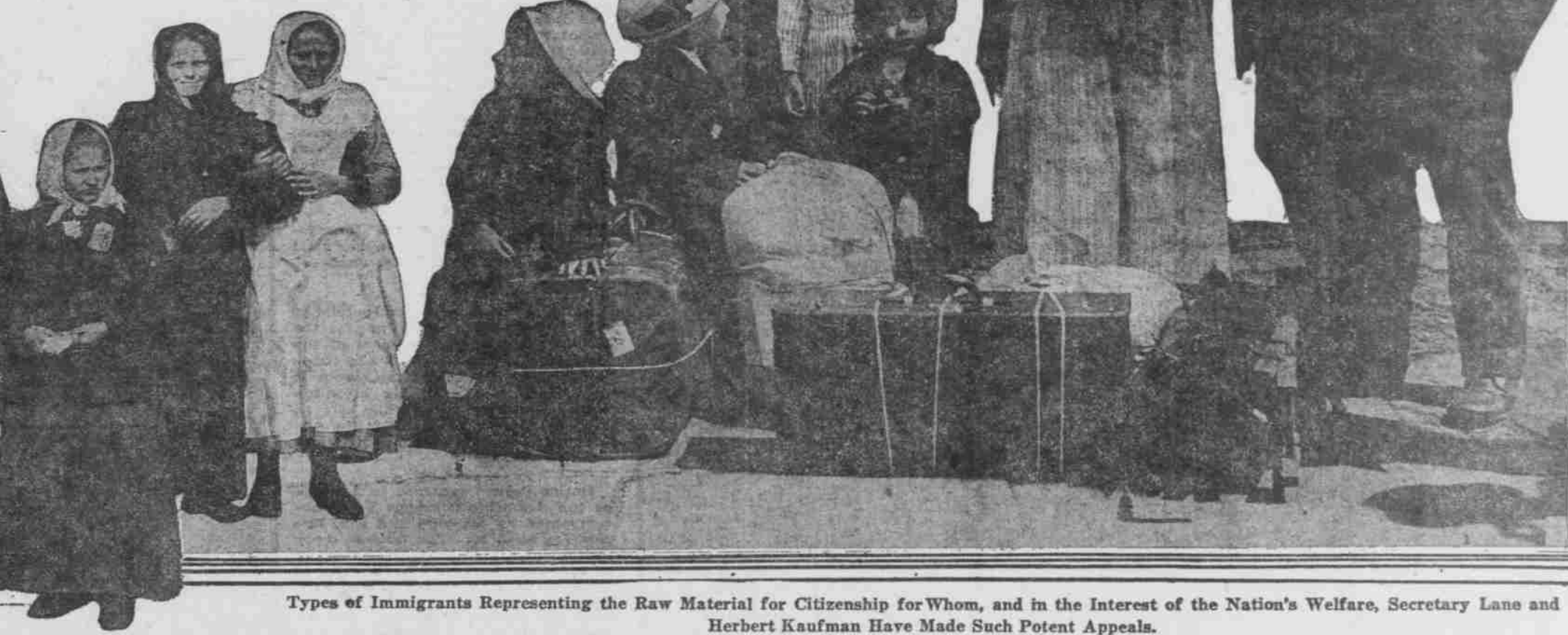


"The Making of Americans"

"The Making of America Cannot Proceed Faster Than the Making of Americans."



How the Many Millions, Americans and Foreign Born, Living in the Appalling Darkness of Illiteracy, Are to Be Helped by an Aroused Nation's New Agency of Rescue—Herbert Kaufman's Stirring Demand That Opportunity Shall Reach "the Whole People."



Types of Immigrants Representing the Raw Material for Citizenship for Whom, and in the Interest of the Nation's Welfare, Secretary Lane and Herbert Kaufman Have Made Such Potent Appeals.

SIXTEEN million grown-up pupils are to be enrolled in Uncle Sam's first-reader class by the terms of the Americanization bill, brought before congress with so strong a backing of popular sentiment. This measure, more properly known as the Smith-Bankhead bill, aims to compel the unread fourth of the population to be instructed in at least the preliminary syllables of the three R's. The necessity for the enactment of this legislation was made apparent by the army's costly experience, which proved that instead of 8,000,000 illiterates, as the census figures showed, there are twice that number.

Authority for this statement is contained in the following quotation from the testimony of Herbert Kaufman, noted as a writer, whose work commands the highest price paid for American newspaper and magazine features, and who is now special assistant to the secretary of the interior, in charge of Americanization. "This statement is doubly official, having been made before and incorporated in the records of the senate committee:

"However, there are such folk—6,000,000 of them (according to the 1919 census), 19 years of age and over—5,000,000 of whom are native born, yet cannot read or write English, and of those who do not speak it, at least half do not read or write any language.

"But I do not consider this an accurate estimate. Recent investigations challenge it. I would not hesitate to double the figure. The outrageous percentage of illiteracy in the army suggests that no test of literacy was required by the census takers. Of 1,562,256 draftees examined by the war department, 386,195, or 24.9 per cent, could not read newspapers or write letters home."

The cosmopolitan aspect of these millions who neither read nor write is painted in the following figure, obtained from an inquiry made by the

department of the interior into the personnel of 112 industrial establishments employing a total of 48,598 foreign-born workers. Less than a third, 15,265, or 31.4 per cent, of that number were naturalized and 1876, or 3.8 per cent, have their first papers. The remaining 31,463, or 64 per cent, are still aliens. The nationality and the percentage still alien is:

Nationality	Total No.	Per Cent.
Austrian	5519	67.9
Armenian	296	74.3
Bohemian	549	50
Bulgarian	53	26.4
Canadian	478	12.2
Croatian	1235	95.3
English	5161	35.5
Finnish	487	59.7
French	171	87
German	2847	80.5
Greek	316	92.1
Hungarian	2966	77
Irish	1825	31
Italian	9125	72.1
Japanese	19	24.3
Norwegian	277	89
Polish	7719	94.8
Roumanian	897	75.6
Russian	2990	74.1
Scottish	741	42
Serbian	146	96.5
Spanish	378	27.4
Swedish	378	27.4
Other nationalities	3825	76.5

NOTE—Under "English" is included Great Britain and provinces, some Irish and Canadians being included, but the Irish and Canadians given in the table are not included under "English."

Says Mr. Kaufman: "The melting pot calls for watchful care when we find that 94.3 per cent of Mexicans, 96.4 per cent of Bulgarians, 95 per cent of Roumanians, 92 per cent of Greeks, 95 per cent of Croatians, 76 per cent of Armenians, 67 per cent of Austrians, employed by the concerns in question, are not subjects of the flag."

The Smith-Bankhead bill would provide \$13,500,000 per year until 1926 to be divided among the states in the proportion of illiterates in each, and the state to equal the federal appropriation. This money, together with lesser sums for its administering, is provided to promote the education of native illiterates and in general of

persons unable to use the English language. Elements of knowledge pertaining to self-support and home-making are to be taught, as well as citizenship. That the money involved

is inconsiderable is shown by Mr. Kaufman, when he says: "Because, the states permitted 386,196 of their several citizens of draft age to remain so abysmally unlettered

that they could not comprehend the simplest military orders or write a postcard, the government was forced to expend more millions than this bill calls for in toto merely to prepare a

comparative handful of men for service."

This condition was described more fully and also an interesting sidelight was thrown on the incomplete nature of census statistics in the following quotation (from the New York Times) read to the committee:

"Whereas, the census bureau had led us to believe that the percentage of illiteracy was no greater than 8 per cent, the army figures for men of draft age put it at 24.9, or one-quarter of the population."

"The fact remains that 386,196 men were unable to read and understand signs about the camp or to understand a written or printed order. In factories they would have been unable to understand signs and instructions intended to protect them from accident. The significance of this state of affairs can only be realized when it is stated that injuries in manufacturing establishments occur only half as frequently to those who can read as to those who cannot."

"Among the first to engage in the army psychological work was Captain M. R. Trabuc, who was a member of the psychological division of the army sanitary corps and later of the personnel committee in the office of the adjutant-general. He is now back at his post as an assistant professor of educational administration in teachers' college, Columbia university. Not only has Professor Trabuc intimate knowledge of the army tests, but he is familiar with the methods used in obtaining the census figures. He calls attention to several factors contributing to inaccuracy in the census."

Getting at the Truth. "Can you read? Can you write?" Any answer was accepted even from those who were obviously loath to be considered ignorant, and no check was taken to verify the fact. And it was further true, according to the professor, that even a conscientious enumerator might get the correct answer to his questions and yet fail to report the truth, for ability to write

one's name (something which many learn to do mechanically), and the ability to read a few words might technically be regarded as ability to read and write without enabling the individual to read anything about what is going on in the world.

"On the other hand," said Professor Trabuc, "the army classification was carefully made by men trained in the universities for that kind of work. It was based not upon ultra-scientific standards, but upon common sense."

"I addressed groups of 250 men in this way: 'We have here two sets of questions to test your fitness as soldiers and to determine the grade of work you can do. One test requires ability to read and write, and the other does not. One is no easier than the other, so you will gain nothing in making a choice one way or the other. Now, in Alpha, and we have a few exceptions, told the exact truth about themselves.

"There was no suggestion of a division into the 'sheep and the goats.' In fact, the introduction always was 'Some of you have not had a chance to learn to read English, and we have devised a separate test for you.' The test for the illiterates was intended to be just as difficult as that for literates, but in practice it proved to be slightly easier. However, a man who tested in the highest grade in Beta proved to be just as intelligent as a Grade A man. Alpha men, with few exceptions, picked up the English language."

"The whole question simmers down to the deplorable fact that 25 per cent of the men in the country lack an understanding of the most important medium of the spread of organized progress. They live apart from the rest of the world. Before us is a tremendous problem."

which will trickle to the bottom. On opening the jar a little clear lime will be seen to turn milky, just as it will if person's breath is forced through it.

The first experiment which Professor Morse made to demonstrate that fruits breathe is both simple and interesting. He took a large basin and partly filled it with water. In the center of this basin he set a small open dish containing a solution of caustic soda or potash. On the support he placed an apple, taking care to see that neither the water nor the caustic solution touched the fruit. He then covered the support and its contents by a large jar with its mouth wholly in the water. Then he watched to see what would happen.

Now, it occurred to Professor Morse that if his belief that fruits breathe was correct that fruits, after having been picked from the tree, are in the same condition as the starving man. This he has proved is absolutely correct, having demonstrated that the cells of the fruit still keep up respiration with nothing in the way of food to make good the losses produced by the action. Since apples and other fruits have no body heat to maintain, the breathing process naturally is not so active as in many, and they may consequently last months after being picked from the tree. Yet there is, nevertheless, a steady, continuous loss in weight as the weeks go by, although the fruit is sound and firm.

For example, fruit put in cold storage by Professor Morse early in November and weighed at intervals of two months had lost as follows: May 6 3.82 per cent March 5 2.34 per cent July 1 4.71 per cent That the shrinkage in weight was

due to respiration and not to simple drying out of the water was shown, Professor Morse believes, by the practically constant percentages of water and dry matter, since if the solid material was not destroyed it should gradually increase in proportion, while the water would decrease.

To determine exact figures showing just how rapidly an apple was changed in composition when stored at an ice-cold temperature, compared with another apple at 45 degrees and another at summer temperature, a simple apparatus was devised by Professor Morse by which the carbonic acid which had been collected and collected and measured.

This apparatus consisted of a cylindrical copper vessel supported on three legs and large enough to hold about six quarts. The top of the vessel or can was closed by a circular plate of glass, that rested on a narrow strip of copper soldered around the inside of the cylinder, a little below the top. An inlet tube was soldered into the vessel below the glass cover and an outlet tube was fixed in the bottom of the vessel which was shaped like a funnel so that the gas would all collect around the outlet.

Since carbonic acid is heavier than air, air could be drawn into the copper can through the inlet tube after first passing through a bent glass tube containing a solution of caustic potash which removed any carbonic acid which was in the air. It would then pass out through the outlet tube which was connected with some glass

bulbs containing caustic solutions to collect all carbonic acid passing out of the can.

The current air through the apparatus was maintained by connecting the absorption glass by means of rubber tubing with a large jar of water, from which a small stream was allowed to trickle at a rate that would keep the air steadily bubbling through the potash solutions connected with the inlet and outlet tubes.

The copper vessel stood inside a galvanized iron tank which could be filled with water or ice when low temperature was desired. The temperatures at which most of the experiments were carried on were 53 degrees Fahrenheit, or that of modern cold storage rooms, 40 to 50 degrees corresponding to cool cellars and 68 to 80 degrees, or room temperatures equivalent to early fall.

At the beginning of an experiment about four to five pounds of perfectly sound Baldwin apples were placed in the copper chamber and the glass cover was firmly sealed in place with putty.

The current of air was started through the apparatus and made to continue until it was considered time to determine the amount of carbonic acid which had been collected. The length of time which had passed since starting the current was noted down and the circulation was then stopped by shutting off the stream of water. The potash solutions were next analyzed for carbonic acid and finally the apples were removed from the can.

The length of time during which the carbonic acid was collected ranged from five hours to 48 hours continuous circulation.

Without going into technical details in reference to these experiments it may be said that the results were absolutely conclusive not only that fruits do breathe, but that they keep up this respiration for a surprisingly lengthy period after they have been separated from the parent and that this respiration is much more active in high than low temperature and the more actively it goes on the more quickly the fruit loses some of its flavor and the sooner it softens and becomes the prey of organisms producing rot or death. Finally it was demonstrated that the nearer the freezing point, fruits can be held before they are consumed the more nearly will their quality remain like freshly-picked fruit.

Other investigations on this subject by Professor Morse have shown that several troubles of cold storage men are due to lack of ventilation, such as scald on peaches and apples. It has also been shown that the softer fruits like strawberries respire much more actively than apples and cranberries while citrus fruits are less active than apples.

Cranberries or apples packed in tight barrels, it has been determined, will exhaust the oxygen of the available air space in less than 24 hours at cold storage temperature, the fruit in the center of the barrel showing all the appearance of asphyxiation.

RESPIRATION OF FRUIT PROVED BY PROFESSOR'S EXPERIMENTS

Breathing Process Kept Up Considerable Time After Separation From Parent Tree or Vine.

DO FRUITS breathe? They do, according to some very interesting recent researches of Professor Fred W. Morse, acting director of the agricultural experiment station of Massachusetts college. The respiration of human beings and animals is, of course, a well-known action and the necessity for it in the living creature is fully appreciated, but the fact that plants and even parts of plants must also breathe to live, and thrive, will be news to most people.

Professor Morse began his experiments with fruits on the theory that as all living human cells must have oxygen to keep them alive and give up carbon dioxide and water as a result of the action of the oxygen on some of their contents it only seems to stand to reason that living cells when a part of vegetable matter must also have practically the same requirements and do the same thing.

As parts of plants when they are cut off from the main stem do not

die at once it seemed to him as only reasonable that they must continue to breathe. This, he has now proved, is absolutely true whether the severed part is a leafy branch, a fruit or a root; but some parts he has demonstrated live much longer than others. The apple and the cranberry, for instance, continue to breathe for many months after they have been removed from the tree and vine, respectively.

His experiments with cranberries demonstrated that they absorb oxygen from the air which united with the sugar of their cells and that they exhaled carbonic acid gas just as human beings do from their lungs. Professor Morse has determined that the chief products of respiration are exactly the same to plants as in human beings, namely, carbonic acid and water. Any one by placing one or more apples in a glass jar and covering it over can easily prove this. In a few hours a dewy film will cover the inner surface of the jar, which in time will collect into drops