tion to our knowledge of increase in production which has been made since Mill wrote.\textsuperscript{a}

Dr. Burns has been appointed a member of the research staff of the National Bureau to assist Dr. Mitchell on his forthcoming volume on business cycles. The Strategic Factors in Business Cycles, by John Maurice Clark; 200 pp., $1.50.

Professor Clark's report to the Committee on Recent Economic Changes, which the National Bureau is publishing, is in galley proof. Orders are now being filled.

The volume is composed of six parts:
I. Theoretical Approach to the Problem
II. Typical Cycle Patterns
III. General Movement, 1922-1929
IV. Special Features of the Last Cycle
V. Another Approach: Meaning and Requirements of Balance
VI. The Strategic Factors

There will be an introduction by the Committee on Recent Economic Changes.

**PUBLICATIONS, 1921-1933**

1. **INCOME IN THE UNITED STATES**
   - By William C. Mitchell, Hulio K. King, Frederic R. MacRae, and Oswald W. Knutson
   - Volume 1 (1922), 120 pp., $4.00
   - Volume 2 (1923), 200 pp., $6.00

2. **INCOME IN THE UNITED STATES**
   - By Oswald W. Knutson
   - 1924, 300 pp., $12.00

3. **INCOME IN THE UNITED STATES**
   - By Oswald W. Knutson
   - 1925, 300 pp., $12.00

4. **BUSINESS CYCLES AND UNEMPLOYMENT**
   - By the National Bureau Staff and 16 Collaborators
   - 1926, 400 pp., $4.10

5. **EMPLOYMENT AND EARNINGS IN PROSPERITY AND DEPRESSION, UNITED STATES, 1926-32**
   - By William L. King
   - 1927, 100 pp., $2.00

6. **THE GROWTH OF AMERICAN TRADE UNIONS, 1900-1923**
   - By Leo Wolman
   - 1928, 100 pp., $2.50

7. **INCOME IN THE UNITED STATES: ITS SOURCES AND DISTRIBUTION, 1910 AND 1921 (1925)**
   - By Maurice Laven
   - 250 pp., $2.50

8. **BUSINESS ANNALS (1926)**
   - By William L. Thorp, with an introductory chapter, Business Cycles as Revealed by Business Annals, by W. C. Mitchell
   - 300 pp., $2.50

9. **MIGRATION AND BUSINESS CYCLES (1926)**
   - By Harry J. Swenson
   - 250 pp., $2.50

   - By William C. Mitchell
   - 400 pp., $5.00

11. **THE BEHAVIOR OF PRICES (1927)**
   - By Frederick C. Mills
   - 500 pp., $1.00

12. **TRENDS IN PHILANTHROPY (1928)**
   - By William L. King
   - 150 pp., $1.00

13. **RECENT ECONOMIC CHANGES (1929)**
   - By the National Bureau Staff and 16 Collaborators
   - 1929, 2 vol., 950 pp., per set, $7.50

14. **INTERNATIONAL MIGRATIONS**
   - Volume II, (1931), compiled by Walter F. Welsch
   - 1931, 2 vol., 1,800 pp., $7.50

15. **THE NATIONAL INCOME AND ITS PURCHASING POWER (1933)**
   - By William L. King
   - 300 pp., $1.00

16. **CORPORATION CONTRIBUTIONS TO ORGANIZED COMMUNITY WELFARE SERVICES (1933)**
   - By Pierre Williams and Frederick C. Croaton
   - 300 pp., $2.00

17. **PLANNING AND CONTROL OF PUBLIC WORKS (1936)**
   - By Lewis E. Millim
   - 200 pp., $2.50

18. **THE SMOKING OF TIME SERIES (1937)**
   - By Frederick C. Mills
   - 175 pp., $2.00

19. **THE PURCHASE OF MEDICAL CARE THROUGH FIXED PERIOD PAYMENT (1937)**
   - By Pierre Williams
   - 300 pp., $3.00

20. **ECONOMIC TRENDS IN THE UNITED STATES: ASPECTS OF PEACE AND POST-WAR CHANGES (1938)**
   - By Frederic C. Mills
   - 300 pp., $5.00

21. **SEASONAL VARIATIONS IN INDUSTRY AND TRADE (1938)**
   - By Simon Kuznets
   - 450 pp., $4.00

\* One of a series.

\*1 Certain measurable characteristics of the price changes in these eight countries are summarized in the following tables:

<table>
<thead>
<tr>
<th>Country</th>
<th>Date of Indexes</th>
<th>Change in terms of national currencies</th>
<th>Decrease in terms of gold values</th>
<th>Change in terms of gold values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>Feb, 1923</td>
<td>-50</td>
<td>-50</td>
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</tr>
<tr>
<td>Greece</td>
<td>May, 1923</td>
<td>-50</td>
<td>-50</td>
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</tr>
<tr>
<td>Italy</td>
<td>March, 1923</td>
<td>-50</td>
<td>-50</td>
<td>-50</td>
</tr>
<tr>
<td>Austria</td>
<td>June, 1923</td>
<td>-50</td>
<td>-50</td>
<td>-50</td>
</tr>
<tr>
<td>United</td>
<td>Aug, 1923</td>
<td>-50</td>
<td>-50</td>
<td>-50</td>
</tr>
<tr>
<td>States</td>
<td>Nov, 1923</td>
<td>-50</td>
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</table>

With reference to purely domestic conditions, primary interest attaches to changes in terms of national currencies. Gold values are of major importance in connection with international relations. It is notable that in five of the eight countries here listed wholesale prices in terms of gold values advanced in 1933.

\*2 For the immediate purpose the outstanding feature of these movements is found in the character of recent changes occurring in the United States. In regard to both the rate of advance and persistence of advance, the movement in this country has been notable.

**CHARACTERISTICS OF THE RECENT PRICE REVERSAL IN THE UNITED STATES**

In the United States the force of reviving business activity, coupled with departure from the gold standard, brought an advance of 15 per cent in the level of commodity prices, at wholesale, within a period of seven months—a very substantial gain. But the mere record of average advance gives little information about the nature and economic significance of this change. It is recognized that unique forces contributed to the price advance that began in the United States in the early spring of 1933. It is the more interesting, therefore, to inquire whether the resulting movements of prices were of the type commonly found in cyclical revivals, or whether the entire price movement of 1933 has been of a quite exceptional character. Such information has an obvious bearing upon any judgment concerning the nature of this recovery and its probable future course.

One fact that is clearly revealed by a study of the current price movement is that it has been a more compact rise, a rise more generally shared by commodities at large, than is usual in cyclical upturns following business depressions. Such movements are usually slow to get under way. The force of recovery...
FIGURE 1
ILLUSTRATING THE CHANGES IN WHOLESALE PRICE LEVELS IN TERMS OF NATIONAL CURRENCIES.
JANUARY, 1929, TO SEPTEMBER, 1933

EIGHT COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
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<tr>
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<td>100</td>
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<tr>
<td>France</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<td>100</td>
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<tr>
<td>Italy</td>
<td>100</td>
<td>100</td>
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<td>100</td>
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<tr>
<td>Netherlands</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

The index numbers here cited define changes in the average per-unit purchasing power, at wholesale, of commodities in the groups named. That is, the changes shown are in all cases changes relative to the wholesale price index. A commodity that rises in price less rapidly than the general average during a period of rising prices or falls more rapidly than the price index during a period of declining prices loses in purchasing power, per unit. The reverse is true of a commodity that rises in price more rapidly than the general average during a period of price advance, or falls less rapidly during a period of price decline. It is such shifts in relative position, rather than absolute price changes, which affect the real worth of a commodity (that is, its per-unit purchasing power, in terms of other commodities).

The movements here shown are measured with reference to July, 1929, as a base. Between that month and the low point of the price recession in February, 1933, raw materials lost 10 per cent in real worth (or purchasing power), per unit, while manufactured goods gained 11 per cent. Foods lost 19 per cent, non-foods gained 12 per cent. Most striking were the changes affecting raw farm products and all other products, the former group losing no less than 36 per cent in real worth, per unit, the latter gaining 11 per cent. Producers' goods (that is, raw materials or other goods which must undergo further changes in form before being ready for consumption, or which are intended for use in the construction of capital equipment) fell high; agricultural products suffered much more severely than did non-agricultural products; foods intended for ultimate consumption declined more severely than did goods intended for use in the construction of capital equipment. Such inequalities, developing over a short period of time, present obvious barriers to the resumption of normal economic activity. The effect of the price advance of 1933 on these inequalities is a matter of considerable interest.

Changes in the relative standing of different groups of commodities, as priced in wholesale markets, are shown in Table 1. These measurements are presented graphically in Figure 2, on page 5.
of conflicting tendencies. Table 2, showing month-to-month movements of prices in those several groups, as well as net changes, bears on this question. The measurements here given relate to actual prices, not to purchasing power.

The retardation of the rate of advance in the general wholesale price index between July and September, after three months of very rapid rise, has already been noted. The measurements for the sub-groups show clearly the nature of the reversal of the tendencies which prevailed during the five months preceding, leaving only six of the months from February to July raw materials, raw farm products and producers' goods rose at rates more rapidly than those prevailing among their complementary groups for the remaining months. With the exception of but one month the same is true of foods. That is, the upward push of revival was felt most immediately and forcefully by the commodity groups most severely depressed in price. But from July to August and from August to September the precise reverse was true. Those groups which had previously advanced most rapidly in price declined, or rose slightly, while the groups which had been most successful in resisting the price recession of the preceding years, and which had previously lagged on recovery, spurred ahead. This apparent shift in the incidence of price recovery took place in each of the four commodity divisions shown in Table 2.

Recession and Recovery

Among Producers' and Consumers' Goods

A study of broad categories may fail to reveal extremely divergent movements among the prices of commodities in subordinate groups. It is desirable, in particular, that we follow the changes occurring among different classes of producers' and consumers' goods.

Measurements appear in Table 3. They are shown graphically in Figure 2. It is clear that the index for all producers' goods, which shows a loss of 4 per cent in real worth, per unit, between July, 1929, and February, 1933, does in fact conceal some highly divergent movements among different classes of such goods. Real producers' goods lost 20 per cent of their per-unit worth during this period of recession, while processed producers' goods gained 15 per cent in real worth per unit. The general recovery of raw material prices which began in March, 1933, helped to lessen this disparity.

More notable, however, are the differences revealed by the second set of figures in the producers' goods group. Producers' goods intended (after further fabrication) for direct human consumption lost 26 per cent in average per-unit purchasing power during the period of declining prices that ended in February, 1933. This great decline, coupled with the tardiness of changes in the prices of other producers' goods, brought substantial increases in the worth of such other goods, in exchange for commodities in general. Commodities intended for use in capital equipment (other than building materials) rose 18 per cent in per-unit purchasing power, between July, 1929, and February, 1933, while goods intended for use as building materials rose no less than 23 per cent. This means that the power of producers of other goods to buy building materials and articles of capital equipment was substantially reduced during the depression. The high prices of such equipment served as a strong barrier to the initiation of programs of capital extension. (Other factors, of course, worked in the same direction during this period.)

But here, also, the recovery of the spring and summer wrought great changes. The first effect of price recovery was definitely correctional, in that price disparities developing during the recession were sharply reduced. Within five months a loss of 26 per cent in the relative worth of a unit of producers' goods intended for human consumption, after fabrication, was reduced to 11 per cent. Over the same period the gain in per-unit worth of goods entering into capital equipment was reduced from 18 to 8 per cent. Building materials were reduced also, in purchasing power, but by a smaller amount. Between July and September the trend toward recession price relations among different classes of producers' goods was checked, and in some instances reversed. Raw pro-

ners' goods and producers' goods intended for ultimate human consumption lost some of their earlier gains; building materials, already high in per-unit, advanced fractionally. But goods intended for use in capital equipment, which were relatively high-priced, declined slightly in real value.

Among goods ready for consumption, the gap between raw and processed categories was less pronounced than among producers' goods, but it was still

FIGURE 2

GRAPHIC REPRESENTATION OF CHANGES IN THE REAL VALUES, PER UNIT, OF COMMODITIES IN SELECTED GROUPS. JULY, 1929, TO SEPTEMBER, 1933

CHARTS ARE MEASURED BY PERCENTAGE CHANGES FROM JULY, 1929, PARTLY IN INDEXES, WHOLESALE PRICES

A. MAJOR GROUPS

...
wide, at the low point of the depression. This gap was very greatly reduced by the recovery, up to July, but was opened again by the price movements occurring between July and September.

One of the most interesting comparisons to be drawn from these figures is that between producers' goods intended for consumption, after fabrication, and processed consumers' goods. These two groups are representative of the same general class of commodities at successive stages of fabrication and distribution, though precisely the same commodities, at successive stages, are not included in the two groups. At the producers' goods stage, as we have seen, there was a drop of 26 per cent in per-unit-purchasing power between July, 1929, and February, 1933; at the consumers' goods stage there was an advance of 8 per cent. (In terms of actual prices, these shifts were due to a drop of 54 per cent in the average wholesale price of producers' goods, a cost-of-living rise of some 27 per cent in consumer goods, and a decline of 33 per cent in the average wholesale price of processed consumers' goods. The average price of all commodities fell 35 per cent.) Here was a notable widening of the price differential representing the cost of the services of fabricators and distributors, a development with important economic significance.

For the drop in the prices of goods bought by producers for fabrication lessens the income and curtails the purchasing power of the sellers of these goods. The drop in the incomes of consumers, and the failure of the prices of finished consumption goods to decline correspondingly, check the buying power of the sellers of final consumers. This particular discrepancy reflected a serious disruption of the normal processes of buying and selling and a serious reduction in the volume of trade and consumption. This major disparity was materially reduced by the recovery in July and August. Consumption goods awaiting fabrication were lifted to within 11 per cent of their pre-recession parity with all commodities, while finished consumers' goods were reduced to within 2 per cent of that parity. The correctional push of price recovery was nowhere so clearly evident as here. But here also, from July to September, the gap was widened again. Reference to the figures for foods and non-foods, within each of these main categories, reveals a striking recent drop in the real worth of food products, at the producers' goods stage, and an equally striking advance of non-foods, at the consumers' goods stage. It is these two movements, predominantly, which have opened a wider gap between the two major groups in the months just past.

For these groups, also, we may trace month-to-month changes in actual prices. The shifting incidence of the stimulus to price recovery is best revealed by such measurements. These appear in Table 4.

Here again we find it to be generally true that the first stimulus to price recovery was felt among the most severely depressed class of goods, and that upward pressure was maintained among such goods through the month of July. Thereafter there occurred the shift already noted. Those goods which had lagged behind up to that point—processed producers' goods, processed consumers' goods, building materials began to pick up. The contrast is not so clearly drawn as in the case of the major divisions of goods first discussed, but it is there. In the main, the price advance from July to September was led by goods already high-priced, whereas the advance from February to July was predominantly due to increases among low-priced elements of the price structure.

Recent Movements of General Elements of the Price Structure

For a more complete picture of the current price situation we should trace recent changes beyond the field of wholesale prices. Some relevant measurements appear in Table 5. All elements of the price system suffered in the distress that began in 1929. Here, again, we note a fairly diverse fortune. A drop of 38 per cent in wholesale prices between July, 1929, and February, 1933, occurred concurrently with declines of 26 per cent in the general cost of living, 41 per cent in retail food prices, 41 per cent in department store and mail order prices of clothing and house-furnishings, of 65 per cent in prices received by farmers, and of 24 per cent in prices paid by farmers. In the field of earnings, which lies outside the system of commodity prices proper, there occurred a decline of 23 per cent in the average hourly earnings of manufacturing labor, a drop of 35 per cent in the per-capita earnings of labor employed in manufacturing plants. These figures reveal the latter index, of course, defines a change in a sum, not in a price or rate, and is not strictly comparable to the other measurements cited.

Table 4

<table>
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<td>62.0</td>
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<td>72.0</td>
<td>72.3</td>
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<td>Prices received by farmers</td>
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<td>73.1</td>
<td>71.2</td>
<td>69.0</td>
<td>67.3</td>
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<td>66.0</td>
<td>67.3</td>
<td>67.5</td>
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<td>Prices paid by farmers</td>
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<td>Average per-unit purchasing power of farm products</td>
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<td>95.6</td>
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</tbody>
</table>

* October, 1929.

1 Estimated.

2 The index numbers of wholesale prices and retail food prices are those of the United States Bureau of Labor Statistics. The indices of cost of living and hourly earnings have been compiled by the National Industrial Conference Board. The index of farm prices of clothing and house-furnishings is compiled by the United States Department of Agriculture from prices published by the United States Department of Agriculture and from prices paid for commodities used in production and facility maintenance. The index of per capita earnings for manufacturing labor has been derived by dividing the Federal Reserve Board's index of hourly earnings by the corresponding index of employment. The change in per capita earnings from August to September, 1933, has been estimated from data published by the Bureau of Labor Statistics.

3 Ratio of index of average prices received by farmers to index of average prices paid by farmers for commodities used in production and facility maintenance.

4 Ratio of index of average weekly earnings of manufacturing employees to index of cost of living of industrial workers.

Table 5

<table>
<thead>
<tr>
<th></th>
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<td>Prices paid by farmers</td>
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<td>Average per-unit purchasing power of farm products</td>
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<td>52.7</td>
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<td>Hourly earnings, employed manufacturing labor</td>
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<td>Per capita earnings, employed manufacturing labor</td>
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<td>83.0</td>
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1 Estimated.

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3 Ratio of index of average prices received by farmers to index of average prices paid by farmers for commodities used in production and facility maintenance.

4 Ratio of index of average weekly earnings of manufacturing employees to index of cost of living of industrial workers.
The changes taking place between February and July served definitely to lessen disparities among the economic elements of the country. The tendency to this may be followed most readily on Table 6, which shows the varying rates of change, month by month, among these several factors.

During the first five months of price recovery the more rapid advances occurred among the more depressed elements—prices received by farmers, retail food prices, wholesale prices. A decline occurred in the average hourly earnings of manufacturing labor.

Between July and September there was not the general reversal of tendencies that occurred among wholesale price groups, but something similar took place. Of the three seriously depressed price groups which had risen rapidly from July to January, prices received by farmers, declined, while two (retail food prices and general wholesale prices) advanced at much lower rates. Foods, in fact, were unchanged between August and September. Retail prices of clothing and house-furnishings and prices paid by farmers jumped sharply upward. Perhaps most marked was the advance in the average hourly earnings of manufacturing employees, an advance of no less than 9 per cent in the single month from July to August. Here, of course, the influence of newly established codes is evident.

These records do not permit a complete appraisal of the changes occurring in all parts of the price system. It is clear that the movements of the last two months have more or less affected the traditional tendencies prevailing among farm prices and the prices paid by farmers. The rise in general living costs through August and September, the advancing hourly and per capita earnings. Between August and September, however, average per capita earnings of manufacturing employees declined, while living costs continued to advance. The very rapid climb of retail prices of clothing and house-furnishings in August and September and the relatively lagging advance of food prices through August point to the clear possibility of an accentuated advance in general living costs in the near future. 1

RECENT PRICE MOVEMENTS VIEWED AGAINST A PRE-WAR STANDARD

The use of July, 1929, as a standard of reference in price comparisons seems to involve the assumption that the relations then prevailing were 'normal.' This is, of course, far from being the case. There is no one normal system of relations among commodity prices which must prevail if the economic system is to function smoothly. The use of the 1929 standard as a provisional criterion may be justified on the ground that pre-recession relations had existed for some time, during which time the economic system functioned in a manner approximating the pre-recession period.

The considerable increase that occurred between February and September in retail food prices and prices received by farmers illustrates the tendency to an approximate equality of retail and house-furnishings, increases of the same order of magnitude as the advance in wholesale prices, constitute somewhat novel elements in a recovery situation. The traditional tendency of retail prices to lag behind wholesale prices, and to fluctuate much less widely, is now being exemplified. Indeed, the preceding price declines in these two groups exceed the average decline in wholesale prices. However, neither of these index numbers can be taken to represent general prices at retail, which have undoubtedly been more sluggish than those measurements would indicate. The increase in retail prices is one to clothing and house-furnishings as priced in 36 retail organizations that change hourly earnings of manufacturing labor and the national hourly earnings of manufacturing labor. But it is probably true, however, that the traditional sluggishness of retail prices has been considerably reduced during the present price rise. There is no such break in wholesale prices, and cause dealers to follow more flexible policies in buying and changing prices. Again, the growth of changes in retail, and the increasing scope of retail department store prices have placed in positions of greater dominance, in the total price situation, than they have been aware of general business changes, and who are quick to adjust their prices to changes in prevailing conditions.

A more accurate measure of changes in the average per-unit purchasing power of farm products would take account of changes in the quality of goods purchased. Quality variations enter to complicate most measurements of changes in commodity prices and in the volume of production, usually in wiser terms, than who are aware of general business changes, and who are quick to adjust their prices to changes in prevailing conditions.

The table shows the quality of goods purchased is related to the index of prices. For example, the quality of the product—efficiency of farm machinery increased 70 per cent between 1922 and 1932. However, it is true that the index of prices of farm machinery which has been marked by steady improvement in quality with the advances in technology, the index of prices of farm machinery is the best index of prices of farm machinery. Index of prices of farm machinery is the best index of prices of farm machinery. Index of prices of farm machinery is the best index of prices of farm machinery. Index of prices of farm machinery is the best index of prices of farm machinery. Index of prices of farm machinery is the best index of prices of farm machinery. Index of prices of farm machinery is the best index of prices of farm machinery.

The post-war cheapening of raw materials, and corresponding enhancement of the real worth of manufactured goods, is a matter of common knowledge. Between 1921 and 1929 a slow movement toward pre-war relations had prevailed, though a margin still existed. This had been greatly widened by February, 1933. Subsequent changes, up to July, 1935, raised raw material prices more rapidly than the prices of manufactured goods, bringing their respective values closer to 1913 parity. The reversal of movement in August and September ear-

1 Estimated.

2 The index of wholesale prices is that of the U. S. Bureau of Labor Statistics for the year 1921 as the base. The index of cost of living has been secured by using the monthly index of the National Industrial Conference Board, to the average index of the U. S. Bureau of Labor Statistics for the years 1922-1929 as 100. Wholesale prices for manufacturing labor as worked out through the use of the Bureau of Labor Statistics average earnings of manufacturing wage earners. Other sources are given in Table 1.

3 National Bureau of Economic Research.
One rather striking feature of Table 8 has to do with the relations between producers' goods and consumers' goods. The entries indicate that producers' goods have been undervalued (with reference to 1913 standards) during the entire period since 1921, and that the relations between producer and consumers' goods in July, 1933, with respect to per-unit purchasing power, were precisely the same as those prevailing in 1921 and in July, 1929. But these two large categories must be broken down, if we are to have an accurate picture of recent price movements. More detailed measurements are given in Table 9.

The low prices of raw producers' goods, it is apparent, kept the purchasing power index for all producers' goods below parity with consumers' goods. Processed producers' goods were relatively high priced following the depression of 1929-31, and were materially advanced in relative worth by the changes occurring between July, 1929, and February, 1933. In the latter month 12 of the 15 goods had a per-unit worth of 29 per cent lower than in 1913, processed producers' goods stood 14 per cent above that standard. Recent movements have brought these two indexes closer together, but a substantial margin persisted in July, 1933. Consumers' goods, both raw and processed, have remained above the general average of prices since 1921, though their respective positions have been altered by recent movements.

Perhaps most significant of these groupings is that which distinguishes producers' goods intended for human consumption, after fabrication, and goods intended for use in capital equipment. The relatively high value of goods entering into capital equipment and the low value of producers' goods intended for sale to consumers, after fabrication, have been notable features of the entire post-war adjustment. This has meant relatively low material costs for manufacturing enterprises, with consequent opportunities for operating profits, but high costs of capital goods. New plants, built at high cost, and expensive industrial equipment swell investment values appreciably during this period. The present measurements show that relatively high charges for new capital equipment persisted throughout the depression that began in 1929. Between July, 1929, and February, 1933, the per-unit worth of goods for use in, but equipment in, had risen from a level 3 per cent above the 1913 standard to a level 22 per cent above that standard. In February of this year the purchasing power of producers' goods intended for ultimate human consumption stood 35 per cent below the 1913 base.

We have no historic record of such a wide gap as this, between the two varieties of cost which producers must meet. The cost of new capital investment, at such prices, was practically prohibitive. But this difference, too, was appreciably reduced by the price changes of 1933. By July, 1933, the index of per-unit worth of producers' goods for human consumption had risen to a level 22 per cent below the 1913 standard, while the corresponding index for capital equipment had fallen to a level 4 per cent below that standard. The latter figure, very close to that of 1921, still represents capital costs which appear unduly high, with reference to past practices. This figure for capital equipment was slightly below the July entry—a promising sign in view of the other changes which had occurred.

The relations between the prices, and the per-unit purchasing power of producers' goods intended for ultimate human consumption, after fabrication, and the corresponding measurements for processed consumers' goods are of exceptional interest. These classes of goods (though not identical in composition) represent two distinct stages along the path followed by goods in the course of their fabrication and distribution. The index numbers of purchasing power appear in Table 9. The recession of 1920-21 brought a sharp drop in the average real worth of goods awaiting fabrication, and in indices for consumption and direct use. At the same time there were substantial advances in the real worth, per unit, of processed consumers' goods. After this depression there was no restoration of earlier price relations. Processed consumers' goods remained on a level of real values permanently higher than in 1913. Sellers of producers' goods intended for human consumption suffered an enduring loss in economic power, while the purchasing power of consumers in goods sold was maintained through higher industrial wages and higher incomes in certain other groups of income recipients. The economic system moved forward under a modified set of price relations. The recession of 1929-33 ascertained the disparity between these two commodity groups. In February, 1933, the index of per-unit purchasing power of consumption goods, at the producers' goods stage, was 35 per cent below the 1913 standard. The index for similar goods ready for consumption was 14 per cent higher than in 1913. Price declines among goods purchased by manufacturers for fabrication and sale to consumers were not accompanied by corres-
Conclusion

Price Relations and Economic Recovery

The price situation at the beginning of 1933 was marked by certain outstanding characteristics. Prices to consumers of finished goods were high, with reference to the prevailing price level; the prices of raw materials, on which the incomes of important consumers and industries depend very low. These prices received by producers of agricultural products, in particular, were seriously depressed, while the prices paid by farmers for goods needed for production and for family maintenance were high. Low prices of the raw materials of industry, coupled with relatively high prices for finished goods, put manufacturers in an advantageous position, on the operating side. (This price advantage, of course, was largely fictitious, because production costs were so low, actually, morally.) On the investment side, however, there prevailed relatively high prices for goods entering into capital goods, building materials, a condition which (with other circumstances) tended to restrict activity in industries producing capital goods. Afarmers' income needed to stimulate recovery and the prospect of relief from depression was thus reduced materially in potency.

These conditions presented certain definite problems. One was how the flow of goods to consumers could be stimulated with the real value of raw materials so low, in comparison with earlier standards, and with the real value of consumers' goods so high. The restoration of activity in capital goods-producing industries depended upon the ability of consumers to spend the real value of the new equipment extravagantly high, constituted a second major goal.

As regards the first of these problems three alternatives existed, on the price side. One was a resumption of activity under the renewed low prices for raw materials and relatively high prices for finished goods. A second was continued liquidation of finished goods until something approaching pre-recession parity with raw materials was restored. A third was the restoration of more satisfactory terms of exchange between raw and finished goods through advances in the prices of raw materials, rather than through further liquidation of manufactured goods.

It is evident that none of these alternatives is an impossible one. A modern economic system functions according to one rigorously prescribed set of conditions, but may adapt itself to a variety of circumstances. But with a gap as wide as that prevailing in the winter of 1923-33 it was highly improbable that working relations among economic elements could be restored on the old basis. The situation was abnormal, and due to the fact that we were using our productive resources, our investments of capital, the economic distribution of man-power were not, and could not be, anything like what existed in the effective period of four years of deep disturbance. Radical shifts in the distribution of income and enduring changes in the standards of living have been involved, that changes more profound and disturbing than would have been accepted without continuing social unrest. The restoration of price relations closer to those prevailing at earlier times, a restoration to be effected through continued liquidation of prices still substantially above the average or through the raising of the most seriously depressed prices, seemed to be the essential condition of economic recovery. So also the economic system itself, came down to the central question whether the prices of goods entering into capital equipment could be brought more closely into line with other prices, either through the raising of other prices or the reduction of the prices of capital goods and building materials.

The recovery that was initiated last March tended definitely, up to the present, to restore earlier relations through a relatively rapid advance of the more heavily depressed prices. In all the major groups reviewed, in which widely disparate price relations existed at the beginning of 1933, the first effects of revival were definitely correctional in character. The inceler of price-raising forces seemed to be precisely that which was economically desirable. Although the advance appeared to reflect a swift reaction to changed economic processes, this was not so. The stage of rapid upsurge in the process of recovery, the initial effects on the price structure were unquestionably salutary. With the check to the general price advance in mid-summer the pressure of price change was shifted. Commodities groups which had most successfully resisted the price decline of the preceding four years, and which had moved upward but slowly during the first months of recovery, began to feel the pull of changing values, while there was a clear advance around the more depressed groups previously most active. As a result, the general price advance quite definitely changed its character during the middle months of the first-priced commodities.

During a period of violent change in economic conditions, marked by wide fluctuations in the average level of prices, rigidity in some parts of the price structure tends to prevent prompt adaptation of all the elements of that structure to the prevailing situation. As a result it is possible for these elements to be merely symptoms and become themselves active forces, confounding the process of physical readjustment. And since the readjustment of physical output, production (or production, trade) to sharply modified price relations is likely to be an extended and economically painful process, price disturbances may constitute real barriers, in a positive sense, to a prompt restoration of full economic activity.

References in the text to price disparities, in relation to the problem of restoring working physical relations among the elements of our economic life, are to be interpreted with this general statement in mind.
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Production Trends in the United States Since 1870, by Arthur F. Burns. 350 pp., 21 charts, 54 tables; $3.50.

The National Bureau announces the publication in November of Production Trends in the United States Since 1870 as Volume 23 of its series of research reports. This study, which was made by one of the 1931-32 research associates at the National Bureau, is now in page proof and will be published to subscribers at an early date.

Dr. Burns' book presents the results of an intensive study of the production trends of individual industries and of the trend of total production. Dr. Burns finds that the rates of growth of individual industries decline as their age increases; that the economic system is characterised by major cyclical swings, and that these major swings are related to business cycles. The study of individual commodities is supplemented by a detailed analysis of production indexes.

The volume includes a summary chapter by Dr. Mitchell. Also, a complete tabulation of over one hundred production series—many of them inaccessible to most students—is given in an appendix. In his introduction Dr. Mitchell says that the reader will find in this volume "the most important contribu-

APPOINTMENT OF EUGEN ALTSCHUL

The generosity of the Maurice and Laura Falk Foundation of Pittsburgh, Pennsylvania, enables the National Bureau of Economic Research to bring Eugen Altschul, formerly of the University of Frankfurt, to this country as an associate on its research staff for one year.

Dr. Altschul already has associations with the National Bureau as the director of the Frankfurter Gesellschaft für Konjunkturforschung and as the Editor of the German translation of Dr. Mitchell's Business Cycle: The Problem and Its Setting. The series of seventeen publications of this organization under the editorship of Dr. Altschul includes a volume (No. 7) by Dr. Simon Kuznets of the National Bureau staff, entitled Westen and Bedeutung des Trends.

For the past few months Dr. Altschul has been in London assisting Sir William Beveridge on the English section of the international investigation of price histories. His presence on the research staff of the National Bureau makes possible the addition of a special analysis of agricultural movements to its studies of business cycles.

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