the given series of groups. Any group percentage taken by itself, however, is assumed to furnish only an indication of paternal influences affecting that group. This limitation of the analysis should be borne in mind.

Independent, and frequently one or more additional choices represented by minor parties. Let us assume four choices. In State and local politics there are usually the Republican, Democratic, and Independent choices, and often one or more minor party choices also. Let us assume three. At some times and places, of course, one of the two major parties does not "run" a full slate of candidates. This is frequently the case for local offices, but almost never the case for State offices, in the area where most of our voters were concentrated. The assumption of three choices would not seem unreasonable here, despite the exceptions. We need not, perhaps, make any assumption as to whether choices in national—specifically, presidential—elections, or in State and local elections, or in both classes of elections together, identify for voters themselves their major political preferences. It seems likely that national choices are usually the criterion; but we can fit the interpretation to each of the alternative criteria.

The comparative merits of the three or four major choices open to the voter have a bearing on the interpretation of the findings, but there is no way of determining just what that bearing might be. The question of comparative merit could not now be decided, since informed opinion relative to the question is not homogeneous, being itself variously inclined toward the choices open to the ordinary voter. We seem justified, however, in inferring from the ratings on the true-false test of political intelligence, that informed judgments on questions involved in competing political choices are not, as a rule, the decisive factor in actual choices.

The relation between political preferences and vocational differentiations should be of interest in this connection, as well as for other reasons. Data on this for both voters and their fathers are presented in Table 28, which shows the percentage distribution of political preferences by vocational class. Only percentages for the three major political categories—Republican, Democratic, and Independent—are given.[3]

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[3] Because minor categories are not given, the sums of the three percentages do not, with a single exception, equal a hundred. The difference is greater for fathers than for voters, because a considerable number were not citizens, or their political preferences were not specified.

The bearing of these data is readily indicated. There is no marked differentiation of political preferences by vocational class; in other words, the substantial political interests associated with vocation or economic class are reflected but little in actual political choices. That is true of both voters and their fathers. This taken in connection with the fact that a large majority (approximately 70 per cent) [4] of the voters were of vocational classes different from

Table 28. Percentage distribution of political preferences by vocational class

	Voters			Voters' fathers		
Class	Rep.	Dem.	Ind.	Rep.	Dem.	Ind.
Farmers	65.9	29.4	3.5	55.5	36.1	2.7
Manual workers	55.3	34.4	8.4	53.3	31.3	4.6
Non-manual workers	57.9	34.0	7.2	58.6	36.8	2.3
Business proprietors	60.6	30.7	8.7	56.8	31.3	3.1
Professional workers	59.3	20.2	18.9	69.8	20.7	2.6
Housewives	59.6	29.1	9.9			
Unclassified	67.0	22.2	10.2	56.1	30.2	3.6
All classes	60.1	27.9	10.8	57.0	32.6	3.1

those of their fathers would argue that vocational interests are not themselves much of an influence making for identity in the political preferences of voters and their fathers.[5]

The assumptions set up as a basis for interpreting percentages of identity in the political preferences of voters and their fathers are reducible to two: (1) Voters may choose from four major alternatives in national politics, and from three major alternatives in State and local politics: (2) these alternatives may not be equally meritorious from the standpoint of the voter's genuine political interests; but such interests, including those connected with vocational class interests, appear to have but little influence on actual political choices.

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[4] See Table 17.

[5] The greater percentage of Independents among voters than among fathers is worthy of note, particularly in the case of Professionals. There are other substantial differences, but explanatory information is not available.

A distribution of political preferences in congruity with these assumptions would give a measure of identity in the preferences of voters and their fathers of 25 or 33 1/3 per cent, which of the two it is depending on the assumed primacy of national or of State and local politics in identifying for the voter his political classification. The actual percentage of identity for our group of voters was 73.4, this indicating that the affiliations of approximately 40 or 50 per cent were determined entirely by paternal influence and other factors that may be associated therewith. This means, of course, that quite irrelevant influences were the decisive determinant of political affiliations to that extent. It does not follow that the affiliations of all others were determined by relevant influences, since paternal example and precept is but one of many irrelevant influences that condition political choices.

The interpretation allows for the operation of factors associated with paternal influence. No attempt was made to isolate and measure any such factors. It is highly probable, however, that an important one is the partisan complexion of the community in which voters and their fathers reside. A community that, say, is overwhelmingly Republican exerts strong pressure on the young voter to affiliate with that party, apart from the influence of parental example. Where the two major parties are almost equally divided, there is little or no pressure of this sort making for identity in the partisan affiliations of voters and their fathers. In the area where most of our voters were concentrated, both major parties were well represented, though it is more Republican than Democratic in complexion. It was and is quite respectable to be a member of either party or, because of that fact, to classify oneself as an Independent. Hence it is altogether probable that the percentage of identity was substantially less than would be found in an area overwhelmingly Republican or Democratic, as is the case in many Northern or Southern States.

Then there is the two-party tradition that has dominated American politics from the time party organizations definitely established themselves. A great majority of citizens never consider any alternative except the Democratic or Republican party (as the case may

be), or a species of independence limited to a choice between the two. This tradition is undoubtedly responsible for much of the difference between actual percentages of identity and the percentages that, according to the assumptions, would obtain in the absence of paternal and associated influences.

Incidentally, we find in this line of reasoning an explanation of the political "independence" sometimes claimed for the Middle West. A large part of the region was settled by Republicans and Democrats in such proportions that no decisive pressure for affiliation with either party was developed, so that the voter could without losing caste vote differently from his father or change from one party to another as whim or circumstance might determine. This type of independence does not imply any exceptional initiative or intelligence in political matters, or in reality much independence itself in the eulogistic sense of the term. It is true, of course, that in the present study Independents received a substantially higher mean score on the true-false test than members of either the Republican or the Democratic party.

The foregoing general analysis applies, with the necessary adaptations, to percentages of identity in the political preferences of voters and their fathers, for specific groups of voters. Explanations of differences in group percentages will, as a rule, parallel the interpretations of differences in mean scores, of the same groups, on the

Table 29. Percentages of identity in the political preferences of voters and their fathers, by scores on true-false test

Score	Number of voters	Percentage of identity	Score	Number of voters	Percentage of identity
—70	2	100	+30	127	75.6
—60	8	87.5	+40	110	75.5
—50	12	83.3	+50	102	70.6
—40	24	83.3	+60	70	70.0
—30	35	65.7	+70	50	64.0
—20	61	73.8	+80	31	58.1
—10	92	85.9	+90	19	47.4
0	136	75.7	+100	6	66.7
+10	132	69.7			
+20	132	75.0	All groups	1149	73.4

true-false test of political intelligence. As has been shown,[6] voters of the same political preferences as those of their fathers had a lower mean score on the test than voters with preferences different from those of their fathers. Table 29 shows, and Figure 13 illustrates, percentages of identity for voters grouped according to scores on the true-false test.[7]

The statistical analysis reveals, of course, a fairly high negative correlation between scores and percentages of identity. This inverse
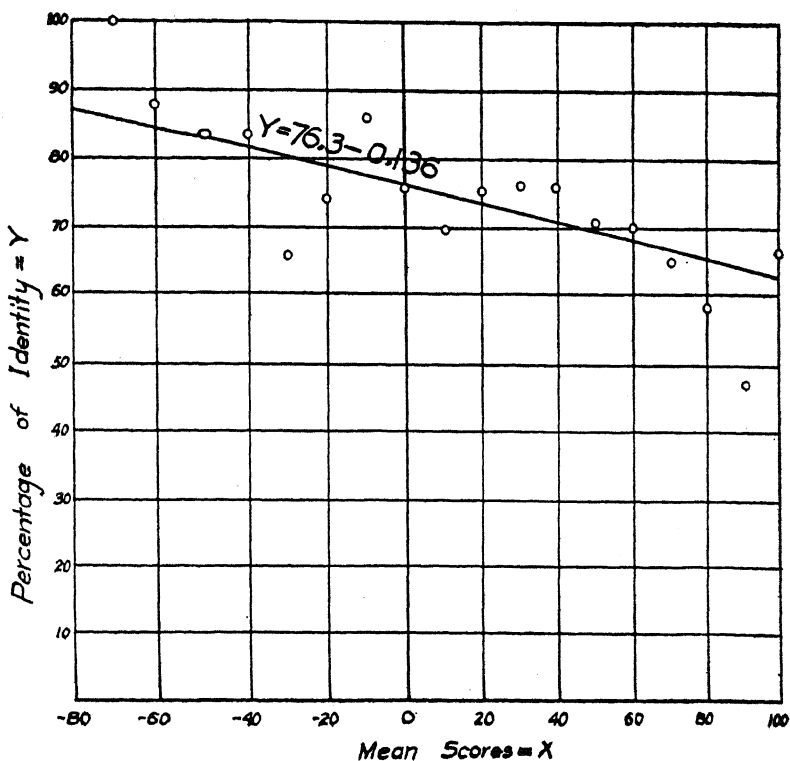
Fig. 13. Relation Between Mean Scores on True-False Test and Percentages of Identity of Voters' and Their Fathers' Political Preferences.

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[6] See Table 18.

[7] The average relationship between the two variables (letting Y = percentage of identity, and X = score on the true-false test) is expressed in the equation: $Y = 76.3 - 0.136X$. The standard error (S_y) is 5.2; and the coefficient of correlation between the two variables (r) is $-.64$.

relation between the two variables will justify resort for explanatory purposes to the interpretations of group differences on the true-false test. Only as the parallelism between the two series fails will independent analysis be necessary.[8]

Parallelisms will usually be inexact, especially where voters are grouped in a considerable number of classes. Perfect parallelism would go only with perfect correlation between mean scores and percentages of identity, for the various categories of voters covered by the study.

Sex and Vocational Differences

Percentages of identity for the two sexes may be presented in non-tabular form. Of 873 males comparable with their fathers as regards political preference, 647, or 74.1 per cent, had identical preferences; of 276 females comparable with their fathers, 196, or 71.0 per cent, had identical preferences. This, of course, exemplifies the inverse relation between mean scores and percentages of identity noted in the preceding paragraphs, since females slightly outclass males on the true-false test. Husbands *may*, however, counteract paternal influence on wives to a greater degree than wives have a similar influence on husbands.

Table 30 presents percentages of identity for vocational classes and for specific occupational groups with sufficient representatives to justify the application of this measure. These specific groups do not, of course, cover all the voters in their respective vocational classes.

The inverse relation generally obtaining between mean scores and percentages of identity holds, with certain exceptions, for these categories. In the case of vocational classes, the order of high to low mean scores is the same as the order of low to high percentages of identity, except that the relative positions of housewives and manual workers are reversed. This *may* reflect the political influence of husbands on housewives, which, of course, would counteract

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[8] Comparisons of identities in the following tables are not so extensive or detailed as were comparisons of scores. The range of variability is rather limited, which makes percentages of identity less significant as an index of political competency than mean scores or percentages with scores of 50 or above. Voters not comparable with their fathers as regards political preferences do not figure in any of the tables.

to some extent the influence of paternal preferences. Of the specific occupational groups, clerks only have the same relative position in the two series; all others, with a single exception, are shifted one interval up or down in the one series, compared with the other series. Explanations of these slight shifts must, for the want of data, be purely hypothetical and may therefore be omitted. The exception mentioned is "non-college" teachers, who had a mean score well above the mean of all voters, but whose percentage of identity, rather unexpectedly, was somewhat above the percentage for all voters. A hypothesis may be suggested by way of explanation. A great many non-college teachers are unmarried women, many of whom are fairly young, live in the parental home, or may be, owing to psychological factors arising otherwise, exceptionally susceptible to paternal influence in partisan matters; while, on the other hand, selective influences and intellectual interests connected with their profession would make for relatively high intelligence on public questions, such as figured in the true-false test.

With these qualifications, the interpretation of differences in vocational class and occupational group percentages would parallel in a general way the explanations of differences in mean scores for the same categories.

SCHOOLING AND PATERNAL INFLUENCE

Table 31 presents percentages of identity by amounts of schooling.[9] The relationship between the two variables is graphically represented in Figure 14.

Table 30. Percentages of identity in the political preferences of voters and their fathers, by vocational class and specific occupation

Class	Number in class	Percentage of identity	Class	Number in class	Percentage of identity
Farmers	77	*83.1*	*Professionals*	274	68.6
Manuals	196	72.4	Lawyers	21	71.4
Barbers	38	73.7	Clergymen	27	59.3
Carpenters	18	66.7	College teachers	83	60.2
Non-manuals	198	74.7	Non-college teachers	94	75.5
Clerks	48	77.1	*Housewives*	129	69.0
Salesmen	55	85.5	*Unclassified*	163	74.8
Business props.	112	80.4			
Merchants	76	77.6	All classes	1149	73.4

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[9] The average relationship between the two variables (Y = percentage of identity; X =

Table 31. Percentages of identity in the political preferences of
voters and their fathers, by amount of schooling

Schooling in years	Number of voters	Percentage of identity	Schooling in years	Number of voters	Percentage of identity
0	1	0	12	156	75.6
2	1	0	13	70	77.1
3	1	100	14	74	75.7
4	18	83.3	15	64	73.4
5	17	82.4	16	94	77.7
6	39	69.2	17	71	70.4
7	30	70.0	18	41	75.6
8	206	76.2	19	39	59.0
9	44	70.5	* 20 or more	35	57.1
10	73	76.7	Not specified	27	51.9
11	48	72.9	All groups	1149	73.4

* Estimated mean, 21 years.

Comparison of rank orders (not here presented) of mean
scores and percentages of identity for the various amounts of
schooling shows that no group occupies the same relative position
in the two series, the difference ranging from one to ten intervals.
There is a closer association, however, in the segment of the two
series between 13 to 20 years or more of schooling, inclusive, than
in the segment between 0 to 12 years, inclusive. This is connected
with the fact that there is only a small measure of correlation (and
that of a negative character) between schooling and mean scores
for the segment 0 to 12 years, but a substantial positive correlation
for the other segment. This, together with the positive correlation
between schooling (as a whole) and scores, and the negative corre-
lation between schooling and percentages of identity, indicates a
general but inexact parallelism between the order of high to low
mean scores and the order of low to high percentages of identity.
The explanation of the inexactness may be largely in the relatively
low correlation between schooling and percentages of identity,
taken in conjunction with the low (and negative) correlation be-

amount of schooling) is expressed in the equation: $Y = 79.9 - 0.50\,X$. The standard error
(S_Y) is 5.6; and the coefficient of correlation between the two variables (r) is —.34.
Only a moderate association between the two variables is thus indicated. This, of course,
reflects the relatively small range of percentages of identity, whatever the basis of classi-
fication.

tween amounts of schooling up to twelve years and mean scores
for voters with those amounts of schooling.

READING HABITS AND FAMILY INFLUENCES

Table 32 presents percentages of identity according to number
of daily newspapers read by the voter.[10] The statistical analysis
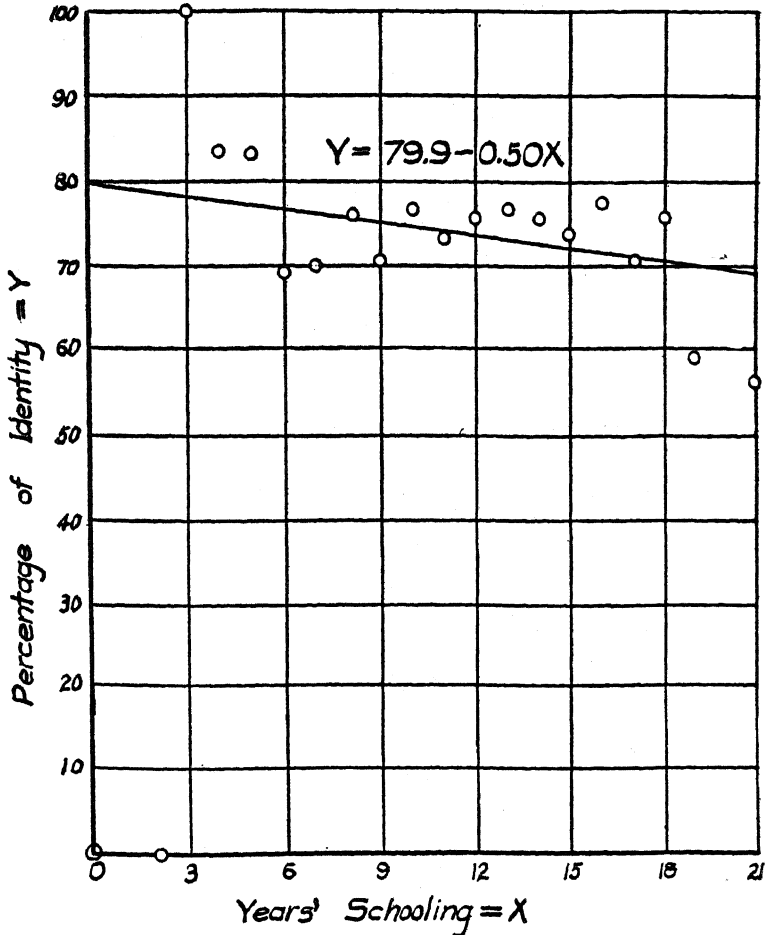

Fig. 14. Relation Between Schooling and Percentages of Identity
of Voters' and Their Fathers' Political Preferences.

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[10] The relation between the two variables (Y, percentage of identity; X, number of
daily newspapers) is expressed in the equation: $Y = 72.9 + 0.19X$. The standard error (S_Y)
is 3.3; and the coefficient of correlation (r) between the two variables is $+.018$.

really indicates, of course, an absence of correlation between the two variables, the coefficient of correlation being less than its standard error.

Comparison of the rank orders of mean scores and percentages of identity, by number of newspapers read, reveals no parallelism between the two series. This is what we should expect, since there is only a small measure of correlation (positive in sign) between mean scores and number of newspapers read. Amount of newspaper reading, judged by both measures, is correlated but slightly with political intelligence.[11]

The association of magazine reading and political intelligence is much closer. The substantial correlation between number of magazines read regularly and mean scores on the true-false test has been shown. Table 33 presents data on the connection with percentages of identity in the political preferences of voters and their fathers.[12] The relationship is graphically represented in Figure 15.

Table 32. Percentages of identity in the political preferences of voters and their fathers, by number of daily newspapers read

Number of newspapers	Number of voters	Percentage of identity	Number of newspapers	Number of voters	Percentage of identity
0	15	86.7	5	20	70.0
1	212	73.1	6	5	100
2	553	73.6	7	2	100
3	290	70.7	Not specified	5	80.0
4	47	80.9	All groups	1149	73.4

There is only a rough parallelism between the rank orders of high to low mean scores and low to high percentages of identity. Three groups of readers have the same relative positions in the two series; three differ by one interval; one by two intervals; one by three intervals; two by four intervals; and one by six intervals.

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[11] See pp. 32-33, including footnote 7, for discussion bearing on the reliability of this conclusion.

[12] The equation of average relationship between the two variables (Y, percentage of identity; X, number of magazines read regularly) is: $Y = 76.4 - 0.86X$. The standard error (S_y) is 2.8; and the coefficient of correlation (r) between the two variables is $-.62$.

This is about what we should expect, considering the coefficients of correlation between the respective pairs of variables.

Percentages of identity were computed for only six individual magazines. These in order of high to low percentages, with number of readers in parenthesis, are as follows: Collier's (53), 81.1; American (282), 77.0; Saturday Evening Post (245), 75.1; Literary Digest (321), 75.1; Harper's (31), 74.2; New Republic (49), 51.0. Three of the six occupy the same relative positions in rank orders arranged as above indicated, and the positions of the three others differ by one, two, and three intervals, respectively.

Table 33. Percentages of identity in the political preferences of voters and their fathers, by number of magazines read regularly

Number of magazines	Number of voters	Percentage of identity	Number of magazines	Number of voters	Percentage of identity
0	261	77.4	7	19	68.4
1	122	73.0	8	11	63.6
2	194	77.3	9	4	75.0
3	205	70.7	* 10 or more	21	66.7
4	113	73.5	Not specified	86	62.8
5	76	69.7			
6	37	81.1	All groups	1149	73.4

* Estimated mean is 11.3.

In view of the parallelism describing the relations between the respective pairs of variables, what was said earlier in interpreting the connection between magazine reading and scores on the true-false test will apply, with the necessary qualifications, to the relation between magazine reading and percentages of identity. As was suggested earlier, the data on particular magazines pertain only to the political intelligence of their *readers*, and yield indications, but not definitive conclusions, as to the nature of the magazines themselves, even as regards their discussions of public questions.

PARTISAN AFFILIATIONS AND PATERNAL INFLUENCES

Data on the connection between partisan affiliations and percentages of identity may be presented in non-tabular form. Only Republicans, Democrats, and Socialists can be compared in this
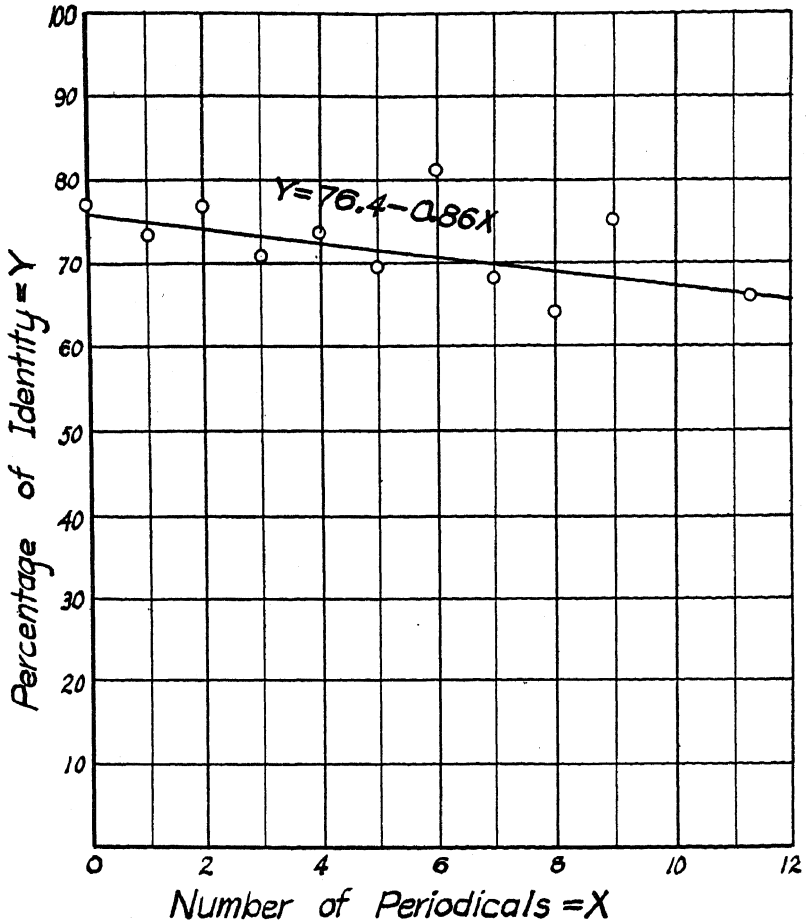
Fig. 15. Relation Between Periodicals Read Regularly and
Percentages of Identity of Voters' and Their
Fathers' Political Preferences.

matter, since it has been assumed [13] that the Independence of voters
and the Independence of fathers are not properly classified as identical in a political sense.

The percentages of identity, with number of voters indicated
in parenthesis, are as follows: Republicans (707), 82.7; Democrats

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[13] See p. 68.

(329), 77.5; Socialists (10), 30.0. The number of Socialists is, of course, too small to permit of any very significant conclusion.[14]

It will be seen by referring to Table 12 that for these three parties the order of high to low mean scores on the true-false test corresponds exactly with the order of low to high percentages of identity. Explanation of differences on the one measure would therefore be much the same as that in case of the other, and need not be presented again. (See pp. 39-40).

AGE AND PATERNAL INFLUENCE

Table 34 presents data on the connection between age and percentages of identity.[15]

In the rank orders (not here given) of high to low mean scores, and low to high percentages of identity, two age groups occupy the same relative positions, while the positions of five groups differ by one interval each, and those of the five others differ by 2, 4, 5, 6, and 8 intervals, respectively. This would suggest an association of high scores with low percentages, and *vice versa*, that may not actually exist. If so, we should have in this case an exception to the general rule. For the coefficients of correlation between age and mean scores, and age and percentages of identity, respectively, are of the same sign, being negative in both cases. Comparison of coefficients is, of course, more instructive than comparison of relative positions in the two rank orders. The apparently incompatible results of the two are due to the fact that in the computation of coefficients the age groups are given their proper numerical weights, while this is not done in the arrangement of rank orders.

How explain the apparent anomaly of age having a negative correlation with both mean scores and percentages of identity, while other factors (schooling, periodicals) susceptible of quanti-

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[14] Ninety-nine Independents and four other voters with political preferences specified make up the remainder of the 1149 voters comparable with their fathers in this matter.

[15] The average relationship between the two variables (Y, percentage of identity; X, age) is expressed in the equation: $Y = 75.6 - 0.059X$. The standard error (S_Y) is 7.9; and the coefficient of correlation (r) between the two variables is —.11. The coefficient is little more than three times its standard error (σ_r), indicating only a moderate association of the two variables.

tative treatment have correlations with those two variables of opposite signs? [16]

Table 34. Percentages of identity in the political preferences of voters and their fathers, by age

Age in years	Number of voters	Percentage of identity	Age in years	Number of voters	Percentage of identity
21-24	116	80.2	55-59	73	83.6
25-29	178	79.8	60-64	34	88.2
30-34	114	63.2	65-69	22	63.6
35-39	119	69.7	70-74	13	84.6
40-44	149	65.8	75-79	11	45.5
45-49	97	71.1	Not specified	133	74.4
50-54	90	73.3	All groups	1149	73.4

In seeking an answer to this question, one significant possibility should be considered. The multiple and partial correlations of age, schooling and periodicals with scores on the true-false test indicated that when all three of those independent variables figured in the measurement of relationships, age variations as such had little or no association with variations in scores. This was due to the fact that older voters had less schooling or read fewer periodicals than younger voters, or suffered from a combination of both disadvantages. If these differences could be similarly allowed for in the measurement of relationships between age and percentages of identity, it would not unlikely be found that the partial was greater than the simple correlation of the two variables.[17] On this supposition, older voters would rate even more favorably on percentages of identity (compared with younger voters) than the simple negative correlation of age and percentages would imply.

We should then have in combination with a virtual absence of correlation between age and scores (one measure of political intel-

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[16] The case of newspapers is problematical, for although the two coefficients of correlation are of the same sign, one of them is of negligible numerical value, the other is too small to be of much significance, and certain conditions affecting these measurements make their validity somewhat questionable. See pp. 32-33.

[17] So far as could be ascertained, procedures have not been devised for computing multiple and partial correlations in cases where the dependent variable consists of group averages or percentages, and the sum of whose squares, therefore, is not the same for the different series of groups defined by the independent variables.

ligence) a substantial correlation between age and percentages of identity (which also serve as a measure of political intelligence). Relatively low percentages, it will be remembered, are taken to indicate relatively high political intelligence, signifying, as they do, a relatively high degree of emancipation from paternal and associated influences.

The lower percentages of the older age-groups have a rather obvious explanation. The various influences making for differences between the political preferences of voters and their fathers are cumulative in character. Older voters are, for example, likely to be further removed in time and place from paternal and associated influences than younger voters. Moreover, they are likely to have come under a greater variety of influences tending to disturb political habits, such, for instance, as those growing out of residence in communities of different partisan complexions. The general effect of all these influences must be a gradually increasing divergence between the political preferences of voters and their fathers. This, of course, merely illustrates once again the operation of the time factor in change of every sort.

The lower percentages of identity in this case should therefore not be interpreted as an indication of greater than average political intelligence. They represent the cumulative effect, in more than average measure, of habit-modifying influences. Specific political opinions may change as much as partisan preferences, but our measures indicate that they do not become more intelligent as voters grow older. Our results suggest that an exception must be made, in the case of age groups, to the general rule that lower percentages of identity indicate higher political intelligence, and *vice versa.*

An unequal distribution, proportionately, of older and younger voters among the component groups of certain series may be a factor in the inexact parallelism of the two rank orders employed in comparing mean scores and percentage of identity for those series. Various statistical findings tend to show, for example, that the older age-groups enjoyed less schooling, read fewer periodicals, and had a lower vocational status, on the average, than the younger groups. Comparative deficiencies in these particulars are generally

associated with relatively high percentages of identity, whereas older voters have relatively low percentages. Hence, unequal distribution of influences connected with age may be a factor in the inexact parallelism of the two rank orders in some cases.

SOCIAL MOBILITY AND PERCENTAGES OF IDENTITY

The various species of social mobility to be considered in connection with percentages of identity have been defined and their significance considered in the analysis of scores on the true-false test. Reference to that discussion [18] will obviate the necessity of detailed explanations at this point.

One species of mobility is denoted when the birthplace and the legal residence of the voter fall in different geographic divisions. Those mobile in this sense may be further divided into native and foreign-born voters. This classification yields three groups: (1) the unmobile native, (2) the mobile native, and (3) the mobile foreign-born. The percentages of identity for these three groups, with number of representatives given in parenthesis, are as follows: the unmobile native (760), 75.1; the mobile native (376), 70.5; the mobile foreign-born (11), 45.5. Two voters were excluded from these figures, because their birthplaces were not specified.

The general rule of low percentages going with high scores on the true-false test, and *vice versa*, is illustrated in case of the first two groups, the unmobile native group having a higher percentage of identity and lower mean score than the mobile native group. The number of foreign-born voters comparable with their fathers in this matter is too small to have much significance. Their exceptionally low percentage of identity may, however, reflect the absence of relevant partisan habits on the part of foreign-born voters at the time of their settlement in this country. Many such voters doubtless form their political preferences here about the same time their fathers do. Those quite young on arrival would, of course, be specially susceptible to paternal influence in this matter. Such susceptibility is indicated in the percentage of identity for this group (supposing it to have a representative value), since it is

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[18] Pp. 43 ff.

greater than the percentage that might, according to our assumptions, be ascribed to other influences. The excess may be mostly due, however, to the strength of the two-party tradition. Probably foreign-born, like native American, voters rarely consider support of any except the Democratic or Republican party, or, instead, a sort of oscillating independence confined to a choice between the two. It is worthy of note that foreign-born voters outclassed the unmobile native-born group on both measures of political intelligence (mean scores and percentages of identity).

Another species of mobility is denoted by difference between the voter's legal residence and his *father's* birthplace, with geographic division serving again as the basis of distinction between existence and non-existence of mobility. The mobile group in this sense may be subdivided into those with native and foreign-born fathers, respectively. Percentages of identity, with the numbers of the several groups in parenthesis, are as follows: the unmobile group (247), 73.7; the mobile group with native-born fathers (720), 75.1; the mobile group with foreign-born fathers (171), 64.9. Eleven voters of the whole array (1149 in number) are excluded from the figures because the birthplaces of their fathers were not specified.

It will be seen that two-generation mobility has little connection with paternal influences on political preferences, so far as voters with native-born fathers are concerned. This harmonizes with the corresponding findings relative to mean scores on the true-false test. Interpretation would be much the same for both measures of political intelligence.[19]

The substantially lower percentage of identity for voters with foreign-born *fathers* [20] tends to support the conjectures offered in discussing the percentage of identity of foreign-born *voters* (whose fathers also were naturalized citizens). Paternal influence on *native-born voters* with foreign-born fathers (by far the larger portion of voters with foreign-born fathers) is evidently stronger, in

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[19] See pp. 45-46.
[20] Only fathers who became American citizens are involved here. Cf. the questionnaire, Appendix A.

the matter of political preferences, than on *foreign-born voters.* Otherwise stated, "second-generation immigrants" are more susceptible to paternal influences, in this matter, than "first-generation immigrants." That, of course, is what we should expect, since paternal precept and example are more common and consistent in the one case than in the other. Nevertheless, second-generation immigrants are not as much influenced by their fathers, in this matter, as voters with native-born fathers.

Vocational mobility is shown by data from the study to have a definite connection with paternal influences on political preferences. Vocational class rather than specific occupation is employed as the basis of distinction between existence and non-existence of mobility in this sense. Only 772 voters could be compared with their fathers as regards both political preference and vocational class membership. Of these, 227 belonged to the same classes as their fathers; and 545 belonged to classes different from those of their fathers. The percentages of identity for the two groups, the unmobile and the mobile, are 78.4 and 72.1, respectively. This is a substantial difference, considering the relatively small range of variations in such percentages, on any basis of classification. It may be compared with the difference in mean scores of the two groups, which, in the order indicated, are 19.2 and 23.1. The general rule describing the associations between mean scores and percentages of identity is, of course, exemplified in this case. For an interpretation, the discussion relative to scores may be consulted.[21]

It is to be remembered that all the group percentages of identity herein presented are susceptible of the interpretation applied to voters as a whole (pp. 68-72). According to the assumptions set up for interpretative purposes, 25 or 33 1/3 per cent of the political preferences of voters (the percentage depending on the assumed primacy of national or of State and local politics in defining preferences) would be the same as the preferences of their fathers, in the absence of paternal and associated influences, simply as a result of the "chance" operation of other influences; and, as a corollary,

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[21] Pp. 47-48.

the differences between those and the actual percentages of identity may be attributed to paternal and associated influences. Different categories of voters may be compared on this basis, and the relative effects of those influences estimated. It has not been deemed necessary to make such comparisons for the various classifications of voters; but the reader may be reminded, in concluding this phase of the study, that interpretation and comparison of paternal influences on some such basis is essential to the development of their true significance.

VI
CONCLUDING COMMENTS

The results of the study need not be recapitulated in detail, but some comments on the more instructive findings may be ventured. These are offered with a lively appreciation of the fact that the voters studied were not a representative sample, but a convenient selection of the country's voting population (though many categories of the selection may be fairly representative); and of the further fact that the methods and data of the study are open to question at many points. Despite these limitations, however, the results should furnish some more or less reliable indications concerning the competency of the American electorate, and the various influences conditioning their political attitudes and opinions. Throughout the discussion, attention has been called to the limitations of both methods and data where these could be identified.

The most significant thing revealed by the study is the low average competency of the voters, judged by our measures of political intelligence, and the small percentage of competent citizens, judged by the special criterion set up for their identification. On a true-false test assumed to represent a fair measure of political intelligence, a mean score of 21.4 (on the basis of 100 as perfect) was obtained by the group of 1250 considered as a whole; 24.4 per cent of this group had scores of 50 or above (the assumed index of civic competency); while 20.4 per cent received negative scores, indicating that voters had to this extent been conditioned to a larger number of erroneous than of valid opinions on public questions. Of like significance was the discovery that approximately 40 or 50 per cent of the entire group had their political preferences determined by paternal and associated influences,[1] judged to be, in this measure, essentially irrelevant to public questions.

These findings furnish some indications not only as to the quality of citizenship in the strict sense, but also as to the nature of public opinion in this country. One's interpretation of the findings

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[1] The "associated influences" are discussed on pp. 71-72.

will, of course, depend on one's beliefs respecting the functions of citizens and their opinions in political and associated forms of social control. The evidence will scarcely be reassuring to those who favor a wide and intelligent participation of the masses in the control of public policy.

Of equal interest, perhaps, is the differentiation of political intelligence in association with various conditioning influences. There was found to be little difference between the sexes in this matter, although the women slightly outclassed the men on all measures of political intelligence (perhaps owing to accidents of selection). Differentiations associated with vocational differences were found to be quite marked, with those engaged in the professions rating highest of all vocational classes; farmers, non-manual workers and business proprietors at the lower end of the scale; and housewives and manual workers occupying intermediate positions. Specific occupations within these general classes were found to be similarly differentiated. One's satisfaction with these showings may depend on one's vocational class or specific occupation. It will be seen that comparative ratings do not in all instances correspond with comparative influences on the formation of public policies. Professional workers, for example, rate much higher than business proprietors, but have much less influence on public policy; and, within the professional class itself, lawyers have a much lower rating but far more influence than clergymen, college teachers, or non-college (mostly elementary- and secondary-school) teachers.

The association between schooling and political intelligence is most significant, since we look to the schools, largely, for preparation of the voter for his civic responsibilities. The statistical analysis demonstrated a substantial positive correlation between schooling and political intelligence (as indicated by scores on the true-false test). But the correlation for all amounts of schooling up to and including high-school graduation was negative. The association between scores and larger amounts of schooling was much closer. It apparently makes little difference, as regards political intelligence, how much or little schooling the voter has unless it extends beyond the secondary school. We may thus think of high-school

graduation as the threshold to the influence of schooling on political intelligence. (Those going beyond high school no doubt have a higher "native" intelligence, on the average, than other citizens.) These conclusions apply, of course, to schooling of the past, including the recent past, not necessarily to schooling of the future.

Reading of daily newspapers was found to be associated little if at all with political intelligence as measured by mean scores and percentages of identity. The evidence indicated that regular perusal of at least one daily paper had a definitely favorable effect, but that similar perusal of a greater number was of questionable value. But the number of magazines read regularly was shown to be quite closely correlated with ratings on both measures of political intelligence. It ranked with schooling, vocational connections, and partisan affiliations as a major differentiating factor in this species of intelligence. The multiple and partial correlations showed it to be second only to schooling among the measurable factors. Selective influences are, of course, involved in all such correlations.

Even more significant, perhaps, are the differences between groups reading particular periodicals. These ranged from the mean scores (the most significant measure) of 66.0 and 62.0 for *New Republic* and *Nation* readers, respectively, to scores of 10.7 and 6.7 for readers of *The Country Gentleman* and *The Delineator*, respectively. (Groups reading the several periodicals overlap, of course, in varying degrees.) If only periodicals featuring the discussion of public questions had figured in the computation of correlations, they might have proved second to nothing else as a differentiating factor in political intelligence.

Political preferences were also found to be a differentiating factor of considerable significance. Socialists, Independents, Democrats and Republicans ranked in the order indicated, on both measures of political intelligence. The analysis suggested that, while mean scores may have reflected different degrees of correctness characterizing the teachings of the several parties, various selective influences tend to make the comparative political intelligence of party groups in a given area inversely proportionate to their comparative numerical strength in the area. Although the data of the

study harmonize with this hypothesis, a definitive judgment must await further inquiry.

When other measurable factors were held constant, age was found to have virtually no correlation with political intelligence as measured by the true-false test. It was found to be negatively correlated with percentages of identity in the political preferences of voters and their fathers; but this was harmonized with the absence of correlation on the other measure by pointing out that there is necessarily a cumulative divergence, with increasing age, between the political habits of voters and their fathers. The discovery that political intelligence does not, generally speaking, increase with advancing years may be one of the most significant the study has to offer. Further investigation is essential to estimate the *representative* value of the discovery and to determine, if found to illustrate a general rule, whether other species of intelligence have a like static character. If political intelligence proved exceptional in this respect, the inference would be that institutional arrangements were responsible for the deficiency.

Various sorts of mobility were considered as possible differentiating factors in political intelligence. Of these, spatial mobility of the voter (different geographic divisions of birthplace and legal residence), occupational mobility (membership of voter in a vocational class different from his father's), and partisan mobility (voter's political preference unlike his father's) were all shown to be positively associated with political intelligence; while two-generation spatial mobility (voter's residence and father's birthplace falling in different geographic divisions) was found to have virtually no connection with this species of intelligence. Both foreign-born voters and voters with foreign-born fathers compared quite favorably with other categories on the true-false test (percentages of identity as a measure of political intelligence are not fully applicable in their case); while one group of "second-generation immigrants" (fathers born in England, Scotland, or Wales) received a mean score considerably higher than the entire selection of voters.

The computation, for various groups, of mean scores and "intelligence indexes" on each of the three general questions covered

by the true-false test yielded significant results in many instances. Comparisons showed that group differences on these questions taken separately did not, in various instances, parallel the differences on these questions taken in combination. For example, the mean score of Republicans on five League of Nations statements was 3.6 higher than that of Democrats, while their mean score on 15 statements covering all three general questions was 10.5 lower than that of Democrats. Again, many groups were found to have extraordinarily high or low scores on specific questions. On five industrial arbitration statements, manual workers had a mean score of 18.9, compared with a mean score of —8.8 for business proprietors, and a mean score of 14.4 for all voters. Calculation of intelligence indexes on the three general questions facilitated identification of such differences, and their interpretation in terms of differential group influences. This led to a demonstration—not a surprising one, however—that intelligence on one public question may develop quite differently from that on other questions. It was shown, for example, that in passing from low- to high-score groups, intelligence concerning industrial arbitration developed more rapidly than intelligence concerning the tariff or League of Nations. This was interpreted as indicating a sort of accelerative emancipation from prejudices affecting labor questions, with increasing intelligence on public questions generally.

The methods of the study are perhaps more significant than its specific results. While these are largely based on methods previously developed, their adaptation to problems of citizenship should facilitate other studies in that field. Further perfection of techniques is, of course, most desirable. A generally acceptable method of "measuring" political intelligence would richly repay the effort required. Quite as valuable would be concepts and techniques permitting a more refined and comprehensive factorial analysis of political intelligence. Methods of this order will become crucially significant when problems of citizenship are taken seriously and treated in terms of their conditioning factors. This will obviously involve a greater concentration of attention on this field,

and its systematic cultivation for the purpose of delevoping more competent citizenship.

It should be added, perhaps, that the present monograph is one of a series of studies still in progress. An investigation of "practical" developmental problems in this field was reported a few years ago in *The New Citizenship* (1929). The findings of the study herein presented will assume increased significance when viewed in the light of the previous investigation.

APPENDIX A: THE QUESTIONNAIRE

SOCIOLOGICAL STUDIES IN POLITICS
UNIVERSITY OF KANSAS

Information regarding voters interviewed will be held strictly confidential.

OPINIONS ON SELECTED PUBLIC QUESTIONS

NOTE: Opinions differ as to the truth or falsity of the following statements. The voter is asked to put a + (plus) sign before all statements that he considers true, or more true than false; and a — (minus) sign before all statements that he considers false, or more false than true. All statements should be marked with a plus or minus sign, as the case may be.

THE LEAGUE OF NATIONS

......1. We are taking part in many activities of the League of Nations without belonging to it, and therefore sharing to a great extent in its benefits.

......2. Washington's warning against entangling alliances with European nations means that we should not now enter the League of Nations.

......3. Entrance into the League of Nations would be disloyalty to the Constitution, since the Constitution gives Congress alone the right to declare war.

......4. The distance of the United States from Europe does not in itself make it possible for us to keep out of European disputes.

......5. Giving the League of Nations any control over our foreign affairs would be contrary to the principles of self-government.

......6. The League of Nations has already proved its ability to settle disputes between countries that belong to it, and to perform other valuable services for its members.

......7. It is our duty to join the League of Nations because one of our own Presidents took the lead in establishing it.

......8. Our entrance into the League of Nations would mean giving up the Monroe Doctrine.

......9. Differences in race, language and customs of the various countries of the world will make the development of an efficient League of Nations difficult.

....10. The United States has enough to do in attending to its own affairs, and should not therefore mix in the affairs of European countries.

THE TARIFF

....11. A high tariff is not necessary to the continued prosperity of American industry.

....12. A protective tariff increases the cost of living.

....13. Tariff laws in the past have been framed to promote the welfare of the farmer and wage-earner equally with that of the manufacturer.

....14. A protective tariff is not necessary to the development of new industries in the United States.

....15. England's prosperity under free trade proves that a protective tariff is not beneficial to the United States.

....16. It is impossible for Congress to handle tariff questions in a way that is just to all concerned.

....17. The industrial development of the United States has been due mainly to our protective tariff.

....18. This country has always been more prosperous when high tariff rates were in force.

....19. If we had followed a free-trade policy in the past, few if any trusts would have developed in this country.

....20. High tariffs are one cause of unfriendly feeling between countries.

COMPULSORY ARBITRATION OF INDUSTRIAL DISPUTES

....21. The wage-earner has been compelled to use the strike to better his condition, and largely because the state has not afforded him needed protection.

....22. Most of the attempts at compulsory arbitration in this country have proved unsuccessful.

....23. Compulsory arbitration would practically prevent the peaceful settlement of labor disputes by the parties directly concerned.

....24. Compulsory arbitration in Australia and New Zealand has not done away with serious disputes between employers and employees in those countries.

...:25. Practically none of the efforts made thus far by employers and employees to settle their differences peaceably have proved successful.

....26. American courts have not on the whole been as fair to the wage-earner as to the employer.

....27. The injunction in labor disputes can be used more effectively by the employer than by the employee.

....28. The continual disputes between capital and labor show that some sort of compulsory arbitration is desirable.

....29. Labor leaders and agitators are responsible for most of the trouble between employers and employees.

....30. Organized labor's opposition to compulsory arbitration shows that it is not concerned in the welfare of the public.

BIOGRAPHICAL DATA CONCERNING VOTER INTERVIEWED

1. Name of voter ....
                    (omit if requested)

2. Sex...................................

3. Year of birth...
                    (omit if requested)

4. State of legal residence ....

5. State of birth (if born in U.S.) ....

6. Country of birth (if not born in U.S.) ....

7. Political party for which the voter votes most frequently ....

8. Principal occupation for past five years ....

9. Check (√) below schools of the several kinds attended and the number of years or grades completed in each:

Kind of School	*Number of Grades or Years Completed*
Elementary School	....
High School	....
College (undergraduate)	....
Graduate School	....
Professional or other school for vocational training	....

NOTE: If one or more schools attended were not organized according to grades or years, estimate the rank of such school or schools, and grade or year completed in each, according to prevailing standards of schools so organized; and record such instruction in the proper place above. Give the full-time equivalent of any part-time instruction taken by the voter, recording this under the proper heading above.

10. Number of daily newspapers read by the voter ....

11. Magazines and periodicals read regularly (give names of below)

12. Is (or was) father an American citizen? ....

13. Party for which father has voted most frequently (if an American citizen) ....

14. State in which father was born (if born in U.S.) ....

15. Country in which father was born (if not born in U.S.) ....

16. Principal occupation of father ....

Name of field worker who interviewed voter ....

Date of interview ....

APPENDIX B
MEMBERSHIP OF VOCATIONAL CLASSES

The various occupations embraced by the "vocational classes" figuring in the analysis of data regarding voters are specified below, together with the numbers engaged in the several occupations. No significant subdivisions of farmers and housewives appeared in reported occupations, and a detailed classification of these is therefore omitted. The occupations included under "Unclassified" are specified for the most part in the words of those reporting them. Examination of the text discussion, pp. 2-5, is quite essential to a correct understanding of the classification and its component categories.

MANUAL WORKERS

Occupation	Number	Occupation	Number	Occupation	Number
Air brake repairer	1	Elevator operator	1	Orderly	1
Aluminum molder	1	Engineers, locomotive	2	Painters	5
Auto accessory packer	1	Engineers, stationary	3	Pattern maker	1
Bakers	2	Engineer (unspecified)	1	Pipe fitters	2
Barbers	39	Engineer and brakeman	1	Plasterer	1
Boilermaker	1	Factory workers	4	Plumbers	3
Brakeman	1	Firemen, city	2	Porters	2
Brick and tile worker	1	Firemen, locomotive	2	Railroad switchman	1
Bricklayers	3	Fireman, stationary	1	Railroad yard worker	1
Bus driver	1	Fireman (unspecified)	1	Seamstress	1
Cab driver	1	Garageman	1	Sheet metal workers	2
Carpenters	21	Houseman	1	Sign painter	1
Carman	1	Iron workers	5	Soap maker	1
Car repairer	1	Janitor	1	Steamfitters	4
Cattle brander and		Laborers (unspecified)	15	Steel workers	2
dehorner	1	Letter carriers	10	Stereotyper	1
Clothing worker	1	Linemen	2	Tailor	1
Cooks	2	Linotype operator	1	Teamster	1
Coppersmith	1	Machinists	8	Telephone repairman	1
Delivery men	3	Mechanics	14	Tractor driver	1
Dressmaker	1	Meat cutters	2	Truck drivers	6
Drug packer	1	Messenger, express	1	Welders	2
Electricians	6	Mill workers	2	Yardman	1
		Oiler	1		

NON-MANUAL WORKERS

Occupation	Number	Occupation	Number	Occupation	Number
Accountants	4	Auditor	1	Bookkeeper and cashier	1
Advertising men	3	Bookkeepers	7	Bookstore employee	1

Occupation	Number	Occupation	Number	Occupation	Number
Buyers	3	Matron	1	Salesman and clerk	1
Cashiers, bank	3	Office worker	1	Secretaries	3
City officials	2	Pharmacists	5	Shorthand reporter	1
Clerks	50	Policeman	1	Solicitor for brokerage	1
County officials	3	Postmasters	3	Stenographers	2
Foremen	12	Railroad agents	2	Stenographers and	
Inspectors	2	Railroad conductors	2	clerks	3
Insurance agent	1	Representative of		Telegraph operators	3
Managers, superinten-		packing company	1	Telephone operator	1
dents and depart-		Salesmen	57	Trainmaster	1
ment heads	15	Salesmen, traveling	11	Typist	1

BUSINESS PROPRIETORS

Occupation	Number	Occupation	Number	Occupation	Number
Bankers	4	Confectionery	1	Watchmaker	1
Boarding house prop.	1	Drugs	9	Class unspecified	34
Broker	1	Dry goods	1	Oil contractor	1
Contractors and		Furniture	3	Oyster dealer	1
builders	10	General mdse.	5	Plumbing and heating	
Farm lands, dealer in	1	Grain	2	business, prop.	1
Garage proprietor	1	Grain and lumber	1	Publishers	2
Lumbermen	2	Grocery	13	Real estate dealers	5
Manufacturers (in-		Haberdashery	1	Real estate and oil	
cluding millers)	4	Hardware	1	business, prop.	1
Merchants	86	Ice	2	Thresher	1
Auto	1	Jewelry	1	Tailor	1
Coal	3	Livestock	2	Transfer business,	
Coal and building		Music store	1	proprietor	1
material	1	Produce	1	Undertakers	3
Coal and feed	1	Sand and gravel	1		

PROFESSIONAL WORKERS

Occupation	Number	Occupation	Number	Occupation	Number
Abstractors	3	Draftsman	1	Surveyor	1
Agricultural exten-		Engineers	8	Teachers, college and	
sion agents	2	Journalists	6	university	92
Agricultural extension		Landscape designer	1	Teachers, non-college	
agent and teacher	1	Librarian	1	(including 3 princi-	
Architect	1	Lawyers	22	pals, and 1 teacher	
Army officers	4	Physical director	1	and county superin-	
Author	1	Physicians	8	tendent)	97
Chemist	1	Nurses, superintendent		Teacher and chemist	1
Chiropodist	1	of	1	Teacher and clergyman	1
Clergymen	29	Photographers	2	Technician, laboratory	1
Clergyman and editor	1	Research worker	1	Veterinarian	1
Dentists	4	Social workers	3		

UNCLASSIFIED [1]

Occupation	Number	Occupation	Number	Occupation	Number
Banking	5	Investments	1	Elevator girl	1
Banker and attorney	1	Merchant and lawyer	1	Farming	2
Battery concern,		Merchant and manager	1	Housekeeper	2
employee	1	Milling	1	Lawyer	2
Builder	1	Millwright	1	Librarian	1
Brokerage	1	Mortgage loans	1	Musician	1
Business	2	Motor company		Printer	1
Butchers	3	employee	1	Power plant	
Carpenter and con-		Optometrists	2	engineer	1
tractor	1	Painters and		Radio operator	1
Clerk and seamstress	1	decorators	3	Representative of	
Clothiers	2	Pharmacists	3	lumber concern	1
Confectionery	1	Printers	2	Salesman	3
Creamerymen	2	Railroad men	2	Stenographer	1
Dairymen	2	Railway mail service	1	Stenographer and	
Dock builder	1	Real estate	10	secretary	1
Druggist and dairy		Real estate and		Teacher, college	16
inspector	1	insurance	1	Teacher, non-	
Embalmer	1	Real estate, loans		college	16
Engineer	1	and insurance	1	Teacher and clerk	1
Farmer and merchant	1	Salesman and jeweler	1	Teacher and housewife	
Farmer and politician	1	Salesman and musician	1	or housekeeper	7
Foreman and merchant	1	Street railway employee	1	Teacher and laborer	1
Garage	1	Study (in college or		Teacher and mechanic	1
Hostess, housekeeper		university) combined		Teacher and pharmacist	1
and politician	1	with specified occu-		Teacher and printer	1
Housekeepers and		pations	62	Title examiner	1
clerks	3	Assistant physicist	1	Transfer	1
Housekeepers and		Banking	1	Traveling student	1
salesmen	2	Business and		Traveler	1
Housewife and nurse	1	carpentry	1	Upholsterers	2
Housewife and		Civil engineer	1	Veterinarian and milk	
music teacher	1	Clerk	4	dealer	1
Housewife and musician	1	Construction work	1	No occupation	4
Housewife and		Contractor	1	Occupation not	
secretary	1	Electrical engineer	1	specified	11
Insurance	4	Electrician	1		

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[1] Most but not all of the voters grouped under this head either (1) reported a *combination* of occupations coming within two or more vocational classes, or (2) failed to give sufficient information for a definite classification. Those engaged in "banking", for example, did not indicate whether they were business proprietors or wage-earners (non-manual workers); while the "housewife and musician" combined occupations coming under different vocational classes. Further explanations are given in the text, pp. 3-4.

Volume III

Number 1. *The Relation of Ralph Waldo Emerson to Public Affairs*, by Raymer McQuiston. April, 1923. Sixty-four pages. Seventy-five cents.

Number 2. *The United States, 1865-1917: An Interpretation*, by James C. Malin. January, 1924. Sixty-four pages. Seventy-five cents.

Number 3. *Home's Douglas, Edited with Introduction and Notes*, by Hubert J. Tunney. November, 1924. One hundred pages. One dollar.

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Number 1. *The Negro Character in American Literature*, by John Herbert Nelson. September, 1926. One hundred and forty-six pages. One dollar.

Numbers 2 and 3. *The Early Opposition to Sir Robert Walpole, 1720-1727*, by Charles Bechdolt Realey. April, 1931. Two hundred and ninety pages. Two dollars.

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Volume V

Number 1. *Public Intelligence. A Study of the Attitudes and Opinions of Voters*, by Seba Eldridge. April, 1935. One hundred and one pages. One dollar; cloth, one dollar and fifty cents.