of life and the immediate environment appear to be leading. More than ever before the high school must become the college of the people and give them something over and above that which they think they need. In adopting the methods of the business world the professional educator is in danger of resigning his true function of leadership, which consists not only in anticipating and meeting public demands but in creating them. Viscount Bryce in summarizing the aims of secondary education for an English audience presents a succinct statement that may yet find acceptance in this country.

In the stress and competition of our times, the future belongs to the nations that recognize the worth of knowledge and thought and best understand how to apply the accumulated experience of the past. In the long run it is knowledge and wisdom that rule the world, not knowledge only but knowledge applied with that width of view and sympathetic comprehension of men and of other nations which are the essence of statesmanship.

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EDUCATIONAL RESEARCH AND STATISTICS

A STUDY OF THE MENTAL AND PHYSICAL CHARACTERISTICS OF THE CHINESE

In the years 1915–1917, Dr. J. W. Creighton, under the direction of the writer, made a study of the mental and physical characteristics of Chinese children (Cantonese). The subjects studied numbered approximately five hundred, and ranged in age from ten to eighteen. The physical measures include those of twenty-five Chinese women also.

While the number was not large enough, nor the tests sufficiently extensive, to enable us to write with confidence on the racial peculiarities of the Chinese, nevertheless, some facts appear fairly certain.

THE PHYSICAL MEASURES

Careful physical measures were made of height standing, height sitting, weight, lung capacity, strength of grip, muscular speed of the right and left hands, and the length and breadth of the head. The results of the physical measures are shown in Table I. In Table II. the physical measures of the Chinese are shown in terms of their percentages of the corresponding measures of American children.¹

A study of Table II. shows several interesting facts. In general, Chinese boys and girls are physically inferior to American children of the same age. The height of Chinese boys is 98 per cent. of that of American boys, while the height of the Chinese girls is only 92 per cent. of that of American girls. The sitting height of Chinese boys is 99 per cent. of that of American boys, the corresponding per cent. for Chinese girls being 94. The Chinese, therefore, have slightly longer bodies and shorter legs, relatively, than Americans. The Chinese are more slender than Americans, the weight of the boys being only 86 per cent. of that of American boys, and the percentage for the girls is only 79.

The grip of the Chinese boys is 84 per cent. of that of American boys; the percentage for girls being only 72. In muscular speed, however, the Chinese boys excel American boys at every age studied, averaging 105 per cent. of the speed of American boys, the per cent. for girls being only 87.

The percentages for lung capacity are 80 and 73 for boys and girls, respectively. The vital index (lung capacity divided by weight) of Chinese boys is 89 per cent. that of American boys; the corresponding percentage for girls being 92.

Head measurements were also taken. The Chinese are a round headed people, their cephalic index averaging .83 for boys, and .82 for girls. The cephalic indices of American boys and girls is approximately .79.

If the Chinese girls of ages 16, 17 and 18,

¹ The norms used for this comparison were those worked out by the writer and published in the University of Missouri Extension Bulletin, Vol. 17, No. 24, "A Manual for the Mental and Physical Examination of School Children," 1916.
### TABLE I

The Physical Measures of Chinese

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>Age</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>14</td>
<td>11</td>
<td>23</td>
<td>57</td>
<td>62</td>
<td>55</td>
<td>40</td>
<td>35</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>11</td>
<td>12</td>
<td>16</td>
<td>32</td>
<td>24</td>
<td>9</td>
<td>19</td>
<td>35</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

#### Standing height

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>131.0</th>
<th>132.6</th>
<th>139.5</th>
<th>143.8</th>
<th>152.7</th>
<th>159.6</th>
<th>159.1</th>
<th>150.7</th>
<th>150.5</th>
<th>151.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>122.1</td>
<td>126.2</td>
<td>134.3</td>
<td>129.5</td>
<td>143.3</td>
<td>164.6</td>
<td>150.6</td>
<td>80.7</td>
<td>81.5</td>
<td>80.4</td>
<td></td>
</tr>
</tbody>
</table>

#### Sitting height

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>67.0</th>
<th>71.2</th>
<th>74.0</th>
<th>77.3</th>
<th>80.8</th>
<th>85.2</th>
<th>88.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>65.2</td>
<td>68.7</td>
<td>70.2</td>
<td>73.9</td>
<td>76.8</td>
<td>78.6</td>
<td>79.6</td>
<td>80.7</td>
</tr>
</tbody>
</table>

#### Weight in kg.

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>28.33</th>
<th>30.39</th>
<th>32.24</th>
<th>37.85</th>
<th>44.69</th>
<th>49.40</th>
<th>51.92</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>22.82</td>
<td>25.19</td>
<td>30.46</td>
<td>36.40</td>
<td>37.53</td>
<td>39.63</td>
<td>43.67</td>
<td>45.24</td>
</tr>
</tbody>
</table>

#### Grip, right, kg.

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>13.57</th>
<th>15.43</th>
<th>17.20</th>
<th>20.40</th>
<th>26.51</th>
<th>31.92</th>
<th>33.56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>8.45</td>
<td>10.58</td>
<td>13.19</td>
<td>15.97</td>
<td>18.67</td>
<td>19.84</td>
<td>22.32</td>
<td>22.40</td>
</tr>
</tbody>
</table>

#### Grip, left, kg.

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>11.57</th>
<th>13.33</th>
<th>15.18</th>
<th>18.28</th>
<th>25.44</th>
<th>31.96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>8.54</td>
<td>9.33</td>
<td>11.44</td>
<td>13.97</td>
<td>17.21</td>
<td>16.33</td>
<td>20.97</td>
</tr>
</tbody>
</table>

#### Speed, right, taps per 30 sec.

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>159</th>
<th>174</th>
<th>185</th>
<th>182</th>
<th>194</th>
<th>199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>146</td>
<td>145</td>
<td>158</td>
<td>151</td>
<td>152</td>
<td>155</td>
<td>165</td>
</tr>
</tbody>
</table>

#### Speed, left

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>148</th>
<th>152</th>
<th>167</th>
<th>166</th>
<th>173</th>
<th>178</th>
<th>183</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>128</td>
<td>128</td>
<td>136</td>
<td>131</td>
<td>139</td>
<td>138</td>
<td>144</td>
<td>146</td>
</tr>
</tbody>
</table>

#### Lung capacity in cc.

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>1444</th>
<th>1464</th>
<th>1671</th>
<th>1989</th>
<th>2252</th>
<th>2517</th>
<th>2627</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>1165</td>
<td>1137</td>
<td>1358</td>
<td>1539</td>
<td>1669</td>
<td>1805</td>
<td>1992</td>
<td>1911</td>
</tr>
</tbody>
</table>

#### Vital index, cc. per kg.

<table>
<thead>
<tr>
<th>Age</th>
<th>Boys</th>
<th>51.19</th>
<th>48.53</th>
<th>52.41</th>
<th>52.54</th>
<th>50.42</th>
<th>50.95</th>
<th>50.57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>50.98</td>
<td>45.24</td>
<td>45.24</td>
<td>44.79</td>
<td>44.49</td>
<td>46.11</td>
<td>43.91</td>
<td>42.70</td>
</tr>
</tbody>
</table>

In Table II, the Chinese norms as shown in Table I. are expressed in terms of per cent. of the corresponding American norms. The standing height of boys age ten, for example, is 97 per cent. of the average height of American boys of the same age. The American norms used for comparison are those established by the writer. In the averages shown at the bottom of the table vital index is not included since it is derived from weight and lung capacity. The averages at the right enable us to compare the sexes with respect to the same characteristic, and also the same sex in different characteristics. The averages at the bottom of the table enable us to compare the physical development of boys and girls of the same age. At the right, the various ages are combined; at the bottom, the results of the various tests.
and the adult women measured, are typical, there is slight indication that Chinese girls pass through their adolescent growth somewhat faster than do American girls. The physical measures of the twenty-five Chinese women are only 82.7 per cent. that of American women, while their measures for ages 16, 17 and 18 are 85.7, 85.2, and 86.5, respectively.

To summarize: the Chinese boys and girls are not quite so tall, not nearly so heavy, nor so strong, as Americans of the same age. Chinese boys are faster than American boys; the Chinese girls not quite so fast as American girls. The amount of air space per pound in the case of Chinese boys is about 10 per cent. less than that of American boys, while their measures for ages 16, 17 and 18 are 85.7, 85.2, and 86.5, respectively.

The tests for which the results are given are the following: rote memory, logical memory, substitution, analogues, and the spot pattern test.

The purpose of the rote memory test is to determine the immediate memory span for short, unrelated words. This was determined separately for abstract and for concrete words.

The purpose of the logical memory test is to determine the immediate memory efficiency for logical material, i.e., ideas as related in connected discourse. A very simple story was used, "The Marble Statue." This story was found to be very suitable for the Chinese of all ages tested. It was carefully translated into their language by a competent native. In giving the test the story was read by a native Chinese to those being tested, who, after hearing it read, reproduced it in their own words. In grading the papers we determined merely the number of ideas correctly reproduced. The ideographic nature of the Chinese language made this grading a very easy matter.

The object of the substitution test is to determine quickness of learning. The test consisted of two parts; first, transcribing digits into arbitrary symbols; and second, transcribing arbitrary symbols into digits. Efficiency is determined by speed of performance, but since the Chinese children were familiar with the Arabic numerals, comparison with Americans in this test is legitimate.

The objective of the analogue test is to determine efficiency in performances in which logical relationships are the important factor. As an illustration, the test ran as follows:

"Wrist is to bracelet as finger is to ---" The subjects filled in the blank with a word which gave the same relation to finger that a bracelet has to a wrist. Several illustrations were given to the children before they proceeded with the test. Since they were already familiar with language difficulties. In some of our standard mental tests, efficiency is in part determined by speed of performance. This is true, for example, in the free association tests, and in the controlled association tests. We therefore undertook to determine speed of writing in Chinese characters as compared with speed in writing in our own language. Owing to the very great differences in the principles underlying the written characters of the two languages, our attempt at comparison was not wholly successful. The indications were that Chinese are considerably faster in writing than are Americans of the same age, as was to be expected from their great muscular speed in the tapping test, especially in the case of boys. But in spite of their greater speed in writing, they seemed to be very slow in the controlled association test. However, we do not have very much confidence in this comparison, owing to our inability to evaluate accurately their relative speed in writing, and therefore, omit from our tables of results the tests in which speed was an essential element.

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"Wrist is to bracelet as finger is to ---" The subjects filled in the blank with a word which gave the same relation to finger that a bracelet has to a wrist. Several illustrations were given to the children before they proceeded with the test. Since they were already famili-
TABLE III

<table>
<thead>
<tr>
<th>Age</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>39.82</td>
<td>45.87</td>
<td>45.78</td>
<td>49.08</td>
<td>49.08</td>
<td>53.55</td>
<td>51.40</td>
<td>44.58</td>
</tr>
<tr>
<td>Girls</td>
<td>38.50</td>
<td>39.20</td>
<td>40.60</td>
<td>40.52</td>
<td>42.02</td>
<td>45.60</td>
<td>46.50</td>
<td>47.50</td>
</tr>
</tbody>
</table>
| Ch.
B. | 44.10 | 45.59 | 43.88 | 44.79 | 41.46 | 44.70 | 43.80 | 47.30 |
| Ch.
G. | 38.60 | 39.60 | 42.00 | 44.10 | 45.40 | 44.70 | 43.80 | 44.00 |
| Ch.
B. | 38.09 | 44.25 | 44.28 | 46.97 | 45.14 | 48.08 | 49.31 | 58.81 |
| Ch.
G. | 37.90 | 32.60 | 36.00 | 35.80 | 39.70 | 45.00 | 46.80 | 50.40 |
| Ch.
B. | 46.30 | 45.86 | 45.95 | 46.79 | 45.87 | 49.35 | 37.44 | 15.26 |
| Ch.
G. | 33.90 | 34.90 | 38.40 | 42.90 | 45.10 | 45.50 | 42.50 | 52.60 |
| Ch.
B. | 26.23 | 28.77 | 28.38 | 30.43 | 32.16 | 31.42 | 34.06 | 26.20 |
| Ch.
G. | 57.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
B. | 32.81 | 35.01 | 36.71 | 35.70 | 36.08 | 34.86 | 34.80 | 36.80 |
| Ch.
G. | 37.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
B. | 36.21 | 37.79 | 38.55 | 38.71 | 38.31 | 37.15 | 36.73 | 38.12 |
| Logical memory
Boys | 26.23 | 28.77 | 28.38 | 30.43 | 32.16 | 31.42 | 34.06 | 26.20 |
| Girls | 57.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
B. | 17.12 | 19.95 | 20.36 | 21.68 | 22.28 | 23.12 | 25.96 | 20.18 |
| Ch.
G. | 57.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
| Ch.
G. | 36.21 | 37.79 | 38.55 | 38.71 | 38.31 | 37.15 | 36.73 | 38.12 |
| Ch.
B. | 26.23 | 28.77 | 28.38 | 30.43 | 32.16 | 31.42 | 34.06 | 26.20 |
| Ch.
G. | 37.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
B. | 36.21 | 37.79 | 38.55 | 38.71 | 38.31 | 37.15 | 36.73 | 38.12 |
| Ch.
G. | 37.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
B. | 17.12 | 19.95 | 20.36 | 21.68 | 22.28 | 23.12 | 25.96 | 20.18 |
| Ch.
G. | 57.00 | 37.27 | 34.70 | 35.83 | 35.27 | 35.00 | 30.50 | 24.00 |
| Ch.
B. | 82.2 | 77.3 | 85.2 | 89.1 | 90.1 | 99.6 | 96.7 | 87.3 |
| Ch.
G. | 97.9 | 96.7 | 89.6 | 93.5 | 95.4 | 94.9 | 95.3 | 94.7 |
| Ch.
B. | 89.2 | 83.8 | 75.4 | 72.2 | 68.5 | 66.5 | 70.1 | 67.2 |
| Ch.
G. | 23.1 | 31.3 | 42.5 | 39.1 | 40.4 | 37.8 | 36.9 | 36.9 |
| Ch.
B. | 21.5 | 41.8 | 26.0 | 24.3 | 19.4 | 27.7 | 26.8 | 26.8 |
| Ch.
G. | 116.0 | 100.0 | 80.6 | 65.2 | 98.1 | 82.4 | 90.4 | 90.4 |
| Ch.
B. | 87.5 | 82.8 | 84.7 | 78.2 | 86.0 | 85.1 | 84.0 | 84.0 |
| Ch.
G. | 81.7 | 84.1 | 73.5 | 74.3 | 69.5 | 78.6 | 77.0 | 77.0 |

In Table III. Ch.B. = Chinese boys; Ch.G. = Chinese girls; Am.B. = American boys; and Am.G. = American girls.

TABLE IV

Table IV. was constructed from Table III. in the same manner as Table II. was constructed from Table I. The numbers in the table represent the per cent. which Chinese mental efficiency is of American efficiency when the averages for the same ages and sexes are compared. In this table the results for the concrete and abstract rote memory tests are combined, and in the substitution test the digit-symbol and symbol-digit tests are combined. Ages 11 and 18 are omitted because of the small number of cases. The American norms used for comparison are those established by the writer for American urban children. The girls did not have the spot-pattern test, therefore the averages including all the tests, shown at the bottom of the table, are not strictly comparable. However, taking the figures as they stand, the boys average about 7 per cent. better than the girls.

<table>
<thead>
<tr>
<th>Age</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>Av.</th>
</tr>
</thead>
</table>
| Rote memory
Boys | 87.5 | 82.8 | 84.7 | 78.2 | 86.0 | 85.1 | 84.0 |
| Girls | 81.7 | 84.1 | 73.5 | 74.3 | 69.5 | 78.6 | 77.0 |
| Logical memory
Boys | 82.2 | 77.3 | 85.2 | 89.1 | 90.1 | 99.6 | 87.3 |
| Girls | 97.9 | 96.7 | 89.6 | 93.5 | 95.4 | 94.9 | 95.3 | 94.7 |
| Substitution
Boys | 91.3 | 85.6 | 93.0 | 81.8 | 83.4 | 96.6 | 88.6 |
| Girls | 88.2 | 83.8 | 75.4 | 72.2 | 66.5 | 79.5 | 77.9 |
| Analoge
Boys | 116.0 | 100.0 | 80.6 | 65.2 | 98.1 | 82.4 | 90.4 |
| Girls | 87.5 | 82.8 | 84.7 | 78.2 | 86.0 | 85.1 | 84.0 |
| Spot pattern
Boys | 116.0 | 100.0 | 80.6 | 65.2 | 98.1 | 82.4 | 90.4 |
| Girls | 87.5 | 82.8 | 84.7 | 78.2 | 86.0 | 85.1 | 84.0 |
iar with the "rule of three," they readily comprehended the nature of the test. Twenty-five of these analogues were given in the test. Efficiency was determined by the number of analogues completed in a given unit of time. The error in the results of this test due to difference of speed in writing is insignificant because the greater part of the time is used in working out the logical relationships involved, and not in writing the characters.

The spot pattern test measures ability to perceive spatial relationships, and to reproduce them from memory. The test was as follows: the subject was shown a large sheet of cross-section paper on which a pattern had been made by placing seven large dots at intersections of the cross lines. After seeing the pattern the subject attempted to reproduce it on similar cross-section paper. Efficiency was determined by finding how many times it was necessary to expose the copy before it was correctly reproduced by the subject.

The actual results of the tests, with the corresponding American norms, are shown in Table III. The percentage comparison with American norms is shown in Table IV.

A study of Table IV. shows that Chinese boys and girls are better in rote memory than are Americans. In logical memory the Chinese girls are almost as good as American girls of the same age, while Chinese boys lack 13.5 per cent. of being as efficient as American boys of corresponding age. In the substitution test, which measures quickness of learning, the Chinese are considerably slower than Americans. In the analogue test, which measures efficiency in working out logical relationships, the Chinese are especially poor. Even if ample allowance were made for differences due to time consumed in making the Chinese characters, the efficiency of the Chinese would not be anywhere near that of Americans. The test was especially difficult for them. In the spot pattern test there were no language difficulties whatever, and the Chinese were on an entirely equal footing with Americans. The efficiency of the Chinese boys who took the test was 10.5 per cent. below that of Americans. Unfortunately we were unable to give this test to the girls. If the averages of the various tests are combined, the efficiency of the Chinese boys is found to be about 84 per cent. of that of Americans, while the efficiency of Chinese girls is only 77 per cent. of that of American girls.

The sex comparisons are very interesting. Studies of American school children have shown girls to be better developed mentally in nearly all characteristics than are boys of corresponding age. This is not true in the case of the Chinese. In all the tests given, including the two association tests not here reported, Chinese boys excel girls of the same age, except in the single case of logical memory. Generally speaking, the Chinese girl does not show up as well when compared in mentality with American girls of the same age, as does the Chinese boy when compared with the American boy of the same age. This is true, it will be remembered, in the case of physical development also.

If the American mental and physical sex norms be taken as the standard of comparison, the Chinese boys and girls stand to each other as 93:83 physically, and 84:77 mentally. These ratios are almost identical, the Chinese girls being 2.4 per cent. nearer the boys mentally than they are physically.

The Chinese studied live in a warm climate, on the border of the tropics. Physical measures of northern Chinese might show better physical development.

It is evident from Table IV. that the Chinese are particularly good in rote memory, relatively good in logical memory, and the boys fairly quick in learning (substitution). Both sexes are very poor in the logical relations test. In the spot pattern test the Chinese are on a complete equality with Americans so far as all conditions of the test are concerned, and on this test they come within 10 per cent. of the American averages.

How significant are these differences? In the writer's study of the American negro a much larger racial difference was found, although the negroes studied lived in the same climate.
cities with Americans, using our language.

having similar schools and courses of study,
and having the same general environment.
The results show the mentality of Chinese
boys to be 84 per cent. of the average for white
boys. The corresponding per cent. for negro
boys is only 64.6. The average for Chinese
girls is 77 per cent. of the average for Ameri-

can girls. The corresponding per cent. for
negro girls is only 67.8. It is interesting to
note that while negro girls are nearer to white
girls than negro boys are to white boys, the
reverse is true in the case of the Chinese.

In a recent unpublished study of all the
rural school children of a Missouri county, the
mental development of rural children was
found to be much farther below that of city
children than the difference here found be-

tween Chinese and these same American city
children. This means that the racial differ-
ences between the Chinese and Americans, as
shown by the tests, is less than that between
rural and urban American white children.

A consideration of all the factors involved
leads the writer to the opinion that the Chinese
studied would not have been much, if any, in-
ferior to the Americans with whom they were
compared, if they had been subjected all their
lives to the same or similar influences. This
is only an opinion, however, and much more
extensive studies will be necessary for an exact
comparison of Chinese native capacity with
that of Americans.

W. H. Pyle

SOCIETIES AND MEETINGS

THE NATIONAL EDUCATION ASSOCIATION

The Emergency in Secondary Education:
George D. Strayer, Chairman, N. E. A. Com-
mission on the National Emergency in Educa-

tion.

We are fortunate in the United States in the
fact that we have a larger percentage of
our population in secondary schools than is
true of any other country. The war emer-
gency has tended to reduce this enrollment.
There is a popular notion that boys and girls
can be of more use to their country in going
to work than in staying in school. We are

beginning to realize, however, that the most
important contribution that a boy or girl can
make to the welfare of the nation is to be
found in securing the intellectual training
which the school provides.

It has been said that this war is a war of
engineers. It might as well be said that it is
a war in which superior intelligence will, in
the long run, bring victory. We need to keep
every capable boy and girl in school through
the secondary-school period and on through
the university and professional school, if we
are to win out after the world struggle which
will persist even beyond the day of the declara-
tion of peace.

The present emergency has made us con-
scious of certain alarming deficiencies in our
scheme of secondary education. We know
now that we have postponed too long the period
of beginning the secondary-school studies.
We, in common with the more highly civilized
people of the world, should undertake the
serious work of the secondary school at twelve
rather than at fourteen years of age. At
present American boys and girls of eighteen
years of age are approximately two years be-
hind their European contemporaries in intel-
lectual training. We prided ourselves, and
rightly, on the physical and mental alertness
of our youth. But we may not be satisfied
with our scheme of education until we have
accomplished vastly more than we now do, in
intellectual training during the secondary
school period.

Intermediate schools are being established
beginning with what is now the seventh year
of the elementary school and providing op-
portunity for boys and girls of twelve and
thirteen years of age to begin the subjects
which are now found in the first year of the
high school.

Differentiated courses of study in the inter-
mediate schools should provide not only for
those who are to go on through the high school
and college, but as well for boys and girls who
are to go into commerce, into industry, or who
are to contribute through the development
of special skill in trades.

A very much larger provision should be