U. S. DEPARTMENT OF LABOR
W. B. WILSON, Secretary
BUREAU OF LABOR STATISTICS
ETHELBERT STEWART, Commissioner

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Contents.

MONTHLY LABOR REVIEW

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Tonnage Output Per Pick Miner Per Day in Bituminous Coal Fields.

By Ethelbert Stewart, United States Commissioner of Labor Statistics.

AVERAGE production per man per day expressed in tonnage of coal is too commonly presented in statistical statements without any explanation of its meaning, significance, or lack of significance. One prolific cause of the general dissatisfaction of coal workers in England and the United States is the assertion that output per man is decreasing in the mines, with the inference that coal miners are progressively inefficient from year to year, and the presentation and use of figures to prove this assertion. It must be borne in mind that in bituminous coal mining the actual coal miner is always a pieceworker, a tonnage man, paid on his tonnage output. When the statement is made that certain miners in a given mine earn $40 per week on a 75 cent rate, this means that such miners produce 53.3 tons each per week of 6 days or practically 9 tons each per day. But when the further statement is made that the average output per man has decreased from 3.7 to 3.2 tons per day it refers to a condition which is not within the control of the miner.

The method of arriving at the average output per man per day is to divide the total production by the total number of employees, both underground and aboveground, and this by the total days in operation (tipple time), to get the daily average. To say that the mines of Illinois, for example, averaged 238 days worked in 1918 does not mean that all of the mine workers could have averaged 238 days' work in that year. The "days worked" as computed represent the maximum of possibility for any part of the production labor force, and not the actual working time for any definite part of the employees. The days in which there was any "tipple time," or in other words any coal hoisted, are commonly reported as full days; it does not mean a full day's work for all employees. For example: Let us suppose a mine with a rated capacity of 10 cars per day. On Monday morning there are seen to be 5 empty cars on the track; the mine whistle blows and all employees report for work; half of the miners may go down and work all day or all may work a half a day; in any event there is but a half day's production, a half-day's earnings for all employees on a "full-time" basis. Tuesday morning 10 cars are on the siding; all employees put in a full day's work; the cars are quickly filled, and the miners and loaders fill all or most of the "pit cars," leaving them for a starter in the morning. Wednesday morning 2 cars are on the siding. The mine superintendent decides that there is a sufficient quantity of mined coal in the "pit cars" to load these 2 cars, and that no miners need go down. The machinery of the mine starts, however, and such men go down as will enable the operator to raise the necessary coal. There is "tipple time" to the extent

of loading two railroad cars, hence the mine is reported as "in operation." Here we have three days upon each of which there is active "tipple time," hence a report of three days' operation. On one of the days the miners work all day, on one they do not work at all, and on the other they work only half day or half force all day; in other words, three days are reported, with only one and one-half days' actual full-time employment or production.

This is neither an extreme nor an unusual case, and is cited to illustrate the essential fact that the statistics of time worked in coal mines shows the greatest length of time any proportion of the mine workers could have worked; they do not even indicate what proportion of the miners worked less than that time or any other definite time. The working time as reported in the statistics is based upon the machinery of the coal shaft, not upon the men. This is true of the coal production returns from all countries of the world. A considerable per cent of the actual miners are frequently employed driving entries and doing yardage and other work that should be charged either to maintenance or new development.

No figures are available which will show the actual one-man days' work performed by bona-fide miners in the bona-fide shipping mines, hence actual average daily production per miner is unknown and unknowable in the present condition of record keeping. Output may be increasing or decreasing; nobody knows. What is known is that the proportion of underground nonminers and aboveground men to actual miners is increasing, and the average output per employee is statistically decreased by increasing the number of nonminers. This is true of England as well as of the United States. In the coal mines of Silesia the number of women working underground, and pushing pit cars have increased some 300 per cent; and as the tonnage is admittedly divided by the "population of the mine," there is a corresponding decrease in per capita output per day regardless of the work of the actual miners. As to the increase in underground men, this may be necessary owing to the receding of working face from bottom of the shaft and the increased difficulty in getting the coal out after the actual miner has performed his work. There are many mines in Indiana and Ohio worked back 2 or 3 miles from the bottom of the shaft. This necessitates more track-laying, track repairing, and doubtless much additional underground labor of other kinds. As other labor is introduced, of course the average output per man per day is reduced without any relation whatever to the efficiency of the miner. As the coal miner is a pieceworker each additional miner must mean more coal, for the miner must get out tonnage or he earns no money. The more miners, therefore, the more coal; but this is not true of the other labor in and around the mines. This is all day labor, and the more there is of it the more is added to cost of production and the more is decreased the average tonnage per day per employee, under the present statistical methods.

Fallacy of Statistical Methods Employed.

AS a concrete example of the statistical methods referred to above, the Illinois Coal Report for 1918 is here cited. On the introductory page is this statement:

The report shows an increased production of 10,995,942 tons over last year. * * * There was an increase of 10,479 employees. Taking the shipping mines, which produce more than 98 per cent of the coal, as a basis, we find the number of mines was increased from 324 to 370, the working time increased 15 days, and the number of underground employees 7,389 more than last year. These increases account wholly for the increased tonnage, as an analysis of the figures shows that the average output per man per day is less than it was last year.

A fairer "analysis of the figures," however, reveals these facts: Taking the shipping mines for 1918 as compared with 1917, there were 88,017 employees in 1918 and 78,056 in 1917, an increase of 9,961. Of this increase only 1,454 were actual coal miners. In 1917 there were 28,486 machine miners, including 3,957 machine miners' helpers, and there were 24,951 pick miners, a total of 53,437 actual miners. The shipping mines operated an average of 215 days and produced 77,412,054 tons, or 1,449 tons per actual coal miner. This was 6.7 tons per miner per day. In 1918 there were 23,894 machine miners, or 27,869 including 3,975 machine miners' helpers. There were 27,025 pick miners, or a total of 54,894 actual miners, who contributed to the 88,036,228 tons of coal gotten out by the shipping mines in 230 days' operating time, i. e., "tipple time." This was 1,604 tons per actual miner per year, or 7 tons per miner per day.

What occurred in Illinois was typical of the whole bituminous field, as is shown by the real meaning of the following extract from "Coal in 1917" (p. 931):

> The most striking feature presented by the statistics of labor for 1917 is the relatively larger increase in the number of outside or surface employees in comparison with the underground labor in both bituminous and anthracite mining. In the bituminous mines the increase in the total men employed was 7.5 per cent; the underground employees, representing 79 per cent of the total in 1917, increased only 5 per cent, compared with 1916, whereas the surface labor increased 21 per cent.
>
> The reason for this difference is found both in the circumstances surrounding the labor market and in the greatly increased demand for coal that prevailed in 1917. The demand for coal was so great and the prevailing market price of coal so good that operators exerted every effort to increase their capacity and output. The most certain way to increase capacity is to put on more men, and, as experienced inside men were more difficult to obtain than day laborers, the outside force was augmented more rapidly and out of proportion to the normal requirements. Under the pressure for increased output the operators, apparently without regard to its effect on costs, added labor of any description.
>
> In the coal industry the productive labor is that done underground. Except for the very small percentage of the output obtained from steam-shovel pits, the coal is produced by the men inside. The average output per man per day (all labor considered) in 1917 was 3.77 tons of bituminous coal, a decrease of 3.3 per cent from 3.90 tons in 1916. If the largely increased number of total men in 1917 had worked no more days in 1917 than were worked in 1916 they would have produced, at the average daily rate per man, nearly 30,000,000 tons of bituminous coal less than they did. In other words, the decrease in the average effectiveness of bituminous mine labor in 1917 largely offset the increase in the supply of labor, and the large gain in output was the result of the greater number of days worked. Stated in another way, 7.5 per cent more men working 5.7 per cent more days produced in 1917 only 10 per cent more coal, because they were only 97 per cent as effective as in 1916.

The reasoning in the second paragraph of the above quotation could hardly appeal to a practical manager or superintendent of a coal mine. Given the fact that "the demand for coal was so great and the prevailing market price of coal so good that operators exerted every effort to increase their capacity and output," the following statement, "the most certain way to increase capacity is to put on more men, and, as experienced inside men were more difficult to obtain than day laborers, the outside force was augmented more

rapidly and out of proportion to the normal requirements," is one that could scarcely have emanated from a practical coal operator with the expectation that it would be believed by anyone in the industry. It would seem to be entirely possible in any year to "decrease the average effectiveness of mine labor" by increases of 21 per cent in the number of above-ground laborers, and any efficiency or effort of actual miners could be "largely offset by increase in the supply of labor" of the nonproductive sort.

There is a sense in which adding a large number of names to the pay roll may add to the shipment of coal from the mine, and hence of course the annual output, by giving the miners greater opportunity to work. This condition of things is purely artificial and the result of railway manipulation of car service. This is clearly stated in "Coal in 1918" (p. 714)[1]:

> When the number of cars ordered by operators for loading coal equals or exceeds the number that from day to day the railroads can furnish, the railroads prorate the available supply among the mines. The basis for this distribution is the relative capacity of the mines to produce and load coal, which is expressed in the "car ratings" established by the railroads. Thus the supply of cars received at each mine at the time when the operator has the greatest desire for the cars depends upon the mine rating.
>
> As just stated, the mine rating is determined by the capacity of the mine to produce and load coal. Anything an operator may do to increase this capacity will therefore increase his rating and thereby insure him a larger share of the cars available on his railroad. For example, if the combined ratings of mines on a railroad division are 100 cars per day, and the number of cars on that division available for placement at the mines for coal loading on a given day is 80, each mine is entitled to 80 per cent of its rating in cars. If there are 10 mines on this division, each rated at 10 cars per day, each mine is entitled to 8 cars from the total of 80. If one operator by adding to his supply of labor can increase the hourly rate of output by, say, 20 per cent, his rating will be increased to 12 cars per day and his share of the total cars available will thereafter be 20 per cent greater than before. As it is generally true that the mines are developed beyond the present labor supply, the desire to obtain more men and increase output in times of car shortage is logical and warranted. Individual operators can correctly say that they are short of labor. The point that must be clearly understood is that increases in employees in one or many mines will not at such times and under the conditions described increase the total production of coal. In the assumed case just cited, no matter to what extent one or several of the operators might increase the capacity of their mines by adding to this number of men, there would be only 80 cars to be loaded by the mines on that particular railroad division.
>
> * * * The explanation of this proportionately greater increase in outside labor (offered to the writer by those familiar with conditions at the mines) is that the years 1917 and 1918 were both periods of successively greater demand; that operators, in their efforts to increase the number of men at their mines and thereby their capacity, car rating, and car supply, added to their forces any and all labor obtainable; and that a large proportion of the new men could not be used underground and were therefore put at work on the surface.

In other words, the increase of 21 per cent in the number of men employed in the coal mines as shown in the report for 1917 were needed to get cars, not to get coal.

Development Work Charged to Labor Cost.

THERE is another element which must not be forgotten in discussing the alleged decrease in efficiency of men as shown by the method referred to of producing output statistics. In many of our mines the past few years have enabled the operators to show large profits. The

[1] United States Department of the Interior, Geological Survey. Coal in 1918. Part A, Production. By C. E. Lesher. Washington, 1920.

excess-profit tax does not appeal to the average business man Under our excess-profit tax laws he can employ labor for almost any purpose, and advantage was taken of this fact in not a few instances to do considerable upkeep work that had been neglected around the mines. The labor employed in maintenance and repairs and for new buildings was far in excess of what the industry had known before. Money was used to further extend the entries and driveways into the coal seams, far beyond the present necessities. In other words, the development work, which in all fairness should be charged to capital investment, or at any rate to maintenance, was charged to labor, and the work of the men who were simply getting out a little coal incidental to the yardage work done in driving entries was charged in the current statistics to cost of production. The following figures will give an idea as to the tendency to increase employment of this character.

NUMBER OF TONS PRODUCED AND NUMBER OF EMPLOYEES IN THE BITUMINOUS COAL INDUSTRY IN THE UNITED STATES, 1916 TO 1918.

[Figures compiled from "Coal in 1918," pp. 711, 716, and 717.]

Year.	Production (tons).	Employees.		
		Underground.	Surface.	Total.
1916	502,519,682	474,244	86,858	561,102
1917	551,790,563	498,185	104,958	603,143
1918	579,385,820	496,252	119,053	615,305

The Men Who Really Produce the Coal.

IT CAN not be said too often that these statistics of production per man per day in the bituminous-coal industry are ascertained by dividing the total tonnage by the total employees both under and above ground, and then dividing this quotient by the average number of days the mines run (tipple time). The miners produce the tonnage, but the manager regulates the number by which this is divided. The figure as to the tons produced per man per day is therefore merely a matter of statistical manipulation.

This movement, if conscious movement it is, or at least tendency to decrease relatively the actual coal getters, is general. The United States Fuel Administration, in Part III of the reports of its distribution division, gives quite general statistics along this line. The data there compiled are here reproduced in detail for the States comprising the central competitive field, and for all mines covered by the report named.

TOTAL NUMBER OF EMPLOYEES AND PER CENT OF MINERS, LOADERS, AND CUTTERS ON SPECIFIED DATES IN ALL BITUMINOUS MINES AND IN THE MINES OF THE CENTRAL COMPETITIVE FIELD.

All mines.

State and date.	Number of mines.	Inside workers.					Outside workers.	All workers.	Per cent of miners, loaders, and cutters.
		Miners and loaders.	Cutters.	Motormen, pumpmen, etc.	Others.	Total.			
Jan. 1, 1917	3,081	224,581	15,906	22,154	69,525	332,166	50,926	383,092	62.8
July 1, 1917	3,081	212,340	16,119	24,161	71,433	324,053	54,547	378,600	60.3
Jan. 1, 1918	3,081	216,463	16,556	25,164	75,055	333,238	55,627	388,865	59.9
July 1, 1918	3,081	196,139	16,121	24,949	73,349	310,558	57,382	367,940	57.7
Jan. 1, 1919	3,081	189,941	15,065	27,711	69,520	302,237	54,856	357,093	57.4

Central Competitive Field.

Illinois.									
Jan. 1, 1917	238	34,450	2,627	2,227	10,549	49,854	4,770	54,623	67.9
July 1, 1917	238	33,969	2,634	2,255	11,217	50,075	4,927	55,002	66.5
Jan. 1, 1918	238	35,382	2,779	2,368	12,422	52,951	5,697	58,648	65.1
July 1, 1918	238	21,935	2,621	2,352	11,682	43,912	5,322	38,590	63.6
Jan. 1, 1919	238	33,001	2,372	2,291	11,518	49,182	5,211	54,393	65.0
Indiana.									
Jan. 1, 1917	104	9,185	654	840	2,940	13,619	1,331	14,950	65.8
July 1, 1917	104	9,423	729	939	3,313	14,404	1,451	15,855	64.0
Jan. 1, 1918	104	9,661	691	1,009	3,763	15,124	1,721	16,845	61.5
July 1, 1918	104	9,874	648	1,028	3,641	15,191	1,661	16,852	62.4
Jan. 1, 1919	104	7,553	466	524	3,111	11,654	1,237	12,891	62.2
Ohio.									
Jan. 1, 1917	261	15,071	1,757	1,334	4,083	22,245	2,545	24,790	67.9
July 1, 1917	261	14,796	1,771	1,403	4,427	22,397	2,780	25,177	65.8
Jan. 1, 1918	261	14,840	1,875	1,381	4,491	22,587	2,791	25,378	65.9
July 1, 1918	261	14,300	1,715	1,457	4,531	22,003	2,919	24,922	64.3
Jan. 1, 1919	261	12,986	1,639	2,242	3,621	20,488	2,773	23,261	62.9
Western Pennsylvania.									
Jan. 1, 1917	413	37,201	3,752	4,398	13,429	58,786	9,740	68,526	59.8
July 1, 1917	413	35,178	3,966	4,427	13,853	57,424	10,648	68,072	57.5
Jan. 1, 1918	413	34,191	4,145	4,658	14,535	57,529	10,641	68,170	56.2
July 1, 1918	413	32,557	4,279	4,741	15,045	56,622	11,751	68,373	53.9
Jan. 1, 1919	413	30,134	3,560	7,147	12,332	53,173	10,835	64,008	52.6

It will be seen from these tables that on January 1, 1917, taking the bituminous coal fields as a whole, the total tonnage output was produced by 62.8 per cent of the total employees instead of by 82.6 per cent, which was the percentage of underground workers as given in "Coal in 1918" (p. 716); that on January 1, 1918, the output was produced by 59.9 per cent of the men instead of 80.7 per cent, the percentage of underground workers as shown in "Coal in 1918," and that on January 1, 1919, taking the country as a whole, the actual tonnage was produced by 57.4 per cent of the men charged to the industry.

The figures in "Coal in 1918" (p. 717), show that the average tonnage per man, based on all employees, was 3.9 tons per day and 896 tons for the year in 1916, 3.77 per day and 915 for the year in 1917, and 3.78 per day and 942 for the year in 1918. But in connection with these figures it is only fair to state that, taking the average per cent

of miners, loaders, and cutters, i. e., the real "coal getters," as a basis, as shown in the above table for all mines, the output per miner averaged 6.20 tons per day and 1,426 tons for the year in 1916, 6.28 per day and 1,527 for the year in 1917, and 6.59 per day and 1,640 for the year in 1918; and these figures, it should be remembered, are based also on the assumption that all miners could be at work during the whole of the reported "tipple time," an assumption which, of course, is not true. The coal is produced by a much smaller number than all the miners, as all miners are not at work all the "tipple time."

Wages of Pick Miners.

In the early part of 1919 the Bureau of Labor Statistics in a survey of bituminous coal fields secured the cooperation of the operators and the men to the extent of having the actual time in the mine recorded for one pay-roll period. From that material the bureau has already published the actual earnings of miners per hour of time spent in the mine. Unfortunately the number of days during which this time was actually taken was not secured. That is to say, a man who worked 40 hours in a pay-roll period of two weeks received a certain amount of money, but the bureau's schedules do not show upon how many different days the man entered the mine in order to perform these 40 hours of labor. The schedules did not show either the pick-mine tonnage rate nor the thickness of the seam in which the man worked. Thickness of seam is largely a determining factor of output of pick miners up to about a 4½-foot seam. A vein of coal over 6 feet is not much if any better than one 6 feet thick. By correspondence with a large number of these mines this information has been secured, and having the earnings of the men and the number of hours actually worked, it has been possible to derive the number of tons of coal mined in a day, all time being reduced to an eight-hour-day basis. Data are shown in the following table for 9,817 pick miners in 118 mines in the various coal-producing States of the Union, and it is the first, and so far as I am aware the only, attempt to ascertain the productiveness of hand labor in bituminous coal mines. It should be remembered that this does not include machine-mined coal. The first part of the table distributes the days worked in a two weeks' pay roll upon the full eight-hour-day basis. It will be noted that comparatively few men worked the possible 13 days, by far the greater number working between 8 and 9 days. It will also be noted that there were comparatively few men and comparatively few mines where the average output per miner was as little as popularly reported. The average output per hand pick miner in all the coal fields was 6.8 tons per day of 8 hours. In cases where the output is small in thick seams of coal, it is a fair presumption that considerable entry driving and yardage work was being done during the pay-roll period.

THICKNESS OF SEAM OF COAL, TONNAGE RATE OF BITUMINOUS PICK MINERS, AVERAGE NUMBER OF DAYS WORKED AND AVERAGE NUMBER OF TONS OF COAL MINED PER PICK MINER PER DAY IN HALF MONTH ON 8-HOUR DAY BASIS, AND NUMBER OF PICK MINERS CLASSIFIED BY AVERAGE NUMBER OF DAYS WORKED AND AVERAGE NUMBER OF TONS OF COAL MINED PER DAY IN HALF MONTH ON 8-HOUR DAY BASIS IN 1919, BY STATE AND MINE NUMBER.

State and mine number.	Number of pick miners.	Thickness of seam of coal.	Pick miners' tonnage rate.	Average days worked in half month per pick miner on 8-hour basis.[1]	Number of pick miners whose average days worked in half month on 8-hour day basis were—												Average tons of coal mined per pick miner per day on 8-hour basis.	Number of pick miners whose average tons of coal mined per day in half month on 8-hour day basis were—										
					Under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 6.	6 and under 7.	7 and under 8.	8 and under 9.	8 and under 10.	10 and under 11.	11 and under 12.	12 and under 13.	13 and over		Under 3.	3 and under 4.	4 and under 5.	5 and under 6.	6 and under 7.	7 and under 8.	8 and under 9.	9 and under 10.	10 and under 11.	11 and under 12.	12 and under 13.	13 and over
Alabama:		*Inches.*																										
1	153	96	$0.73	6.8	10	4	10	14	15	19	19	21	24	14	3	....	....	7.4	3	14	14	14	26	24	17	16	6	5	6	8
2	93	42	.825	7.1	2	2	3	6	10	17	15	22	11	5	....	....	....	6.8	2	4	4	21	19	26	8	4	3	....	....	2
3	60	33 to 40	1.09	8.2	....	2	....	3	2	2	10	8	15	18	....	....	....	5.5	4	6	11	22	8	2	6	1	....	....	....	....
Colorado:																												
1	7	57	1.13	9.2	....	....	1	....	....	1	....	....	....	3	1	1	....	5.6	....	....	1	3	3	....	....	....	....	....	....	....
2	113	108to113	.75	5.4	12	1	1	13	29	45	10	2	....	....	....	....	....	9.8	4	3	2	1	8	8	9	23	15	16	12	12
3	31	68	.78	6.6	1	2	....	3	4	5	6	7	2	1	....	....	....	6.1	2	4	8	6	1	3	4	....	1	2	....	....
4	48	32	1.18	8.5	2	....	....	5	....	6	2	5	13	8	7	....	....	5.2	2	9	13	9	11	1	2	1	....	....	....	....
5	195	78	.78	6.4	9	8	5	10	27	33	38	62	1	2	....	....	....	9.1	....	....	1	7	24	28	34	26	38	21	4	12
6	31	102to106	.75	6.3	5	....	2	4	1	....	3	6	10	....	....	....	....	9.8	1	....	1	....	4	3	4	6	5	3	4	1
7	186	120	.75	7.2	9	8	11	6	8	23	27	48	38	6	2	....	....	9.2	5	2	4	12	19	23	29	31	22	15	11	13
8	103	96 to 144	.76	5.8	4	5	4	7	11	28	44	....	....	....	....	....	....	7.4	3	9	13	11	17	20	5	11	1	4	1	8
9	62	60	.83	8.3	1	1	....	3	4	3	9	16	19	3	1	....	2	7.2	1	1	8	15	6	11	7	8	1	1	2	1
10	153	72	.78	9.3	1	3	1	4	3	6	11	21	31	41	31	....	....	7.5	3	11	13	8	32	33	18	13	7	5	6	4
11	148	54	1.04	10.6	....	1	3	2	3	3	7	10	17	15	38	37	12	5.0	3	17	52	52	18	3	....	2	....	....	....	1
12	46	36	1.13	6.4	2	1	1	....	....	1	2	2	2	....	....	1	....	5.3	....	4	2	4	1	....	1	....	....	....	....	....
13	10	36 to 60	.93	8.0	....	....	....	2	....	2	....	1	3	2	....	....	....	5.5	2	1	3	1	1	....	....	1	1	....	....	....
Illinois:																												
1	201	42	1.13	5.5	10	5	12	19	44	108	1	....	1	1	....	....	....	4.9	19	43	48	55	21	12	1	2	....	....	....	....
2	140	42	1.13	8.3	....	....	2	1	3	3	17	40	74	....	....	....	....	3.3	48	62	27	2	1	....	....	....	....	....	....	....
3	195	50	.91	7.4	1	2	3	10	10	10	46	113	....	....	....	....	....	6.3	4	13	29	41	48	26	18	8	4	4	....	....
4	91	69	.84	7.0	1	2	4	4	8	11	19	42	....	....	....	....	....	9.6	1	2	2	2	7	10	17	17	13	8	5	7
5	188	66	.84	9.1	2	1	1	2	5	10	15	28	52	60	12	....	....	7.9	3	2	6	13	36	41	45	20	9	4	1	8
6	298	72	.847	8.9	2	4	1	3	5	12	25	54	132	60	....	....	....	7.1	3	10	27	50	58	53	49	29	10	8	....	1
Indiana:																												
1	189	52	.840	5.7	2	10	10	21	48	97	1	....	....	....	....	....	....	5.4	3	30	63	61	12	1	3	6	4	5	....	1
2	141	55½	.840	8.8	....	....	1	1	4	5	20	24	36	50	....	....	....	6.6	....	4	14	31	37	30	15	7	3	....	....	....
3	121	50	.840	7.8	1	....	2	....	1	11	27	79	....	....	....	....	....	5.9	....	6	19	51	27	7	4	5	2	....	....	....

Iowa:																													
1	103	36 to 72	1.100	8.6	1	....	1	3	3	3	7	22	62	1	....	....	....	5.1	6	12	28	30	20	6	1	....	....	....	....	....
2	91	48	1.485	8.9	....	....	....	....	....	....	....	63	28	....	....	....	....	2.8	53	27	8	1	....	....	....	1	1	....	....	....
3	219	60	.970	7.6	4	3	6	9	13	14	51	107	12	....	....	....	....	6.5	3	9	20	53	54	36	27	8	5	2	1	1
4	111	44 to 54	.970	6.6	4	....	....	1	....	60	46	....	....	....	....	....	....	5.0	11	24	27	20	13	5	6	4	1	....	....	....
5	140	44	.995	7.4	4	2	5	6	7	14	20	72	10	....	....	....	....	6.4	6	11	11	31	31	29	12	4	2	2	....	1
6	91	44	.995	8.0	....	....	2	2	5	6	14	40	22	....	....	....	....	6.7	2	2	16	9	30	11	12	7	....	1	1	....
Kansas:																														
1	97	36	1.25	7.1	2	3	1	3	6	13	32	37	....	....	....	....	....	4.5	14	23	31	22	6	....	1	....	....	....	....	....
2	116	36	1.25	6.6	5	4	7	5	18	20	21	21	14	1	....	....	....	5.4	11	20	18	26	18	13	3	4	1	....	2	....
3	140	32	1.01	6.4	4	3	3	8	12	47	63	....	....	....	....	....	....	4.9	15	31	32	33	10	10	5	3	....	1	....	....
4	59	38	1.01	7.0	....	1	3	4	9	2	17	23	....	....	....	....	....	4.7	10	11	13	16	8	....	1	....	....	....	....	....
5	133	40	1.01	8.3	7	1	6	4	7	10	12	18	20	35	13	....	....	6.8	5	6	14	21	25	29	15	6	5	3	1	3
6	127	34	1.01	5.2	4	3	12	25	50	33	....	....	....	....	....	....	....	6.8	9	9	16	20	17	18	7	12	10	5	2	2
7	246	37	1.01	6.1	....	7	12	28	49	80	70	....	....	....	....	....	....	7.9	3	7	9	27	35	58	44	27	12	13	4	7
8	35	34 to 38	1.01	10.6	....	....	....	2	1	....	....	....	6	7	11	8	....	6.3	....	3	5	4	10	8	5	....	....	....	....	....
9	202	38	1.01	5.7	2	7	11	17	60	104	1	....	....	....	....	....	....	6.5	11	20	22	37	34	30	19	10	9	3	4	3
10	103	34 to 39	1.01	6.2	3	4	5	5	18	16	52	....	....	....	....	....	....	5.7	9	10	22	21	13	17	7	2	1	1	....	....
11	79	32 to 46	1.01	8.1	3	1	3	2	2	4	10	17	23	14	....	....	....	7.5	3	2	8	11	11	15	14	7	6	1	....	1
12	145	36	1.01	7.8	....	....	2	7	11	18	33	38	33	3	....	....	....	4.7	20	35	34	26	16	9	4	....	1	....	....	....
Kentucky:																														
1	7	44	.67	8.6	....	....	....	....	....	....	1	4	2	....	....	....	....	9.4	....	....	....	....	1	1	4	....	....	....	....	1
2	10	92	[2].60	5.8	3	....	....	2	....	1	1	....	1	1	1	....	....	9.4	1	....	....	1	.....	2	2	1	1	....	....	2
3	6	104	[2].60	9.5	....	....	....	....	....	....	1	1	1	2	1	....	....	12.0	....	....	....	1	....	1	....	....	1	....	1	2
4	84	42	1.06	5.9	1	8	4	2	8	16	42	3	....	....	....	....	....	4.3	20	24	21	7	7	3	1	....	1	....	....	....
5	23	41	1.13	8.7	....	....	2	2	....	....	2	4	5	3	3	1	1	4.6	3	7	5	5	2	....	....	1	....	....	....	....
6	5	82	[2].60	6.0	1	....	....	....	1	1	1	....	....	1	....	....	....	9.6	....	....	1	.....	.....	.....	1	1	2	....	....	....
Maryland:																														
1	96	66	[3].952	8.5	....	3	1	2	1	4	18	21	29	17	....	....	....	7.5	....	2	3	6	19	36	15	5	7	2	....	1
2	73	65	[3].952	6.1	1	1	6	7	16	16	19	7	....	....	....	....	....	9.0	....	....	.....	2	7	7	20	15	16	5	....	1
3	99	65	[3].952	6.2	2	6	4	12	13	20	22	18	2	....	....	....	....	9.3	....	....	.....	5	10	22	18	12	8	5	7	12
4	141	108	1.047	6.3	4	4	12	6	18	36	43	17	1	....	....	....	....	6.1	....	11	25	33	26	25	13	4	1	....	1	2
5	82	108	1.047	6.5	2	1	6	9	9	18	19	14	4	....	....	....	....	7.3	1	....	5	6	18	30	10	8	2	1	....	1
Missouri:																														
1	121	22	1.3667	5.8	7	4	2	10	23	51	24	.....	.....	.....	.....	.....	.....	2.9	68	38	11	2	1	....	1	.....	.....	.....	.....	.....
2	18	22	1.5267	11.3	....	....	....	....	....	....	1	1	1	3	2	10	....	2.6	12	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	87	22	1.5267	6.3	3	3	1	12	15	37	.....	2	8	5	1	....	....	3.4	26	41	17	3	.....	.....	.....	.....	.....	.....	.....	.....
4	25	22	1.5267	6.6	3	4	1	....	....	.....	3	7	7	....	....	....	....	4.3	6	11	3	2	2	.....	1	.....	.....	.....	.....	.....
5	35	33	1.5617	9.0	....	....	....	2	5	.....	3	3	4	6	12	....	....	3.1	17	12	5	1	.....	.....	.....	.....	.....	.....	.....	.....
6	160	54	.9600	8.3	1	4	1	6	5	4	18	38	83	....	....	....	....	5.9	2	8	37	47	33	17	11	2	1	2	.....	.....
7	164	41	1.2200	6.8	2	5	9	5	10	19	71	43	.....	.....	.....	.....	.....	4.2	18	48	59	28	11	.....	.....	.....	.....	.....	.....	.....
New Mexico:																														
1	30	72 to 102	.78	8.6	1	....	....	....	....	1	4	1	19	4	....	....	....	8.6	....	1	.....	.....	5	5	7	4	7	....	1	....
2	48	54 to 66	.78	7.8	1	....	1	....	3	6	13	5	19	....	....	....	....	8.3	....	1	3	2	7	11	7	6	6	3	1	1
3	109	54	.86	8.1	2	....	1	4	6	9	22	32	20	5	7	1	....	5.9	6	15	17	22	13	14	10	7	1	4	....	....
4	148	54	.86	7.6	9	3	5	8	5	12	21	43	16	12	10	2	2	6.6	18	22	15	20	24	9	10	5	6	9	2	8
5	36	60	.78	10.8	....	1	1	....	2	.....	1	2	5	6	5	3	10	7.4	....	....	7	4	6	9	2	3	1	2	....	2
6	157	72	.78	10.9	4	3	2	....	1	5	6	6	15	14	30	36	35	7.7	3	6	11	20	21	23	31	19	11	6	1	5

[1] The regular hours that mines are open for work are 8 per day or 48 per week for all except those numbered 12, 13, and 14 in Pennsylvania for which the hours are 10 per day or 60 per week

[2] Rate for pillars. All other is machine mined.

[3] Gross tonnage rate.

THICKNESS OF SEAM OF COAL, TONNAGE RATE OF BITUMINOUS PICK MINERS, AVERAGE NUMBER OF DAYS WORKED AND AVERAGE NUMBER OF TONS OF COAL MINED PER PICK MINER PER DAY IN HALF MONTH ON 8-HOUR DAY BASIS, AND NUMBER OF PICK MINERS CLASSIFIED BY AVERAGE NUMBER OF DAYS WORKED AND AVERAGE NUMBER OF TONS OF COAL MINED PER DAY IN HALF MONTH ON 8-HOUR DAY BASIS IN 1919, BY STATE AND MINE NUMBER—Concluded.

State and mine number.	Number of pick miners.	Thickness of seam of coal.	Pick miners' tonnage rate.	Average days worked in half month per pick miner on 8-hour basis.[1]	Number of pick miners whose average days worked in half month on 8-hour day basis were—												Average tons of coal mined per pick miner per day on 8-hour basis.	Number of pick miners whose average tons of coal mined per day in half month on 8-hour day basis were—											
					Under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 6.	6 and under 7.	7 and under 8.	8 and under 9.	9 and under 10.	10 and under 11.	11 and under 12.	12 and under 13.	13 and over		Under 3.	3 and under 4.	4 and under 5.	5 and under 6.	6 and under 7.	7 and under 8.	8 and under 9.	9 and under 10.	10 and under 11.	11 and under 12.	12 and under 13.	13 and over
Ohio:		*Inches.*																										
1	2	60	$0.8764	11.0	....	....	....	....	....	....	....	....	....	2	....	....	8.3	....	....	....	....	....	1	....	1	....	....	....	....
2	11	60	.8764	10.3	....	1	....	....	....	....	2	....	....	1	3	1	3	6.7	....	1	....	2	1	5	2	....	....	....	....	....
Oklahoma:																												
1	26	36	1.065	10.0	....	....	....	....	....	1	4	4	1	7	4	4	1	6.6	....	3	5	4	4	2	4	2	2	....	....	....
2	16	48	1.010	8.3	....	1	2	....	....	1	2	1	4	3	2	....	....	6.2	....	2	3	2	5	1	1	....	....	1	1	....
3	19	52	1.010	7.1	2	2	1	2	....	....	1	2	3	5	1	....	....	7.5	....	2	1	3	3	1	3	1	2	2	1	....
4	54	46 to 48	1.010	8.4	....	....	....	....	....	5	16	11	22	....	....	....	....	6.2	5	4	9	9	7	6	7	3	3	1	....	....
5	153	47	1.010	8.5	6	4	5	8	10	9	11	20	20	23	25	10	2	6.1	13	24	35	20	16	15	10	6	6	2	3	3
6	25	50	1.010	7.1	1	1	2	1	....	3	4	7	4	2	....	....	....	7.0	1	3	3	3	1	4	3	2	3	1	....	1
Pennsylvania:																												
1	31	69	.8764	10.0	....	....	....	....	2	1	....	4	4	11	6	3	....	7.9	....	....	....	6	3	5	8	4	4	1	....	....
2	78	88	.7911	8.9	....	....	....	2	6	3	6	14	27	13	6	1	....	9.1	....	....	....	5	6	8	19	18	8	7	1	6
3	47	65	.8764	10.5	....	....	3	2	....	1	1	2	6	5	8	13	6	7.3	3	2	3	3	13	8	6	3	2	2	....	2
4	53	65	.8764	11.2	....	1	....	1	1	2	1	1	5	5	13	11	12	7.4	....	....	5	9	7	10	11	6	2	1	2	....
5	13	60	.8764	6.0	....	3	1	1	1	1	2	2	2	....	....	....	....	7.9	....	....	1	1	2	2	2	2	1	1	1	....
6	62	64	.8764	6.8	1	3	3	4	10	5	14	16	4	2	....	....	....	9.3	....	....	....	6	4	11	6	12	11	4	5	3
7	62	71	.7911	10.6	1	1	2	1	3	....	2	3	6	6	11	12	14	8.5	....	....	....	4	4	18	14	13	3	3	....	3
8	80	63	.7911	6.7	6	....	4	6	8	10	18	24	4	....	....	....	....	9.4	4	1	2	3	5	6	14	11	18	7	4	5
9	48	60	.8764	6.7	....	3	3	4	6	6	9	15	2	....	....	....	....	8.6	....	....	....	5	4	11	9	5	10	1	....	3
10	43	60	.8764	7.5	1	....	....	1	....	12	8	21	....	....	....	....	....	7.7	....	2	2	7	5	4	10	7	3	2	1	....
11	158	73	.7911	8.0	1	1	6	8	9	16	25	34	35	16	4	3	....	12.9	....	....	1	2	3	6	14	6	11	19	21	75
12	36	42	.9017	[4] 12.1	....	....	....	....	3	3	2	2	1	....	4	3	18	6.5	2	6	7	1	7	5	2	4	2	....	....	....
13	26	42	.9017	[4] 12.9	....	....	....	....	....	....	2	3	2	1	3	1	14	7.5	....	....	....	3	5	3	4	3	4	....	3	....	1
14	18	42	.9017	[4] 14.5	....	....	....	....	....	....	....	1	....	1	1	....	15	7.1	....	....	....	1	3	3	7	4	....	....	....	....	....
15	17	32	1.0120	7.4	....	....	....	1	....	1	10	5	....	....	....	....	....	3.6	3	7	7	....	....	....	....	....	....	....	....	....	....
16	37	54	1.0120	6.0	....	....	2	5	1	19	10	....	....	....	....	....	....	6.4	1	3	2	10	7	7	6	1	....	....	....	....
17	49	48	[3] 1.0115	6.6	2	1	2	6	5	13	5	10	4	1	....	....	....	6.4	....	....	7	12	12	12	4	....	1	....	....	1
18	32	48 to 72	.9031	7.7	....	4	1	2	....	1	5	4	7	8	....	....	....	6.2	2	2	4	11	5	2	4	1	1	....	....	....
19	45	60	1.0115	6.8	2	....	1	1	2	9	30	....	....	....	....	....	....	7.6	....	1	2	4	8	15	5	4	3	1	2	....

20	37	58	1.0115	9.5	....	....	....	....	1	3	1	1	9	14	8	....	....	6.2	....	5	3	4	14	8	2	....	1	....	....	....
21	109	45	1.0115	7.9	....	3	3	5	11	10	15	16	26	17	3	....	....	7.3	....	4	21	14	22	8	11	8	7	2	1	11
22	33	52	1.0115	10.4	....	....	....	....	....	....	....	2	4	7	20	....	....	7.3	....	....	2	6	6	7	7	5	....	....	....	....
23	33	54	1.0115	7.2	1	3	4	1	3	2	1	3	3	6	6	....	....	6.4	1	4	6	7	4	9	....	1	1	....	....	....
24	15	59	.8764	10.3	....	....	....	....	....	2	....	2	....	2	2	7	....	5.9	....	....	2	8	1	2	1	1	....	....	....	....
25	31	58	.8764	9.4	1	....	2	2	1	....	....	1	3	6	4	11	....	8.2	....	1	4	1	4	5	6	6	2	2	....	....
26	110	72	1.2000	6.2	4	2	7	5	19	29	36	8	....	....	....	....	....	5.6	8	9	24	28	16	13	4	5	2	1	....	....
27	169	41	1.0120	7.2	1	5	4	10	9	20	28	41	51	....	....	....	....	7.7	2	....	6	21	28	32	32	21	16	6	5	....
28	387	43	1.0120	7.2	12	12	12	15	20	23	53	104	136	....	....	....	....	6.8	2	19	39	91	91	74	36	23	6	3	2	1
Tennessee:																														
1	97	60	.56	6.2	4	6	3	9	13	20	30	12	....	....	....	....	....	11.9	....	....	....	....	1	1	5	12	19	11	14	34
2	18	34	.80	4.8	1	....	....	4	12	....	....	....	1	....	....	....	....	6.1	....	1	4	5	2	3	1	1	....	1	....	....
3	29	60	.77	6.7	1	2	3	3	2	1	1	3	3	2	6	2	....	6.4	1	1	3	9	6	5	3	1	....	....	....	....
4	21	36 to 40	.80	6.5	....	....	....	3	1	3	12	2	....	....	....	....	....	7.0	....	....	6	2	3	2	5	2	1	....	....	....
5	138	27	.95	6.0	3	1	6	10	20	40	58	....	....	....	....	....	....	4.7	14	30	48	20	14	5	4	2	1	....	....	....
6	9	22	1.07	5.7	....	....	3	....	....	1	5	....	....	....	....	....	....	5.8	1	....	3	1	2	2	....	....	....	....	....	....
7	55	33	.92	6.6	....	1	1	....	5	15	33	....	....	....	....	....	....	6.7	2	2	4	8	15	13	6	4	1	....	....	....
Utah:																														
1	55	72	.80	9.6	1	2	3	1	2	1	3	2	2	14	15	7	2	9.3	1	....	1	2	6	6	10	10	6	7	2	4
2	79	168	.75	7.5	9	4	3	5	6	4	6	9	8	8	14	2	1	9.4	1	2	3	4	7	10	11	6	11	10	4	10
3	11	72 to 96	.70	6.6	3	....	1	....	....	....	....	3	1	2	....	1	....	10.0	....	....	....	....	1	.....	1	2	4	....	2	1
West Virginia:																														
1	15	56	.705	6.2	....	....	1	2	1	1	10	....	....	....	....	....	....	7.8	1	1	2	1	3	5	....	1	....	....	....	1
2	21	60	.860	5.9	1	1	1	3	3	3	4	1	4	....	....	....	....	8.0	1	....	2	1	2	3	7	3	2	....	....	....
Wyoming:																														
1	83	144	.72	6.1	....	1	2	9	22	21	18	6	2	1	1	....	....	12.5	....	....	.....	.....	.....	1	2	9	10	15	13	33
2	30	57 to 72	.77	7.4	....	4	3	1	5	1	.....	3	4	5	2	2	....	8.7	....	....	.....	1	.....	10	11	2	2	1	2	....
3	21	72	.77	9.1	....	....	....	....	....	.....	1	4	13	....	1	2	....	10.4	....	....	.....	.....	.....	1	5	6	2	1	3	3
All States—118	9,817	.....	.....	.....	232	224	316	507	880	1483	1684	1770	1386	623	366	196	150	6.8	577	913	1251	1491	1395	1275	984	672	462	290	171	336

[1] The regular hours that mines are open for work are 8 per day or 48 per week for all except those numbered 12, 13 and 14 in Pennsylvania for which the hours are 10 per day or 60 per week.
[3] Gross tonnage rate.
[4] The regular hours for this mine are 10 per day or 60 per week.

PRICES AND COST OF LIVING.

Retail Prices of Food in the United States.

THE following tables are based on figures which have been received by the Bureau of Labor Statistics from retail dealers through monthly reports of actual selling prices.[1]

Table 1 shows for the United States retail prices of food on November 15 and December 15, 1920, and on December 15, 1919, as well as the percentage changes in the month and in the year. As may be seen in the table, every article showed a decline in price during the month, November 15 to December 15, with the exception of eggs and raisins. For the year period, December, 1919, to December, 1920, 28 articles showed a decrease in price and 13 articles showed an increase. The price of 2 articles was the same in December, 1919, as in December, 1920.

The cost of 22 food articles,[2] combined, showed a decrease of 10 per cent in December, 1920, as compared with December, 1919, and a decrease of 8 per cent in December, 1920, as compared with November, 1920.

[1] In addition to monthly retail prices of food and coal, the bureau secures prices of gas and dry goods from each of 51 cities and publishes these prices as follows: Gas in the June issue and dry goods in the April, July, October, and December issues of the MONTHLY LABOR REVIEW.

[2] The following are the 22 articles, weighted according to the consumption of the average family: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, corn meal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, tea. These include all articles for which prices have been secured each month since 1913 with the exception of lamb, for which the bureau has no consumption figures.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE DEC. 15, 1920, COMPARED WITH DEC. 15, 1919, AND NOV. 15, 1920.

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers.]

Article.	Unit.	Average retail price on—			Per cent of increase (+) or decrease (−) Dec. 15, 1920, compared with—	
		Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15, 1919.	Nov. 15, 1920.
		Cents.	*Cents.*	*Cents.*		
Sirloin steak	Pound	39.1	43.5	39.7	+ 2	− 9
Round steak	do	35.9	39.6	35.7	− 1	−10
Rib roast	do	30.3	32.6	30.1	− 1	− 8
Chuck roast	do	24.3	25.3	23.2	− 5	− 8
Plate beef	do	17.3	17.7	16.5	− 5	− 7
Pork chops	do	38.1	44.1	33.0	−13	−25
Bacon	do	50.3	53.0	47.4	− 6	−11
Ham	do	49.9	57.1	49.9	0	−13
Lamb	do	33.6	37.1	35.2	+ 5	− 5
Hens	do	39.1	42.9	40.2	+ 3	− 6
Salmon, canned	do	36.4	38.7	38.4	+ 5	− 1
Milk, fresh	Quart	16.7	17.3	16.8	+ 1	− 3
Milk, evaporated	15-16 oz. can	16.9	15.1	14.8	−12	− 2
Butter	Pound	78.0	69.4	62.0	−21	−11
Oleomargarine	do	43.4	41.0	39.5	− 9	− 4
Nut margarine	do	35.8	35.3	34.7	− 3	− 2
Cheese	do	43.3	39.8	39.0	−10	− 2
Lard	do	34.9	28.9	25.6	−27	−11
Crisco	do	37.7	31.4	29.5	−22	− 6
Eggs, strictly fresh	Dozen	90.1	86.1	92.4	+ 3	+ 7
Eggs, storage	do	63.5	66.2	69.4	+ 9	+ 5
Bread	Pound	10.2	11.6	10.8	+ 6	− 7
Flour	do	7.7	7.3	6.6	−14	−10
Corn meal	do	6.6	5.9	5.5	−17	− 7
Rolled oats	do	9.2	11.5	10.9	+18	− 5
Corn flakes	8-oz. package	14.1	14.3	14.1	0	− 1
Cream of Wheat	28-oz. package	27.6	30.4	30.2	+ 9	− 1
Macaroni	Pound	19.8	22.0	21.6	+ 9	− 2
Rice	do	17.7	14.2	13.2	−25	− 7
Beans, navy	do	12.2	10.1	9.4	−23	− 7
Potatoes	do	4.3	3.3	3.2	−26	− 3
Onions	do	8.1	4.3	4.1	−49	− 5
Cabbage	do	6.1	3.5	3.4	−44	− 3
Beans, baked	No. 2 can	17.0	16.5	16.3	− 4	− 1
Corn, canned	do	18.9	18.3	17.8	− 6	− 3
Peas, canned	do	19.2	19.0	18.7	− 3	− 2
Tomatoes, canned	do	16.1	13.7	13.0	−19	− 5
Sugar, granulated	Pound	14.5	12.8	10.5	−28	−18
Tea	do	69.3	73.6	72.1	+ 4	− 2
Coffee	do	48.9	41.3	39.7	−19	− 4
Prunes	do	29.3	27.1	25.6	−13	− 6
Raisins	do	23.9	32.3	32.4	+36	+ 0.3
Bananas	Dozen	40.4	46.6	41.8	+ 3	−10
Oranges	do	52.0	67.4	49.5	− 5	−27
22 weighted articles [1]					−10	− 8

[1] See note 2, page 12.

Table 2 shows for the United States average retail prices of specified food articles on December 15 of each year, 1913 to 1920, together with the percentage changes in December of each year compared with December, 1913. For example, the price of flour in December, 1913 was 3.3 cents; in December, 1914, 3.7 cents; in December, 1915, 3.8 cents; in December, 1916, 5.5 cents; in December, 1917, 6.8 cents; in December, 1918, 6.7 cents; in December, 1919, 7.7 cents; and in December, 1920, 6.6 cents. As compared with the average price in December, 1913, these figures show the following increases: 12 per cent in 1914; 15 per cent in 1915; 67 per cent in 1916; 106 per cent in 1917; 103 per cent in 1918; 133 per cent in 1919; and 100 per cent

in 1920. While the price of flour in December, 1920, was double the price in December, 1913, it was slightly lower than in the same month of any year since 1916.

The cost of 22 food articles, combined, showed an increase of 71 per cent in December, 1920, as compared with December, 1913.

TABLE 2.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE, DECEMBER 15 OF EACH YEAR, 1914 TO 1920, COMPARED WITH DECEMBER 15, 1913.

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers.]

Article.	Unit.	Average retail prices, Dec. 15—								Per cent of increase (+) or decrease (−) Dec. 15 of each specified year compared with Dec. 15, 1913.						
		1913	1914	1915	1916	1917	1918	1919	1920	1914	1915	1916	1917	1918	1919	1920
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*							
Sirloin steak	Pound	25.1	25.6	25.2	26.9	32.0	40.4	39.1	39.7	+ 2	+0.4	+ 7	+ 27	+ 61	+ 56	+ 58
Round steak	...do	22.6	23.0	22.4	24.0	30.0	38.2	35.9	35.7	+ 2	− 1	+ 6	+ 33	+ 69	+ 59	+ 58
Rib roast	...do	19.9	20.1	19.8	21.1	25.4	31.9	30.3	30.1	+ 1	− 1	+ 6	+ 28	+ 60	+ 52	+ 51
Chuck roast	...do	16.2	16.5	15.8	16.9	21.5	27.3	24.3	23.2	+ 2	− 2	+ 4	+ 33	+ 69	+ 50	+ 43
Plate beef	...do	12.4	12.5	11.8	12.8	16.2	21.1	17.3	16.5	+ 1	− 5	+ 3	+ 31	+ 70	+ 40	+ 33
Pork chops	...do	20.3	19.5	18.4	22.3	33.9	41.3	38.1	33.0	− 4	− 9	+ 10	+ 67	+103	+ 88	+ 63
Bacon	...do	26.7	27.8	27.2	29.8	48.8	58.5	50.3	47.4	+ 4	+ 2	+ 12	+ 83	+119	+ 88	+ 78
Ham	...do	26.5	26.8	26.9	30.6	43.4	53.3	49.9	49.9	+ 1	+ 2	+ 15	+ 64	+101	+ 88	+ 88
Lamb	...do	18.5	19.0	19.7	22.3	30.2	34.4	33.6	35.2	+ 3	+ 6	+ 21	+ 63	+ 86	+ 82	+ 90
Hens	...do	20.8	19.9	20.3	23.9	30.4	38.4	39.1	40.2	− 4	− 2	+ 15	+ 46	+ 85	+ 88	+ 93
Salmon, canned	...do	.....	.....	19.8	21.2	29.0	31.4	36.4	38.4	.....	.....	.....	.....	.....	.....	.....
Milk, fresh	Quart	9.1	9.0	8.9	10.0	13.1	15.7	16.7	16.8	− 1	− 2	+ 10	+ 44	+ 73	+ 84	+ 85
Milk, evaporated	15–16 oz. can.	.....	.....	.....	.....	.....	.....	16.9	14.8	.....	.....	.....	.....	.....	.....	.....
Butter	Pound	39.7	39.3	38.6	45.1	54.3	72.7	78.0	62.0	− 1	− 3	+ 14	+ 37	+ 83	+ 96	+ 56
Oleomargarine	...do	.....	.....	.....	.....	.....	.....	43.4	39.5	.....	.....	.....	.....	.....	.....	.....
Nut margarine	...do	.....	.....	.....	.....	.....	.....	35.8	34.7	.....	.....	.....	.....	.....	.....	.....
Cheese	...do	22.5	23.0	23.8	31.0	34.5	42.7	43.3	39.0	+ 2	+ 6	+ 38	+ 53	+ 90	+ 92	+ 73
Lard	...do	15.8	15.4	14.5	21.7	33.4	34.2	34.9	25.6	− 2	− 8	+ 37	+111	+116	+121	+ 62
Crisco	...do	.....	.....	.....	.....	.....	.....	37.7	29.5	.....	.....	.....	.....	.....	.....	.....
Eggs, strictly fresh	Dozen	47.6	47.8	46.5	53.0	63.5	81.1	90.1	92.4	+0.4	− 3	+ 11	+ 33	+ 70	+ 89	+ 94
Eggs, storage	...do	34.5	31.7	31.0	39.6	45.0	58.1	63.5	69.4	− 8	− 10	+ 15	+ 30	+ 68	+ 84	+101
Bread	Pound	5.6	6.5	6.9	7.8	9.3	9.8	10.2	10.8	+ 16	+ 23	+ 39	+ 66	+ 75	+ 82	+ 93
Flour	...do	3.3	3.7	3.8	5.5	6.8	6.7	7.7	6.6	+ 12	+ 15	+ 67	+106	+103	+133	+100
Corn meal	...do	3.1	3.2	3.2	3.9	7.1	6.4	6.6	5.5	+ 3	+ 3	+ 26	+129	+106	+113	+ 77
Rolled oats	...do	.....	.....	.....	.....	.....	.....	9.2	10.9	.....	.....	.....	.....	.....	.....	.....
Corn flakes	8-oz. pkg.	.....	.....	.....	.....	.....	.....	14.1	14.1	.....	.....	.....	.....	.....	.....	.....
Cream of Wheat	28-oz. pkg.	.....	.....	.....	.....	.....	.....	27.6	30.2	.....	.....	.....	.....	.....	.....	.....
Macaroni	Pound	.....	.....	.....	.....	.....	.....	19.8	21.6	.....	.....	.....	.....	.....	.....	.....
Rice	...do	8.7	8.8	9.0	9.1	11.6	13.9	17.7	13.2	+ 1	+ 3	+ 5	+ 33	+ 60	+103	+ 52
Beans, navy	...do	.....	.....	8.9	14.3	18.8	15.4	12.2	9.4	.....	.....	.....	.....	.....	.....	.....
Potatoes	...do	1.8	1.4	1.8	3.4	3.0	3.2	4.3	3.2	− 22	0	+ 89	+ 67	+ 78	+139	+ 78
Onions	...do	.....	.....	3.5	5.7	5.0	3.9	8.1	4.1	.....	.....	.....	.....	.....	.....	.....
Cabbage	...do	.....	.....	.....	.....	.....	.....	6.1	3.4	.....	.....	.....	.....	.....	.....	.....
Beans, baked	No. 2 can.	.....	.....	.....	.....	.....	.....	17.0	16.3	.....	.....	.....	.....	.....	.....	.....
Corn, canned	...do	.....	.....	.....	.....	.....	.....	18.9	17.8	.....	.....	.....	.....	.....	.....	.....
Peas, canned	...do	.....	.....	.....	.....	.....	.....	19.2	18.7	.....	.....	.....	.....	.....	.....	.....
Tomatoes, canned	...do	.....	.....	.....	.....	.....	.....	16.1	13.0	.....	.....	.....	.....	.....	.....	.....
Sugar, granulated	Pound	5.4	6.1	6.8	8.3	9.5	10.8	14.5	10.5	+ 13	+ 26	+ 54	+ 76	+100	+169	+ 94
Tea	...do	54.5	54.7	54.6	54.7	62.1	67.4	69.3	72.1	+0.4	+0.2	+0.4	+ 14	+ 24	+ 27	+ 32
Coffee	...do	29.7	29.6	29.9	29.9	30.3	32.4	48.9	39.7	−0.3	+ 1	+ 1	+ 2	+ 9	+ 65	+ 33
Prunes	...do	.....	.....	13.3	13.8	16.4	19.2	29.3	25.6	.....	.....	.....	.....	.....	.....	.....
Raisins	...do	.....	.....	12.5	13.9	15.0	16.1	23.9	32.4	.....	.....	.....	.....	.....	.....	.....
Bananas	Dozen	.....	.....	.....	.....	.....	.....	40.4	41.8	.....	.....	.....	.....	.....	.....	.....
Oranges	...do	.....	.....	.....	.....	.....	.....	52.0	49.5	.....	.....	.....	.....	.....	.....	.....
22 weighted articles.[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	+ 1	+ 1	+ 20	+ 51	+ 80	+ 89	+ 71

[1] See note 2, p. 12.

Table 3 shows for the United States average retail prices of the principal articles of food for the years 1913 and 1920 and for each month of 1920. Prices in 1920 are of particular interest in that 1920 is the only year since 1913 when in the last months of the year the trend in the retail price of the majority of the principal items of food has been downward. For most articles the first seven months represent a continuous rise in price, reaching the peak in July. The last five months have, for most articles, been marked by a steady decline in price.

TABLE 3.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN THE UNITED STATES, BY YEARS 1913 AND 1920, AND BY MONTHS FOR 1920.

Article.	Unit.	Average for year 1913.	1920												Average for year 1920.
			Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	
		Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak	Pound	25.4	40.5	40.6	40.8	43.2	43.4	46.1	48.6	47.2	46.8	44.5	43.5	39.7	43.7
Round steak	do	22.3	37.0	37.2	37.5	39.9	39.9	42.6	45.0	43.6	43.1	41.9	39.6	35.7	39.5
Rib roast	do	19.8	31.4	31.5	31.9	33.5	33.4	34.8	35.9	34.9	34.5	33.3	32.6	30.1	33.2
Chuck roast	do	16.0	25.3	25.1	25.1	26.6	26.5	27.8	28.5	27.4	27.1	25.9	25.3	23.2	26.2
Plate beef	do	12.1	18.4	18.4	18.2	19.0	18.8	19.0	19.1	18.5	18.4	17.8	17.7	16.5	18.3
Pork chops	do	21.0	37.3	37.7	39.1	43.2	42.5	40.8	43.7	45.9	50.0	49.9	44.1	33.0	42.3
Bacon	do	27.0	50.3	50.3	50.2	51.6	52.6	53.9	54.7	54.9	54.5	54.6	53.0	47.4	52.3
Ham	do	26.9	50.3	50.7	51.2	53.6	55.5	57.7	59.8	60.0	60.4	59.8	57.1	49.9	55.5
Lamb	do	18.9	36.4	39.0	39.8	43.0	42.1	41.5	41.1	39.7	39.1	37.9	37.1	35.2	39.3
Hens	do	21.3	42.0	44.7	45.7	47.8	47.1	46.0	45.0	45.0	45.6	43.9	42.9	40.2	44.7
Salmon, canned	do	.....	37.1	37.6	37.6	37.8	37.1	38.0	38.7	38.8	39.0	39.0	38.7	38.4	38.2
Milk, fresh	Quart	8.9	16.6	16.7	16.6	16.3	16.2	16.2	16.7	17.0	17.2	17.3	17.3	16.8	16.7
Milk, evaporated	15-16 oz. can.	.....	17.0	16.2	15.1	14.4	14.7	15.0	15.4	15.6	15.7	15.3	15.1	14.8	15.4
Butter	Pound	38.3	74.2	72.6	75.2	76.1	71.6	67.2	67.9	67.0	68.6	68.9	69.4	62.0	70.1
Oleomargarine	do	.....	43.5	43.4	43.1	43.2	43.3	42.8	42.7	42.1	41.9	41.5	41.0	39.5	42.3
Nut margarine	do	.....	35.9	36.1	36.1	36.1	36.5	36.1	36.0	36.0	36.3	35.7	35.3	34.7	35.9
Cheese	do	22.1	43.4	43.3	42.8	42.8	42.9	41.8	41.2	40.5	40.6	40.6	39.8	39.0	41.6
Lard	do	15.8	34.0	32.3	30.4	30.1	29.8	29.3	29.0	27.9	27.9	29.2	28.9	25.6	29.5
Crisco	do	.....	37.8	38.1	37.5	37.5	37.2	36.6	36.4	34.5	33.1	32.1	31.4	29.5	35.1
Eggs, strictly fresh	Dozen	34.5	82.7	68.5	55.6	52.8	52.9	53.6	57.3	63.6	71.1	80.8	86.1	92.4	68.1
Eggs, storage	do	.....	62.5	59.4	.....	.....	.....	.....	.....	.....	.....	64.2	66.2	69.4	.....
Bread	Pound	5.6	10.9	11.1	11.2	11.2	11.5	11.8	11.9	11.9	11.9	11.8	11.6	10.8	11.5
Flour	do	3.3	8.1	8.1	8.0	8.1	8.7	8.8	8.7	8.4	8.3	7.8	7.3	6.6	8.1
Corn meal	do	3.0	6.6	6.5	6.5	6.5	6.7	6.9	7.0	6.9	6.8	6.5	5.9	5.5	6.5
Rolled oats	do	.....	9.9	10.1	10.3	10.4	10.5	10.5	11.0	11.2	11.5	11.6	11.5	10.0	10.8
Corn flakes	8-oz. pkg.	.....	14.1	14.1	14.1	14.1	14.1	14.4	14.8	14.6	14.5	14.4	14.3	14.1	14.3
Cream of Wheat	28-oz. pkg.	.....	28.8	29.3	29.7	29.9	30.1	30.2	30.3	30.3	30.4	30.4	30.4	30.2	30.0
Macaroni	Pound	.....	19.8	20.0	20.2	20.3	20.7	20.9	21.4	21.7	22.0	22.0	22.0	21.6	21.1
Rice	do	8.7	18.1	18.3	18.4	18.6	18.7	18.7	18.6	18.3	17.6	16.1	14.2	13.2	17.4
Beans, navy	do	.....	12.2	12.2	11.9	11.8	11.8	11.8	11.9	11.7	11.6	10.9	10.1	9.4	11.4
Potatoes	do	1.7	5.4	6.0	6.8	9.1	9.6	10.3	8.9	5.0	4.0	3.4	3.3	3.2	6.3
Onions	do	.....	9.0	9.3	9.4	10.1	8.0	8.1	6.7	5.6	5.3	4.7	4.3	4.1	7.1
Cabbage	do	.....	8.1	9.3	8.7	9.2	8.4	7.4	7.5	4.4	3.8	3.6	3.5	3.4	6.4
Beans, baked	No. 2 can	.....	16.9	16.9	16.8	16.8	16.8	16.8	16.9	16.8	16.8	16.7	16.5	16.3	16.8
Corn, canned	do	.....	18.8	18.6	18.5	18.5	18.6	18.7	18.7	18.8	18.7	18.5	18.3	17.8	18.5
Peas, canned	do	.....	19.2	19.1	19.0	19.0	19.1	19.3	19.3	19.4	19.3	19.2	19.0	18.7	19.1
Tomatoes, canned	do	.....	15.4	15.2	15.1	15.1	15.1	15.2	15.2	15.2	15.0	14.5	13.7	13.0	14.8
Sugar, granulated	Pound	5.5	17.8	18.8	18.7	20.2	25.4	26.7	26.5	22.9	18.3	13.9	12.8	10.5	19.4
Tea	do	54.4	72.0	71.4	73.2	73.3	74.0	74.1	74.4	74.4	74.6	72.4	73.6	72.1	73.3
Coffee	do	29.8	49.1	49.1	49.1	49.1	49.2	49.2	49.3	48.4	46.6	43.4	41.3	39.7	47.0
Prunes	do	.....	29.1	29.0	28.7	28.4	28.3	28.2	28.4	28.3	28.4	27.9	27.1	25.6	28.1
Raisins	do	.....	24.8	25.6	26.4	26.9	27.4	27.7	28.2	28.9	30.8	31.4	32.3	32.4	28.6
Bananas	Dozen	.....	40.9	41.0	41.4	41.7	43.2	46.3	46.5	45.9	47.8	47.2	46.6	41.8	44.2
Oranges	do	.....	51.0	53.4	62.0	64.6	71.8	63.9	66.8	65.9	70.8	71.3	67.4	49.5	63.2

Table 4 shows the trend for the United States in the retail prices of the principal articles of food, by relative figures. These figures have been computed by dividing the average price for each month of 1920 and the average for the year 1920 by the average price of each article for the year 1913. Should the percentage increase since 1913 be desired, it is only necessary to subtract 100 from these relative figures.

TABLE 4.—RELATIVE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN THE UNITED STATES, BY YEARS, 1913 AND 1920, AND BY MONTHS FOR 1920.

[Average price for 1913=100.]

Article.	Unit.	Average for year 1913.	1920												Average for year 1920.
			Jan. 15.	Feb. 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15.	Nov. 15.	Dec. 15.	
Sirloin steak..	Pound.	100	159	160	161	170	171	182	191	186	184	175	171	156	172
Round steak..	...do....	100	166	167	168	179	179	191	202	196	193	188	178	160	177
Rib roast.....	...do....	100	159	159	161	169	169	176	181	176	174	168	165	152	168
Chuck roast...	...do....	100	158	157	157	166	166	174	178	171	169	162	158	145	164
Plate beef.....	...do....	100	152	152	150	157	155	157	158	153	152	147	146	136	151
Pork chops...	...do....	100	178	180	186	206	202	194	208	219	238	238	210	157	201
Bacon.....	...do....	100	186	186	186	191	195	200	203	203	202	202	196	176	194
Ham.....	...do....	100	187	188	190	199	206	215	222	223	225	222	212	186	205
Lamb.....	...do....	100	193	206	211	228	223	220	217	210	207	201	196	186	208
Hens.....	...do....	100	197	210	215	224	221	216	211	211	214	206	201	189	210
Salmon, canned.	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milk, fresh....	Quart..	100	187	188	187	183	182	182	188	191	193	194	194	189	188
Milk, evaporated.	15-16 oz. can.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Butter.....	Pound.	100	194	190	196	199	187	175	177	175	179	180	181	162	183
Oleomargarine	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nut margarine	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cheese.....	...do....	100	196	196	194	194	194	189	186	183	184	184	180	176	188
Lard.....	...do....	100	215	204	192	191	189	185	184	177	177	185	183	162	187
Crisco.....	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eggs, strictly fresh.	Dozen..	100	240	199	161	153	153	155	166	184	206	234	250	268	197
Eggs, storage.	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bread.....	Pound.	100	195	198	200	200	205	211	213	213	213	211	207	193	205
Flour.....	...do....	100	245	245	242	245	264	267	264	255	252	236	221	200	245
Corn meal....	...do....	100	220	217	217	217	223	230	233	230	227	217	197	183	217
Rolled oats...	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corn flakes...	8-oz. pkg.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cream of Wheat.	28-oz. pkg.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Macaroni.....	Pound.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rice.....	...do....	100	208	210	211	214	215	215	214	210	202	185	163	152	200
Beans, navy..	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Potatoes.....	...do....	100	318	353	400	535	565	606	524	294	235	200	194	188	371
Onions.....	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cabbage.....	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Beans, baked.	No. 2 can.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corn, canned.	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peas, canned..	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tomatoes, canned.	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sugar, granulated.	Pound.	100	324	342	340	367	462	485	482	416	333	253	233	191	353
Tea.....	...do....	100	132	131	135	135	136	136	137	137	137	133	135	133	135
Coffee.....	...do....	100	165	165	165	165	165	165	165	162	156	146	139	133	158
Prunes.....	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Raisins.....	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bananas.....	Dozen..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oranges.....	...do....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
22 weighted articles.[1]	.....	100	201	200	200	211	215	219	219	207	204	198	193	178	203

[1] See note 2, page 12.

Table 5 shows the changes in the retail prices of each of 22 articles of food as well as the changes in the amounts of the articles that could be purchased for $1, each year, 1913 to 1920, and for each month of 1920.

TABLE 5.—AVERAGE RETAIL PRICES OF SPECIFIED ARTICLES OF FOOD AND AMOUNT PURCHASABLE FOR $1, BY YEARS, 1913 TO 1920, AND BY MONTHS FOR 1920.

Year.	Sirloin steak.		Round steak.		Rib roast.		Chuck roast.		Plate beef.		Pork chops.	
	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.
	Per lb.	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*
1913	$0.254	3.9	$0.223	4.5	$0.198	5.1	$0.160	6.3	$0.121	8.3	$0.210	4.8
1914	.259	3.9	.236	4.2	.204	4.9	.167	6.0	.126	7.9	.220	4.5
1915	.257	3.9	.230	4.3	.201	5.0	.161	6.2	.121	8.3	.203	4.9
1916	.273	3.7	.245	4.1	.212	4.7	.171	5.8	.128	7.8	.227	4.4
1917	.315	3.2	.290	3.4	.249	4.0	.209	4.8	.157	6.4	.319	3.1
1918	.389	2.6	.369	2.7	.307	3.3	.266	3.8	.206	4.9	.390	2.6
1919	.417	2.4	.389	2.6	.325	3.1	.270	3.7	.202	5.0	.423	2.4
1920	.437	2.3	.395	2.5	.332	3.0	.262	3.8	.183	5.5	.423	2.4
January	.405	2.5	.370	2.7	.314	3.2	.253	4.0	.184	5.4	.373	2.7
February	.406	2.5	.372	2.7	.315	3.2	.251	4.0	.184	5.4	.377	2.7
March	.408	2.5	.375	2.7	.319	3.1	.251	4.0	.182	5.5	.391	2.6
April	.432	2.3	.399	2.5	.335	3.0	.266	3.8	.190	5.3	.432	2.3
May	.434	2.3	.399	2.5	.334	3.0	.265	3.8	.188	5.3	.425	2.4
June	.461	2.2	.426	2.3	.348	2.9	.278	3.6	.190	5.3	.408	2.5
July	.486	2.1	.450	2.2	.359	2.8	.285	3.5	.191	5.2	.437	2.3
August	.472	2.1	.436	2.3	.349	2.9	.274	3.6	.185	5.4	.459	2.2
September	.468	2.1	.431	2.3	.345	2.9	.271	3.7	.184	5.4	.500	2.0
October	.445	2.2	.419	2.4	.333	3.0	.259	3.9	.178	5.6	.499	2.0
November	.435	2.3	.396	2.5	.326	3.1	.253	4.0	.177	5.6	.441	2.3
December	.397	2.5	.357	2.8	.301	3.3	.232	4.3	.165	6.1	.330	3.0

Year.	Bacon.		Ham.		Lard.		Hens.		Eggs.		Butter.	
	Per lb.	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per dz.*	*Doz.*	*Per lb.*	*Lbs.*
1913	$0.270	3.7	$0.269	3.7	$0.158	6.3	$0.213	4.7	$0.345	2.9	$0.383	2.6
1914	.275	3.6	.273	3.7	.156	6.4	.218	4.6	.353	2.8	.362	2.8
1915	.269	3.7	.261	3.8	.148	6.8	.208	4.8	.341	2.9	.358	2.8
1916	.287	3.5	.294	3.4	.175	5.7	.236	4.2	.375	2.7	.394	2.5
1917	.410	2.4	.382	2.6	.276	3.6	.286	3.5	.481	2.1	.487	2.1
1918	.529	1.9	.479	2.1	.333	3.0	.377	2.7	.569	1.8	.577	1.7
1919	.554	1.8	.534	1.9	.369	2.7	.411	2.4	.628	1.6	.678	1.5
1920	.523	1.9	.555	1.8	.295	3.4	.447	2.2	.681	1.5	.701	1.4
January	.503	2.0	.503	2.0	.340	2.9	.420	2.4	.827	1.2	.742	1.3
February	.503	2.0	.507	2.0	.323	3.1	.447	2.2	.685	1.5	.726	1.4
March	.502	2.0	.512	2.0	.304	3.3	.457	2.2	.556	1.8	.752	1.3
April	.516	1.9	.536	1.9	.301	3.3	.478	2.1	.528	1.9	.761	1.3
May	.526	1.9	.555	1.8	.298	3.4	.471	2.1	.529	1.9	.716	1.4
June	.539	1.9	.577	1.7	.293	3.4	.460	2.2	.536	1.9	.672	1.5
July	.547	1.8	.598	1.7	.290	3.4	.450	2.2	.573	1.7	.679	1.5
August	.549	1.8	.600	1.7	.279	3.6	.450	2.2	.636	1.6	.670	1.5
September	.545	1.8	.604	1.7	.279	3.6	.456	2.2	.711	1.4	.686	1.5
October	.546	1.8	.598	1.7	.292	3.4	.439	2.3	.808	1.2	.689	1.5
November	.530	1.9	.571	1.8	.289	3.5	.429	2.3	.861	1.2	.694	1.4
December	.474	2.1	.499	2.0	.256	3.9	.402	2.5	.924	1.1	.620	1.6

Year.	Cheese.		Milk.		Bread.		Flour.		Corn meal.		Rice.	
	Per lb.	*Lbs.*	*Per qt.*	*Qts.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*
1913	$0.221	4.5	$0.089	11.2	$0.056	17.9	$0.033	30.3	$0.030	33.3	$0.087	11.5
1914	.229	4.4	.089	11.2	.063	15.9	.034	29.4	.032	31.3	.088	11.4
1915	.232	4.3	.088	11.4	.070	14.3	.042	23.8	.033	30.3	.091	11.0
1916	.258	3.9	.091	11.0	.073	13.7	.044	22.7	.034	29.4	.091	11.0
1917	.332	3.0	.112	9.0	.092	10.9	.070	14.3	.058	17.2	.104	9.6
1918	.359	2.8	.139	7.2	.098	10.2	.067	14.9	.068	14.7	.129	7.8
1919	.426	2.3	.155	6.5	.100	10.0	.072	13.9	.064	15.6	.151	6.6
1920	.416	2.4	.167	6.0	.115	8.7	.081	12.3	.065	15.4	.174	5.7
January	.434	2.3	.166	6.0	.109	9.2	.081	12.3	.066	15.2	.181	5.5
February	.433	2.3	.167	6.0	.111	9.0	.081	12.3	.065	15.4	.183	5.5
March	.428	2.3	.166	6.0	.112	8.9	.080	12.5	.065	15.4	.184	5.4
April	.428	2.3	.163	6.1	.112	8.9	.081	12.3	.065	15.4	.186	5.4
May	.429	2.3	.162	6.2	.115	8.7	.087	11.5	.067	14.9	.187	5.3
June	.418	2.4	.162	6.2	.118	8.5	.088	11.4	.069	14.5	.187	5.3
July	.412	2.4	.167	6.0	.119	8.4	.087	11.5	.070	14.3	.186	5.4
August	.405	2.5	.170	5.9	.119	8.4	.084	11.9	.069	14.5	.183	5.5
September	.406	2.5	.172	5.8	.119	8.4	.083	12.0	.068	14.7	.176	5.7
October	.406	2.5	.173	5.8	.118	8.5	.078	12.8	.065	15.4	.161	6.2
November	.398	2.5	.173	5.8	.116	8.6	.073	13.7	.059	16.9	.142	7.0
December	.390	2.6	.168	6.0	.108	9.3	.066	15.2	.055	18.2	.132	7.6

Year.	Potatoes.		Sugar.		Coffee.		Tea.	
	Per lb.	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*
1913	$0.017	58.8	$0.055	18.2	$0.298	3.4	$0.544	1.8
1914	.018	55.6	.059	16.9	.297	3.4	.546	1.8
1915	.015	66.7	.066	15.2	.300	3.3	.545	1.8
1916	.027	37.0	.080	12.5	.299	3.3	.546	1.8
1917	.043	23.3	.093	10.8	.302	3.3	.582	1.7
1918	.032	31.3	.097	10.3	.305	3.3	.648	1.5
1919	.038	26.3	.113	8.8	.433	2.3	.701	1.4

TABLE 5.—AVERAGE RETAIL PRICES OF SPECIFIED ARTICLES OF FOOD AND AMOUNT PURCHASED FOR $1, BY YEARS, 1913 TO 1920, AND BY MONTHS FOR 1920—Concld.

Year.	Potatoes.		Sugar.		Coffee.		Tea.					
	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.	Average retail price.	Amt. for $1.				
	Per b.	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*	*Per lb.*	*Lbs.*				
1920	$0.063	15.9	$0.194	5.2	$0.470	2.1	$0.733	1.4				
January	.054	18.5	.178	5.6	.491	2.0	.720	1.4				
February	.060	16.7	.188	5.3	.491	2.0	.714	1.4				
March	.068	14.7	.187	5.3	.491	2.0	.732	1.4				
April	.091	11.0	.202	5.0	.491	2.0	.733	1.4				
May	.096	10.4	.254	3.9	.492	2.0	.740	1.4				
June	.103	9.7	.267	3.7	.492	2.0	.741	1.3				
July	.089	11.2	.265	3.8	.493	2.0	.744	1.3				
August	.050	20.0	.229	4.4	.484	2.1	.744	1.3				
September	.040	25.0	.183	5.5	.466	2.1	.746	1.3				
October	.034	29.4	.139	7.2	.434	2.3	.724	1.4				
November	.033	30.3	.128	7.8	.413	2.4	.736	1.4				
December	.032	31.3	.105	9.5	.397	2.5	.721	1.4				

Relative Retail Prices of 22 Articles of Food.

IN Table 6 the average monthly and yearly prices of 22 food articles [3] are shown as relative prices, or percentages of the average prices for the year 1913. These relatives are computed by dividing the average price of each commodity for each month and each year by the average price of that commodity for 1913. Relative prices must be used with caution. For example, the relative price of pork chops in November, 1919, was 200, which means that the money price was 200 per cent of the money price in 1913, or, in other words, the price doubled. The relative price of pork chops in December, 1919, was 181, showing a drop of 19 points from 200, which is a decrease of only 9.5 per cent.

In the last column of this table are given index numbers [4] showing the changes by months and years in the retail cost of the 22 food articles weighted according to the importance of each article in the consumption of the average family. Prices are obtained each month for 43 food articles, but only 22 of these are included in the retail food price index, because the amounts consumed by the average family have been obtained as yet for only these 22 food articles. These articles comprise about two-thirds of the entire food budget of the average family and reflect with great accuracy changes in the cost of the food budget. The figure representing the cost of these 22 food articles was 193 in November and 178 in December. This shows that during the month from November to December there was a decrease of 8 per cent.

The curve shown in the chart on page 22 pictures more readily to the eye the changes in the cost of the family market basket and the trend in the cost of the food budget than do the index numbers given in the table. The decrease in the cost of these articles since July brings the curve down in December to the point where it was in September, 1918. The chart has been drawn on the logarithmic scale,[5] because the percentages of increase or decrease are more accurately shown than on the arithmetic scale.

[3] For list of articles, see note 2, p. 12.

[4] For a discussion of the method used in the computation of these index figures, see MONTHLY LABOR REVIEW for March, 1920, p. 34.

[5] For a discussion of the logarithmic chart, see article on "Comparison of arithmetic and ratio charts," by Lucian W. Chaney, MONTHLY LABOR REVIEW for March, 1919, pp. 20-34. Also, "The 'ratio' chart," by Prof. Irving Fisher, reprinted from Quarterly Publications of the American Statistical Association, June, 1917, 24 pp.

TABLE 6.—RELATIVE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN THE UNITED STATES, 1907 TO DECEMBER, 1920.

[Average for year 1913=100.]

Year and month.	Sirloin steak.	Round steak.	Rib roast.	Chuck roast.	Plate beef.	Pork chops.	Bacon.	Ham.	Lard.	Hens.	Eggs.	Butter.	Cheese.	Milk.	Bread.	Flour.	Corn meal.	Rice.	Potatoes.	Sugar.	Coffee.	Tea.	22 weighted articles.
1907	71	68	76	.....	.....	74	74	76	81	81	84	85	.....	87	.....	95	88	.....	.....	105	.....	.....	82
1908	73	71	78	.....	.....	76	77	78	80	83	86	86	.....	90	.....	102	92	.....	111	108	.....	.....	84
1909	77	74	81	.....	.....	83	83	82	90	89	93	90	.....	91	.....	109	94	.....	112	107	.....	.....	89
1910	80	78	85	.....	.....	92	95	91	104	94	98	94	.....	95	.....	108	95	.....	101	109	.....	.....	93
1911	81	79	85	.....	.....	85	91	89	88	91	93	88	.....	96	.....	103	94	.....	130	111	.....	.....	92
1912	91	89	94	.....	.....	91	91	91	94	93	99	98	.....	97	.....	115	102	.....	132	115	.....	.....	98
1913: Av. for year.	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
January	94	92	95	93	92	89	94	93	97	95	108	107	100	100	100	100	99	99	91	106	100	100	98
February	94	93	95	93	93	90	95	94	98	97	91	108	100	100	100	100	98	99	90	100	100	100	97
March	97	96	98	98	98	97	97	97	99	100	77	108	100	100	100	100	98	99	88	99	100	100	97
April	101	99	101	101	101	103	99	99	100	104	73	106	100	100	100	100	98	99	87	98	100	100	98
May	101	100	101	101	101	100	100	99	100	104	76	94	99	99	100	101	98	99	91	97	100	100	97
June	102	101	102	102	101	99	101	102	100	103	81	92	99	99	100	101	98	99	104	97	100	100	98
July	104	104	102	103	101	103	104	104	101	102	87	91	99	99	100	101	98	100	110	100	100	100	100
August	104	104	102	103	101	104	105	106	102	101	96	92	100	99	100	100	100	100	109	102	100	100	101
September	103	104	101	103	102	108	104	104	102	101	109	98	100	100	100	100	102	100	110	104	100	100	102
October	101	104	101	103	102	107	103	102	101	100	120	100	101	101	100	99	103	100	106	101	100	100	104
November	100	102	100	102	102	102	101	100	101	97	144	101	102	102	100	99	104	100	107	99	100	100	105
December	99	101	100	101	102	97	99	99	100	98	138	104	102	102	100	99	104	100	106	98	100	100	104
1914: Av. for year.	**102**	**106**	**103**	**104**	**104**	**105**	**102**	**102**	**99**	**102**	**102**	**94**	**104**	**100**	**112**	**104**	**205**	**101**	**108**	**108**	**100**	**100**	**102**
January	99	102	100	102	102	99	98	98	100	100	126	104	104	102	110	98	104	100	108	95	99	100	104
February	99	102	101	103	102	100	98	99	99	104	106	93	104	102	110	99	103	100	108	94	99	100	101
March	100	103	101	102	102	100	99	99	99	105	90	92	105	101	110	99	103	100	107	93	100	100	99
April	100	103	102	103	102	103	99	99	99	108	74	86	104	100	110	99	103	100	105	91	100	100	97
May	102	105	102	103	103	106	99	99	98	106	77	85	103	100	110	99	103	100	112	91	100	101	98
June	103	106	103	104	103	103	100	100	97	103	82	88	103	100	100	99	103	100	132	93	100	101	99
July	106	109	105	106	104	106	101	103	97	103	87	89	103	100	110	98	103	101	155	95	99	101	102
August	110	113	108	109	107	119	107	108	99	104	96	94	103	100	112	106	105	101	111	143	100	101	107
September	107	110	105	108	107	113	108	108	99	103	107	98	104	100	114	113	109	101	05	145	100	101	107
October	103	107	104	106	106	110	106	105	98	100	113	98	104	101	114	111	109	101	89	132	99	101	105
November	100	105	103	104	105	104	104	102	99	97	131	103	104	101	114	112	109	101	83	113	99	101	105
December	101	103	101	103	103	93	103	100	97	94	139	103	104	101	116	113	107	101	84	110	99	101	105
1915: Av. for year.	**101**	**103**	**101**	**101**	**100**	**96**	**100**	**97**	**93**	**97**	**99**	**93**	**105**	**99**	**124**	**126**	**198**	**104**	**89**	**120**	**101**	**100**	**101**
January	100	102	101	101	102	88	101	98	97	85	129	101	105	101	120	124	109	104	85	110	101	100	103
February	98	100	100	99	101	85	99	96	97	97	98	98	106	100	126	138	110	104	84	118	101	100	101
March	97	99	99	98	100	85	98	95	96	99	74	94	106	99	126	136	110	104	82	120	101	100	98
April	99	100	100	99	100	94	98	94	96	100	95	94	105	99	126	137	109	104	86	122	101	100	98

TABLE 6.—RELATIVE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN THE UNITED STATES, 1907 TO DECEMBER, 1920—Concluded.

Year and month.	Sirloin steak.	Round steak.	Rib roast.	Chuck roast.	Plate beef.	Pork chops.	Bacon.	Ham.	Lard.	Hens.	Eggs.	Butter.	Cheese.	Milk.	Bread.	Flour.	Corn meal.	Rice.	Potatoes.	Sugar.	Coffee.	Tea.	22 weighted articles.
1915: Av. for year.																							
May	101	103	101	101	101	99	98	95	96	101	76	91	106	98	128	139	109	104	89	124	101	100	100
June	103	105	103	103	101	98	98	97	95	98	78	90	106	98	128	130	109	104	99	126	101	100	100
July	105	107	104	103	101	100	100	98	93	97	81	90	105	98	126	125	108	104	85	127	101	100	100
August	104	107	104	103	101	103	100	98	89	97	88	88	103	99	126	124	108	104	82	123	101	100	100
September	104	106	103	102	101	107	100	97	88	97	101	88	103	99	124	117	108	104	79	118	100	100	100
October	103	104	102	101	99	110	101	99	91	97	117	92	104	100	124	113	108	104	94	111	100	100	103
November	101	102	101	99	98	99	101	100	92	95	133	95	105	100	122	113	107	104	97	119	100	100	104
December	99	101	100	99	98	87	101	100	92	95	135	101	107	100	122	114	107	104	106	124	100	100	105
1916: Av. for year.	**108**	**110**	**107**	**107**	**106**	**108**	**106**	**109**	**111**	**111**	**109**	**103**	**117**	**102**	**130**	**135**	**113**	**105**	**159**	**146**	**100**	**100**	**114**
January	101	102	101	99	99	89	101	101	93	101	123	100	110	100	122	120	107	105	136	123	100	100	107
February	101	102	102	99	100	92	101	102	94	104	101	99	112	100	124	125	108	104	141	125	100	100	106
March	104	104	104	103	102	104	103	104	96	107	82	105	113	100	124	120	107	104	140	137	100	100	107
April	106	108	106	106	105	107	104	107	100	111	79	108	113	99	124	119	108	104	138	145	100	100	109
May	109	112	110	109	107	109	105	109	106	113	82	97	112	99	124	119	108	104	140	156	100	100	109
June	113	117	113	113	111	110	107	110	108	114	87	95	111	99	124	117	108	105	167	158	100	100	112
July	113	116	112	112	109	111	107	111	110	113	93	93	110	100	124	116	108	105	134	160	100	100	111
August	112	115	111	110	107	116	108	111	111	112	105	95	111	101	126	134	110	105	141	155	100	100	113
September	111	115	110	110	107	125	110	114	118	113	120	102	116	102	136	148	113	105	161	141	100	100	118
October	108	111	108	108	106	118	110	114	123	114	132	109	122	105	144	155	117	105	165	149	100	100	121
November	106	108	106	107	106	111	111	114	135	112	149	114	132	109	150	174	126	105	198	157	100	100	126
December	106	107	106	106	106	106	110	114	137	112	154	118	140	112	138	167	131	105	198	151	100	100	126
1917: Av. for year.	**124**	**130**	**126**	**131**	**130**	**152**	**152**	**142**	**175**	**134**	**139**	**127**	**150**	**125**	**164**	**211**	**192**	**119**	**253**	**169**	**101**	**107**	**146**
January	109	111	109	109	108	113	110	114	136	119	158	118	141	112	140	171	132	105	225	146	100	100	128
February	113	117	114	116	116	125	114	118	138	126	147	122	142	112	142	171	136	104	290	148	100	100	133
March	116	119	118	128	121	133	123	125	151	129	101	121	146	112	144	174	137	104	297	160	101	101	133
April	125	130	127	131	132	146	141	136	167	136	112	133	150	114	150	206	154	108	339	175	101	101	145
May	127	133	130	134	135	146	155	144	176	138	116	122	153	117	168	266	178	121	352	283	101	103	151
June	129	135	132	137	137	148	158	145	177	136	119	123	153	119	170	246	182	125	366	170	101	104	152
July	129	137	130	137	136	151	159	147	174	131	122	120	149	125	176	220	195	123	246	166	103	110	146
August	130	138	129	136	134	164	160	147	176	131	134	124	148	128	182	229	219	122	206	181	102	111	149
September	131	133	131	137	135	185	164	152	188	142	152	129	152	132	176	223	272	124	172	179	102	112	153
October	130	138	130	136	136	185	178	159	198	146	166	133	158	143	176	214	232	128	178	177	102	113	157
November	124	133	127	132	134	165	179	159	207	138	168	138	156	144	176	208	235	131	183	174	102	114	155
December	126	134	128	134	134	161	181	161	211	143	184	142	156	147	166	205	235	133	178	172	102	114	157
1918: Av. for year.	**153**	**165**	**155**	**166**	**170**	**186**	**196**	**178**	**211**	**177**	**165**	**151**	**162**	**156**	**175**	**203**	**227**	**148**	**188**	**176**	**102**	**110**	**167**
January	129	137	130	138	142	163	180	162	208	154	195	148	156	151	168	200	233	134	188	173	102	115	160
February	132	141	133	142	146	160	179	163	209	170	182	151	158	151	170	200	233	236	188	193	102	112	161

March	133	143	135	145	150	161	181	164	210	(1)	128	144	159	151	171	200	240	138	147	167	102	113	154
April	144	155	148	159	164	170	183	166	209	(1)	123	132	154	148	175	200	237	139	129	165	101	117	154
May	157	170	161	174	181	175	187	170	208	178	123	133	151	148	177	200	233	141	129	165	101	117	158
June	168	182	169	184	188	177	191	173	206	177	123	133	150	146	179	203	223	144	171	165	101	119	162
July	166	181	168	182	185	180	194	181	206	178	142	137	152	148	179	203	223	148	229	167	101	120	167
August	163	178	165	177	179	201	200	180	209	181	155	141	157	153	177	206	227	154	229	169	101	121	171
September	164	178	165	178	181	220	208	193	213	185	170	155	163	161	177	206	230	157	229	175	102	122	178
October	161	175	163	174	178	216	214	193	216	183	186	170	174	166	175	203	227	161	206	193	102	124	181
November	159	173	162	172	175	206	216	195	216	185	215	174	184	173	175	203	217	161	194	196	103	125	183
December	159	171	161	171	174	197	217	198	216	180	235	190	193	176	175	203	213	160	188	196	109	124	187
1919: Av. for year	**164**	**174**	**164**	**169**	**167**	**201**	**205**	**209**	**134**	**193**	**182**	**177**	**193**	**174**	**179**	**218**	**213**	**174**	**224**	**205**	**145**	**129**	**186**
January	162	175	165	175	181	193	217	199	211	188	218	184	201	175	175	200	207	159	188	196	117	127	185
February	162	174	165	174	181	180	205	193	203	186	147	149	185	174	175	203	200	164	182	195	123	126	172
March	165	177	169	178	183	184	203	191	211	193	140	174	183	172	175	206	197	154	171	193	126	129	175
April	172	182	175	184	187	197	212	197	223	202	143	186	190	169	175	218	200	154	182	193	129	128	182
May	175	187	178	186	186	205	210	203	246	204	154	177	191	167	175	227	207	154	194	193	136	128	185
June	170	181	171	176	174	202	212	205	254	200	155	165	192	167	177	227	210	159	224	193	143	129	184
July	171	183	169	173	168	220	215	211	266	197	164	164	195	169	179	227	217	168	282	198	155	130	190
August	166	177	164	166	160	223	214	212	266	196	174	167	197	174	180	224	220	178	294	202	160	130	192
September	161	170	158	158	150	219	206	205	242	194	183	172	195	176	180	221	223	190	253	200	164	130	188
October	157	165	155	153	145	211	196	195	228	189	209	186	192	180	180	221	220	199	224	207	163	131	189
November	155	162	153	151	143	200	189	188	231	184	235	197	195	184	182	224	220	202	229	227	164	131	192
December	154	161	153	152	143	181	186	186	221	184	261	204	196	188	182	233	220	202	253	264	164	127	197
1920: Av. for year	**172**	**177**	**168**	**164**	**151**	**201**	**194**	**206**	**187**	**210**	**197**	**183**	**188**	**188**	**205**	**245**	**217**	**200**	**371**	**353**	**158**	**135**	**203**
January	159	166	159	158	152	178	186	187	215	197	240	194	196	187	195	245	220	208	318	324	165	132	201
February	160	167	159	157	152	180	186	188	204	210	199	190	196	188	198	245	217	210	353	342	165	131	200
March	161	168	161	157	150	186	186	190	192	215	161	196	194	187	200	242	217	211	400	340	165	135	200
April	170	179	169	166	157	206	191	199	191	224	153	199	194	183	200	245	217	214	535	367	165	135	211
May	171	179	169	166	155	202	195	206	189	221	153	187	194	182	205	264	223	215	565	462	165	136	215
June	182	191	176	174	157	194	200	215	185	216	155	175	189	182	211	267	230	215	606	485	165	136	219
July	192	202	181	179	158	208	203	222	184	211	166	177	186	188	213	264	233	214	524	482	165	137	219
August	186	196	176	172	154	219	203	223	177	212	184	175	183	191	213	255	230	210	294	416	162	137	207
September	185	193	175	170	152	238	202	224	177	214	206	179	184	193	213	252	227	202	229	333	153	137	203
October	177	188	168	162	147	238	202	222	185	207	234	180	184	194	211	236	213	185	200	253	146	133	198
November	171	178	165	158	146	210	196	212	183	201	250	181	180	194	207	221	197	163	194	235	139	135	193
December	156	160	152	145	136	157	176	186	162	189	268	162	176	189	193	200	183	152	188	191	133	133	178

[1] No hens sold in this month by order of Food Administration.

TREND IN RETAIL COST OF 22 FOOD ARTICLES, COMBINED, FOR THE UNITED STATES, BY MONTHS, JANUARY, 1913 TO DECEMBER, 1920.

[Average cost for 1913=100.

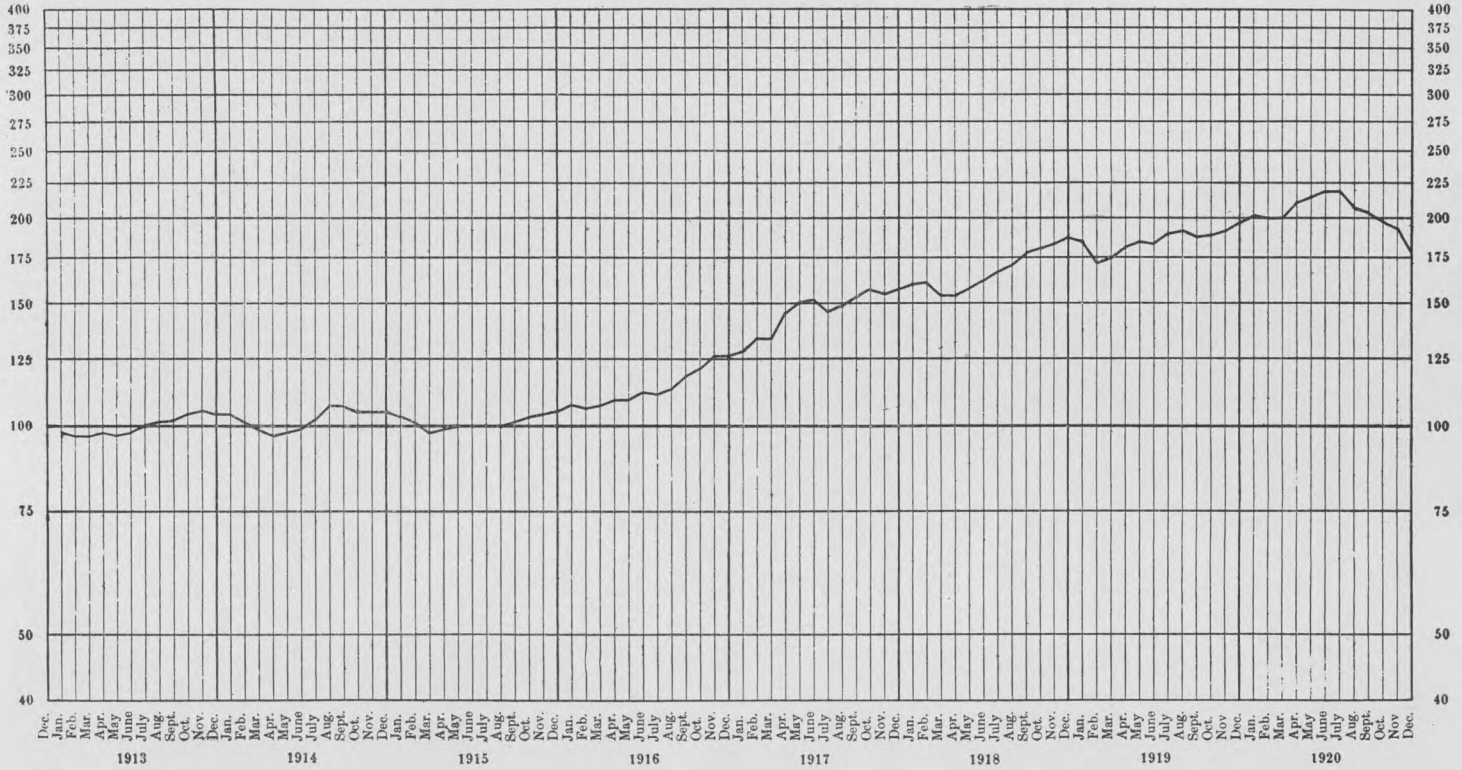


Table 7 shows by index numbers the trend in the retail cost of food in the United States from 1890 to 1920. The percentage increase in the cost from 1919 to 1920 was 9 per cent while the percentage increase from 1890 to 1920 was 190 per cent. This large percentage means that the cost of food in 1920 was 2.9 times as much as it was in 1890.

TABLE 7.—INDEX NUMBERS SHOWING THE TREND IN THE RETAIL COST OF FOOD[1] IN THE UNITED STATES, BY YEARS, 1890 TO 1920.

[Average for year 1913=100.]

Year.	Relative price.	Year.	Relative price.	Year.	Relative price.	Year.	Relative price.
1890	70	1898	67	1906	79	1914	102
1891	71	1899	68	1907	82	1915	101
1892	69	1900	69	1908	84	1916	114
1893	71	1901	72	1909	89	1917	146
1894	68	1902	75	1910	93	1918	168
1895	67	1903	75	1911	92	1919	186
1896	65	1904	76	1912	98	1920	203
1897	65	1905	76	1913	100		

[1] The number of articles included in the index number for each year has not been the same throughout the period, but a sufficient number have been used fairly to represent food as a whole. From 1890 to 1907, 30 articles were used; from 1907 to 1913, 15 articles, and from 1913 to 1919, 22 articles. The relatives for the period have been so computed as to be comparable with each other.

Retail Prices of Food in 51 Cities on Specified Dates.

AVERAGE retail food prices are shown in Table 8 for 39 cities for December 15 of each year, 1913, 1919, and 1920, and for November 15, 1920. These cities are as follows:

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Boston, Mass.
Buffalo, N. Y.
Charleston, S. C.
Chicago, Ill.
Cincinnati, Ohio.
Cleveland, Ohio.
Dallas, Tex.
Denver, Colo.
Detroit, Mich.
Fall River, Mass.
Indianapolis, Ind.
Jacksonville, Fla.
Kansas City, Mo.
Little Rock, Ark.
Los Angeles, Calif.
Louisville, Ky.
Manchester, N. H.
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Newark, N. J.
New Haven, Conn.
New Orleans, La.
New York, N. Y.
Omaha, Nebr.
Philadelphia, Pa.
Pittsburgh, Pa.
Portland, Oreg.
Providence, R. I.
Richmond, Va.
St. Louis, Mo.
Salt Lake City, Utah.
San Francisco, Calif.
Scranton, Pa.
Seattle, Wash.
Washington, D. C.

Average prices are shown for December 15, 1919, and for November 15 and December 15, 1920, for 11 other cities from which prices were not secured in 1913, as follows:

Bridgeport, Conn.
Butte, Mont.
Columbus, Ohio.
Houston, Tex.
Mobile, Ala.
Norfolk, Va.
Peoria, Ill.
Portland, Me.
Rochester, N. Y.
St. Paul, Minn.
Springfield, Ill.

Average prices are shown for Savannah, Ga., for November 15 and December 15, 1920, only, as prices were not secured from this city until January, 1920.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES

[The prices shown in this table are computed from reports sent monthly to the bureau, by retail dealers;

Article.	Unit.	Atlanta, Ga.				Baltimore, Md.				Birmingham, Ala.			
		Dec. 15.		Nov. 15, 1920	Dec. 15, 1920	Dec. 15.		Nov. 15, 1920	Dec. 15, 1920	Dec. 15.		Nov. 15, 1920	Dec. 15, 1920
		1913	1919			1913	1919			1913	1919		
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak	Pound	23.7	37.4	38.2	36.7	22.3	38.9	42.0	37.8	28.0	38.7	42.9	39.6
Round steak	do	21.3	34.7	35.3	34.4	20.8	36.8	40.2	35.4	23.0	36.8	39.1	36.1
Rib roast	do	19.7	27.3	31.4	27.9	17.5	31.6	32.3	30.0	20.5	30.8	31.7	29.0
Chuck roast	do	15.8	21.5	23.6	21.8	15.3	24.8	25.9	24.0	16.1	25.5	25.7	23.8
Plate beef	do	9.9	16.1	17.0	16.6	12.6	17.0	17.5	17.3	10.0	17.0	17.0	16.3
Pork chops	do	23.3	37.9	40.6	31.3	17.0	33.5	43.1	30.3	20.6	39.8	41.1	31.9
Bacon	do	31.4	55.3	54.3	51.3	20.5	42.4	46.6	39.5	33.0	57.3	58.3	53.0
Ham	do	30.0	52.1	56.4	48.3	27.5	50.8	61.1	52.6	32.0	52.3	58.3	52.1
Lamb	do	20.2	34.4	39.4	35.6	17.5	32.8	39.4	36.3	21.9	38.5	44.5	39.5
Hens	do	20.3	37.9	39.3	33.7	20.7	39.5	43.5	39.3	19.3	36.1	38.8	33.9
Salmon, canned	do	.....	28.8	26.8	27.2	.....	34.2	35.1	35.1	.....	39.5	40.1	39.7
Milk, fresh	Quart	10.8	25.0	25.0	25.0	8.7	16.0	16.0	15.0	10.0	25.0	25.0	25.0
Milk, evaporated	15–16 oz. can	.....	18.1	16.5	15.6	.....	16.4	14.6	14.6	.....	17.5	16.0	15.9
Butter	Pound	40.4	78.5	73.8	65.1	40.2	81.2	73.4	67.7	44.0	82.1	73.1	67.6
Oleomargarine	do	.....	47.5	44.0	41.4	.....	41.0	41.0	39.8	.....	45.8	42.2	41.5
Nut margarine	do	.....	40.7	39.5	39.0	.....	35.9	34.8	34.4	.....	38.3	40.1	39.2
Cheese	do	25.0	42.8	38.9	37.8	23.3	43.2	40.4	39.5	23.0	42.3	39.4	38.8
Lard	do	15.5	34.4	29.7	26.0	14.8	32.2	28.3	24.4	15.7	35.0	28.8	25.3
Crisco	do	.....	34.3	30.4	28.7	.....	35.1	28.3	26.5	.....	37.3	33.1	32.1
Eggs, strictly fresh	Dozen	43.3	91.4	75.4	89.2	40.4	87.8	87.1	92.4	41.8	89.1	73.9	83.9
Eggs, storage	do	28.5	63.1	67.5	71.1	33.1	61.9	63.6	68.6	35.0	64.2	65.0	69.2
Bread	Pound	5.6	10.0	12.3	12.3	5.5	9.6	10.8	10.8	5.4	9.6	11.4	11.3
Flour	do	3.4	7.3	7.8	7.3	3.1	8.0	7.2	6.6	3.6	7.6	8.2	7.7
Corn meal	do	2.6	5.6	4.8	4.1	2.5	5.5	4.9	4.4	2.5	5.3	4.6	4.1
Rolled oats	do	.....	10.6	13.6	12.5	.....	7.9	11.5	11.0	.....	11.2	14.3	13.0
Corn flakes	8-oz. pkg	.....	14.1	15.0	14.6	.....	12.9	13.6	13.5	.....	14.8	14.9	14.8
Cream of Wheat	28-oz pkg	.....	27.9	31.6	31.6	.....	27.1	29.1	28.8	.....	26.8	33.1	32.6
Macaroni	Pound	.....	20.5	23.2	22.6	.....	18.1	21.4	21.6	.....	20.9	23.1	23.9
Rice	do	8.6	17.6	11.9	10.4	9.0	17.9	13.6	13.0	8.2	17.7	14.1	12.7
Beans, navy	do	.....	14.7	12.8	12.0	.....	11.7	9.8	8.9	.....	14.2	12.2	11.7
Potatoes	do	2.3	4.8	4.3	4.3	1.8	3.6	3.0	2.9	2.1	5.1	4.5	4.3
Onions	do	.....	9.1	6.0	5.2	.....	7.5	4.1	4.1	.....	9.1	5.4	5.3
Cabbage	do	.....	6.5	4.6	4.5	.....	5.6	2.6	2.5	.....	6.5	5.2	5.2
Beans, baked	No. 2 can	.....	16.3	16.4	16.4	.....	15.5	14.8	14.7	.....	18.1	18.2	18.0
Corn, canned	do	.....	20.0	19.8	18.6	.....	17.8	18.1	17.5	.....	19.2	18.9	18.6
Peas, canned	do	.....	20.4	19.8	19.8	.....	18.2	18.2	17.8	.....	21.6	21.0	20.3
Tomatoes, canned	do	.....	14.5	13.4	12.1	.....	15.2	12.2	11.1	.....	14.3	11.6	10.8
Sugar, granulated	Pound	5.5	22.6	13.7	10.7	4.9	13.8	12.9	10.5	5.2	21.4	13.2	10.8
Tea	do	60.0	87.6	92.5	90.1	56.0	71.6	69.0	68.5	61.3	86.2	86.8	87.7
Coffee	do	32.0	51.0	41.5	38.8	24.4	45.8	38.4	35.9	28.8	49.8	44.8	43.8
Prunes	do	.....	24.8	29.5	28.5	.....	30.1	24.9	23.2	.....	30.4	29.3	29.3
Raisins	do	.....	22.8	31.5	33.1	.....	23.8	33.1	31.6	.....	22.7	32.8	32.8
Bananas	Dozen	.....	34.2	33.8	28.2	.....	32.2	32.3	32.4	.....	42.4	46.3	43.6
Oranges	do	.....	41.3	40.3	36.5	.....	52.2	66.2	40.8	.....	42.6	47.8	41.9

[1] The steak for which prices are here quoted is known as "porterhouse" in most of the cities included

OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES.

as some dealers occasionally fail to report, the number of quotations varies from month to month.]

Boston, Mass.				Bridgeport, Conn.			Buffalo, N. Y.				Butte, Mont.			Charleston, S. C.			
Dec. 15.		Nov. 15, 1920	Dec. 15, 1920	Dec. 15, 1919	Nov. 15, 1920	Dec. 15, 1920	Dec. 15.		Nov. 15, 1920	Dec. 15, 1920	Dec. 15, 1919	Nov. 15, 1920	Dec. 15, 1920	Dec. 15.		Nov. 15, 1920	Dec. 15, 1920
1913	1919						1913	1919						1913	1919		
Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
[1] 33.0	[1] 58.9	[1] 67.4	[1] 59.6	49.9	51.2	44.9	21.6	35.8	39.7	35.8	32.7	33.9	28.8	22.5	37.8	40.3	39.7
34.3	53.9	62.9	53.5	47.1	48.2	41.8	18.8	32.6	35.8	32.1	27.9	29.8	25.5	21.0	37.0	40.6	39.4
23.7	41.5	42.9	38.2	37.0	37.3	33.0	16.4	28.9	31.0	28.7	25.4	26.3	22.5	20.0	30.5	33.3	30.8
16.2	29.7	33.6	29.3	29.1	29.2	25.8	15.0	24.2	25.5	23.4	19.6	20.7	17.8	15.0	25.2	25.0	25.0
.....	.....	.....	.....	14.7	13.9	13.1	11.8	17.3	17.6	16.4	13.8	15.3	12.3	12.5	19.0	20.4	20.6
21.9	39.0	50.4	35.2	38.5	46.2	32.2	17.6	36.8	46.5	32.8	38.3	48.0	35.9	25.0	43.7	47.3	40.7
24.3	46.3	50.5	45.5	55.0	58.5	51.4	20.6	40.4	44.7	38.4	58.9	63.0	58.2	27.0	54.3	54.0	51.3
30.7	53.3	66.6	55.4	59.5	70.1	59.8	26.3	50.2	56.3	48.7	60.0	64.1	58.9	27.5	52.0	55.6	51.4
20.2	37.6	42.3	39.6	35.1	40.4	35.3	15.4	26.8	31.9	28.8	27.7	28.1	27.9	24.0	40.4	45.5	44.5
24.0	45.1	49.7	47.0	43.6	46.0	45.0	19.8	38.2	41.8	40.0	31.3	39.3	36.5	21.8	47.9	48.5	47.1
.....	35.1	39.4	37.4	39.0	40.6	40.5	.....	34.3	36.1	36.0	45.0	45.4	44.1	.....	34.7	36.7	36.4
8.9	17.0	18.4	18.3	18.5	18.0	17.0	8.0	16.0	17.0	16.0	15.5	15.8	15.8	12.0	25.0	23.3	23.3
.....	17.1	15.7	15.5	17.0	15.0	15.1	.....	16.5	14.1	14.3	18.5	16.2	16.2	.....	17.2	14.9	14.9
37.9	72.9	68.3	63.5	71.5	66.3	62.4	39.1	78.2	69.7	61.6	74.5	67.4	63.3	39.0	76.4	67.6	64.4
.....	42.8	44.1	43.3	43.3	40.6	39.3	.....	42.9	39.6	38.8	.....	40.0	40.0	.....	45.7	43.3	42.1
.....	35.8	35.9	35.4	35.4	35.5	34.4	.....	34.4	33.5	32.8	.....	39.0	39.4	.....	45.7	37.0	36.0
23.4	42.8	40.5	39.7	43.2	40.0	39.8	21.5	41.7	38.2	37.6	46.1	42.4	41.8	21.0	42.6	37.7	37.1
15.8	34.8	29.2	26.2	33.8	27.8	24.8	14.2	32.7	27.3	23.6	39.0	34.5	32.7	15.0	38.0	28.9	27.8
.....	36.0	31.7	28.5	36.3	30.0	29.1	.....	35.8	29.2	28.0	43.5	40.8	36.6	.....	38.7	31.1	28.8
57.5	108.6	119.6	120.0	111.0	109.5	118.9	47.6	95.3	91.2	98.1	90.0	93.9	91.7	46.7	76.7	69.7	75.0
36.0	65.1	69.2	71.0	66.3	69.1	70.0	31.4	60.4	63.1	67.4	63.9	68.5	70.6	35.2	58.3	60.1	64.2
5.9	9.6	11.4	10.4	10.4	12.7	11.2	5.6	10.0	11.5	11.0	12.3	12.1	12.0	6.4	10.0	12.9	12.8
3.6	8.4	8.0	7.0	8.0	7.4	6.5	3.0	7.4	6.3	5.5	8.7	7.8	7.0	3.7	7.8	8.5	8.0
3.6	7.4	7.5	6.9	8.5	9.1	8.8	2.6	6.6	5.8	5.2	7.8	7.5	6.9	2.6	5.2	4.5	4.2
.....	8.0	10.3	9.9	10.0	11.8	11.1	.....	7.8	9.4	8.5	9.1	10.1	9.7	.....	10.4	12.7	12.6
.....	13.9	14.3	14.3	13.7	13.8	13.6	.....	13.0	13.1	13.0	14.6	15.4	14.9	.....	14.9	14.8	14.8
.....	27.4	30.4	30.3	26.8	28.9	28.8	.....	25.4	28.4	28.2	31.2	34.1	34.3	.....	27.7	30.3	30.1
.....	22.3	25.6	25.2	23.5	24.9	24.9	.....	20.3	23.2	23.3	20.4	22.1	22.3	.....	20.7	22.8	24.0
9.4	18.1	15.8	14.7	17.4	14.9	14.2	9.3	17.5	14.8	13.2	17.8	14.8	13.4	5.6	14.7	10.0	9.8
.....	11.4	9.7	9.2	12.1	11.0	10.3	.....	11.5	10.1	9.4	13.0	10.8	10.4	.....	14.7	13.5	12.6
1.7	3.9	3.4	3.0	3.9	3.3	3.1	1.7	3.9	2.8	2.8	3.9	2.4	2.4	2.2	4.6	3.7	3.7
.....	9.2	4.2	3.9	8.6	4.1	3.9	.....	7.8	4.0	4.1	7.6	4.2	4.0	.....	9.1	4.8	4.7
.....	6.7	4.4	4.2	6.2	3.6	3.5	.....	5.5	1.4	1.8	5.3	3.5	3.3	.....	6.5	4.6	4.3
.....	17.1	18.0	17.6	16.4	15.1	14.4	.....	14.1	14.0	13.7	22.1	22.2	22.0	.....	15.3	14.5	14.6
.....	20.5	20.3	20.3	21.2	21.2	21.1	.....	18.7	17.7	17.2	18.9	18.6	18.8	.....	20.7	18.3	17.7
.....	20.4	22.3	22.1	20.9	22.0	21.9	.....	17.9	17.3	16.9	19.0	18.6	18.8	.....	21.9	21.3	21.2
.....	15.3	13.7	13.5	17.6	13.6	13.0	.....	16.5	14.4	13.5	18.7	16.6	16.5	.....	15.7	13.0	11.6
5.3	11.0	12.2	10.3	11.3	13.3	10.8	5.1	11.2	13.2	10.9	14.1	14.9	12.9	5.0	14.0	13.2	10.5
58.6	66.7	69.1	68.6	61.4	64.5	62.4	45.0	66.4	66.6	66.2	78.1	78.2	77.5	50.0	81.3	79.1	79.1
33.0	53.3	46.0	44.6	47.2	41.2	38.7	29.3	47.0	40.8	38.0	58.9	56.9	55.0	26.8	48.6	40.6	38.5
.....	28.8	27.2	25.3	29.2	24.9	23.4	.....	30.4	26.5	25.5	26.5	28.3	26.6	.....	29.6	26.4	24.9
.....	23.5	32.8	32.9	23.8	31.7	31.5	.....	20.8	31.8	31.9	24.1	32.9	34.2	.....	23.0	33.6	33.5
.....	45.0	59.2	52.0	40.0	43.9	40.0	.....	42.3	50.7	48.4	50.0	63.3	62.5	.....	46.0	50.0	46.7
.....	55.9	71.0	45.7	54.4	80.0	48.8	....	57.9	76.8	59.2	58.8	62.3	56.7	.....	49.1	47.9	37.4

in this report, but in this city it is called "sirloin" steak.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES

Article.	Unit.	Chicago, Ill.				Cincinnati, Ohio.				Cleveland, Ohio.			
		Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
		1913	1919			1913	1919			1913	1919		
		Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak	Pound	24.1	35.9	44.8	40.9	23.0	30.6	36.9	34.0	24.6	37.7	43.7	38.4
Round steak	do	21.2	31.7	37.2	34.0	20.7	29.1	34.6	31.8	21.7	34.3	38.7	34.0
Rib roast	do	19.7	29.0	34.2	31.0	19.5	25.7	31.1	29.3	18.6	29.0	30.5	28.1
Chuck roast	do	15.7	23.5	25.6	23.7	15.3	18.7	22.5	21.6	17.0	24.2	26.5	23.9
Plate beef	do	11.8	16.7	17.3	16.2	11.8	17.4	18.6	17.9	12.5	16.9	17.8	16.6
Pork chops	do	17.9	33.3	39.3	28.0	18.9	34.2	41.2	29.5	19.4	37.1	43.1	29.1
Bacon	do	32.0	52.7	57.2	51.1	22.6	42.5	48.5	41.8	27.9	47.8	54.1	48.1
Ham	do	31.8	51.4	58.4	52.3	27.8	48.0	60.8	51.6	36.3	53.4	60.8	53.8
Lamb	do	19.4	32.3	38.7	35.5	17.5	30.6	34.9	33.5	18.0	33.0	37.0	34.1
Hens	do	17.7	32.0	37.3	34.8	22.7	37.0	43.7	41.7	19.3	37.3	43.6	39.4
Salmon, canned	do	.....	37.1	38.4	36.2	.....	35.7	37.1	36.4	.....	36.5	38.6	39.0
Milk, fresh	Quart	8.0	15.1	15.0	14.0	8.0	15.0	15.0	15.0	8.0	16.0	15.0	15.0
Milk, evaporated	15–16 oz. can	.....	16.2	13.7	13.6	.....	16.4	14.6	14.5	.....	17.2	15.0	15.1
Butter	Pound	38.3	74.4	68.0	56.5	39.3	77.9	69.2	59.0	42.2	80.4	73.7	63.0
Oleomargarine	do	.....	41.7	35.9	34.0	.....	42.1	38.2	36.4	.....	46.1	42.3	40.7
Nut margarine	do	.....	33.7	31.2	30.5	.....	34.5	34.1	32.8	.....	35.5	34.9	34.4
Cheese	do	25.3	45.0	39.9	39.9	21.4	43.7	42.3	41.5	24.0	42.4	40.1	39.1
Lard	do	15.0	33.4	27.1	24.2	13.9	29.8	26.8	20.4	16.4	34.4	30.4	26.9
Crisco	do	.....	36.2	30.2	28.9	.....	34.8	29.6	27.7	.....	37.8	31.5	30.1
Eggs, strictly fresh	Dozen	40.0	82.1	81.4	87.7	38.0	80.5	82.8	81.6	48.0	98.0	88.9	91.4
Eggs, storage	do	32.0	60.2	63.2	67.6	30.6	60.7	63.9	66.0	34.3	63.1	67.6	71.0
Bread	Pound	6.1	10.7	12.4	11.5	4.8	9.9	11.5	10.3	5.6	9.6	11.8	10.5
Flour	do	2.9	7.7	6.2	5.5	3.3	7.7	7.4	6.7	3.1	7.8	7.3	6.6
Corn meal	do	2.9	6.6	6.8	6.5	2.8	5.5	4.9	4.5	2.9	6.3	6.1	5.7
Rolled oats	do	.....	7.3	10.2	9.7	.....	7.6	11.6	10.5	.....	9.4	12.4	11.7
Corn flakes	8-oz. pkg	.....	13.3	13.7	13.1	.....	13.8	14.2	13.7	.....	14.1	15.2	15.0
Cream of Wheat	28-oz. pkg	.....	25.7	28.7	29.1	.....	26.5	30.4	30.0	.....	27.9	30.5	30.1
Macaroni	Pound	.....	18.3	20.7	19.9	.....	16.7	19.8	19.8	.....	19.0	23.3	22.7
Rice	do	9.0	17.4	14.4	13.1	8.8	17.7	14.2	12.1	9.0	18.6	15.0	13.5
Beans, navy	do	.....	12.1	9.9	9.3	.....	10.6	8.6	7.7	.....	11.4	9.3	8.4
Potatoes	do	1.7	4.1	3.2	2.8	1.8	4.4	3.8	3.7	2.0	4.2	3.5	3.4
Onions	do	.....	7.6	4.1	4.0	.....	6.7	4.5	4.1	.....	7.6	4.4	4.1
Cabbage	do	.....	6.6	2.7	3.1	.....	6.0	3.6	3.5	.....	6.1	3.4	3.2
Beans, baked	No. 2 can	.....	16.5	15.9	15.9	.....	15.9	15.5	14.9	.....	15.9	16.2	15.7
Corn, canned	do	.....	17.0	16.4	16.4	.....	16.5	17.3	16.2	.....	19.3	19.8	19.6
Peas, canned	do	.....	17.1	16.4	16.0	.....	17.1	18.1	17.9	.....	19.1	20.7	20.9
Tomatoes, canned	do	.....	16.0	13.9	13.6	.....	15.4	14.0	13.4	.....	16.3	14.8	14.3
Sugar, granulated	Pound	5.1	17.1	11.2	9.8	5.2	18.7	12.1	10.0	5.4	14.1	13.1	11.0
Tea	do	55.0	67.1	69.6	68.1	60.0	75.8	76.2	74.8	50.0	74.0	76.2	75.3
Coffee	do	30.7	45.0	38.6	36.9	25.6	43.0	34.1	33.2	26.5	50.2	45.0	43.6
Prunes	do	.....	30.0	28.0	27.5	.....	27.7	30.0	29.7	.....	29.2	28.8	28.0
Raisins	do	.....	26.2	31.1	30.8	.....	24.1	33.6	33.6	.....	23.8	31.2	31.2
Bananas	Dozen	.....	37.7	43.5	40.0	.....	37.7	48.9	41.8	.....	47.5	55.3	53.3
Oranges	do	.....	50.5	73.1	53.1	.....	37.9	49.9	41.8	.....	56.5	71.7	53.0

[2] The steak for which prices are here quoted is known as "porterhouse" in most of the cities included

OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES—Continued.

Columbus, Ohio.			Dallas, Tex.				Denver, Colo.				Detroit, Mich.				Fall River, Mass.			
			Dec. 15.				Dec. 15.				Dec. 15.				Dec. 15.			
Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	1913	1919	Nov. 15, 1920.	Dec. 15, 1920.	1913	1919	Nov. 15, 1920.	Dec. 15, 1920.	1913	1919	Nov. 15, 1920.	Dec. 15, 1920.	1913	1919	Nov. 15, 1920.	Dec. 15, 1920.
Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
34.7	38.2	35.6	23.6	37.2	39.3	38.3	22.9	31.8	35.8	30.9	24.8	36.7	41.6	37.6	[2] 34.3	[2] 58.6	[2] 68.3	[2] 56.7
32.7	35.0	32.2	21.3	35.3	37.5	36.5	20.7	28.8	30.8	28.0	20.4	31.8	36.2	32.1	27.3	46.4	53.9	44.0
29.4	31.0	28.5	20.6	30.6	31.9	30.9	16.7	25.3	26.6	24.3	20.2	29.2	32.3	28.9	23.3	34.0	35.6	30.3
25.4	26.1	23.7	16.4	26.8	26.3	26.0	15.0	20.7	21.0	19.1	15.4	22.0	24.3	22.4	18.3	26.4	27.9	23.5
18.1	18.6	17.3	13.6	23.4	21.3	20.6	9.9	13.9	14.1	12.7	11.7	15.9	17.3	15.8	.....	.....	.....	.....
33.1	36.7	27.4	21.6	39.8	43.6	33.6	20.0	36.0	43.2	30.1	18.2	36.4	43.7	31.8	20.2	37.0	46.3	32.1
45.2	51.1	45.7	37.5	52.8	57.4	52.8	28.0	52.2	55.8	48.1	22.3	47.0	49.3	43.3	25.4	48.8	50.9	44.6
49.3	58.0	50.0	31.6	54.4	58.8	53.3	30.0	54.8	62.5	52.7	28.0	53.3	59.4	53.9	30.4	51.1	59.7	52.0
33.3	26.7	26.7	22.5	35.0	41.4	40.0	15.6	28.3	30.5	29.5	16.0	34.4	37.2	33.9	19.0	32.1	38.6	35.9
34.4	39.4	37.3	19.3	36.0	36.0	32.9	19.9	35.0	38.7	34.0	18.6	36.7	39.7	37.6	24.6	46.0	49.1	49.1
35.0	36.4	37.5	.....	38.5	37.5	37.5	.....	36.1	40.7	40.6	.....	36.8	39.1	39.0	.....	34.4	38.4	38.6
14.0	15.0	15.0	10.8	21.0	19.7	18.3	8.3	12.8	12.8	12.8	9.0	16.0	16.0	14.0	9.0	16.0	17.0	17.0
16.8	14.9	14.7	.....	18.2	15.7	15.2	.....	16.9	14.5	14.1	.....	16.5	15.1	14.8	.....	16.6	16.7	16.4
78.0	72.5	61.7	41.3	76.2	66.9	59.1	37.9	77.2	66.0	54.6	38.9	79.4	71.7	61.8	36.4	70.9	65.9	61.9
42.7	39.3	37.3	.....	36.8	36.3	35.3	.....	45.1	42.6	41.4	.....	43.7	42.2	40.9	.....	40.8	42.7	41.0
35.3	35.0	33.4	.....	36.4	37.0	35.7	.....	35.3	35.2	34.7	.....	34.7	34.1	33.7	.....	36.2	37.5	36.6
43.2	38.5	37.3	20.0	43.7	39.9	38.1	26.1	45.0	42.5	41.5	22.7	43.4	40.4	39.3	23.6	42.9	40.7	40.5
32.4	26.0	21.8	17.2	36.6	31.0	29.4	16.1	37.9	31.4	27.8	16.0	34.9	29.6	25.8	15.3	32.8	27.8	22.2
36.7	30.6	29.0	.....	36.5	30.4	27.2	.....	37.5	32.0	30.6	.....	36.7	30.7	28.2	.....	36.6	33.7	30.7
85.3	84.0	92.4	45.0	65.0	74.1	81.3	47.1	95.8	81.1	91.5	45.3	94.0	90.2	103.0	55.8	109.8	114.5	119.2
59.6	64.7	68.3	37.5	66.8	65.7	80.9	36.0	64.7	66.7	70.1	33.5	62.4	65.9	70.7	36.0	64.1	65.3	72.2
9.8	11.9	10.9	5.4	10.0	12.1	10.3	5.6	11.0	11.4	10.7	5.6	10.9	12.1	11.1	6.3	10.9	12.0	10.6
7.1	7.3	6.8	3.3	7.8	7.4	6.9	2.6	6.8	5.7	5.2	3.1	7.8	7.0	6.1	3.3	8.3	7.6	6.9
5.9	4.8	4.6	3.5	6.8	5.8	4.8	2.5	6.1	4.8	4.4	2.8	6.7	6.5	6.0	3.6	8.4	8.5	8.6
9.5	13.0	11.7	.....	10.9	14.0	12.8	.....	8.9	10.8	10.3	.....	7.9	12.3	11.2	.....	9.8	12.5	11.8
14.2	14.2	13.9	.....	14.1	14.6	14.5	.....	14.8	14.7	14.5	.....	13.8	14.0	14.0	.....	14.5	15.0	15.0
27.0	29.9	29.9	.....	29.4	31.5	31.2	.....	27.4	30.3	30.2	.....	27.2	29.7	29.5	.....	27.6	29.3	29.6
19.4	20.7	21.0	.....	19.9	21.6	21.4	.....	19.5	20.5	20.2	.....	19.4	20.3	20.2	.....	23.5	25.9	26.1
17.5	14.4	13.0	9.3	18.0	13.8	13.1	8.6	17.6	14.8	12.3	8.4	18.4	14.6	12.8	10.0	17.8	17.0	14.4
11.1	8.6	7.5	.....	13.3	10.1	9.5	.....	13.1	11.2	10.9	.....	11.4	8.8	7.9	.....	12.1	10.4	9.3
4.3	3.4	3.1	2.4	5.4	4.3	4.1	1.6	4.4	2.9	2.6	1.6	4.0	2.7	2.4	1.8	3.8	3.3	3.1
8.6	4.5	4.6	.....	7.8	6.1	5.5	.....	7.8	3.9	3.8	.....	8.2	4.0	3.6	.....	8.9	4.7	4.4
6.9	3.7	3.7	.....	6.6	5.9	5.6	.....	6.8	2.2	2.3	.....	7.2	2.6	3.2	.....	6.2	3.2	3.4
17.1	15.4	15.6	.....	19.1	18.5	18.6	.....	17.6	17.7	18.0	.....	16.2	15.3	14.7	.....	16.8	16.3	16.0
16.0	15.2	15.0	.....	20.2	20.5	20.4	.....	18.4	18.5	18.4	.....	19.5	19.6	18.7	.....	19.9	19.3	18.1
16.5	15.5	15.7	.....	21.9	23.4	22.8	.....	19.9	18.5	18.8	.....	18.6	18.9	18.1	.....	20.7	19.7	19.1
15.3	13.1	13.2	.....	15.2	15.0	14.1	.....	15.3	15.1	14.4	.....	16.6	13.1	12.3	.....	15.9	14.3	13.2
16.6	13.3	10.6	5.6	18.1	12.7	11.1	5.2	13.2	13.3	11.0	5.1	14.6	12.5	10.0	5.3	11.5	13.3	10.8
81.9	86.4	85.3	66.7	81.1	87.6	86.6	52.8	70.6	74.3	73.1	43.3	66.6	68.2	67.1	44.2	59.0	59.8	59.8
49.4	40.9	39.4	36.7	54.1	44.8	43.5	29.4	50.1	42.8	40.3	29.3	48.9	40.5	38.8	33.0	50.1	47.1	45.5
29.6	29.8	28.4	.....	29.1	28.6	27.4	.....	29.9	27.9	26.8	.....	30.4	28.0	27.6	.....	26.1	25.7	24.4
24.5	33.2	33.0	.....	21.0	33.2	34.4	.....	23.7	31.9	32.8	.....	23.8	31.0	30.7	.....	25.2	32.8	31.6
40.0	50.0	43.5	.....	45.8	45.0	41.1	.....	43.3	56.5	52.1	.....	34.0	39.1	36.1	.....	40.6	46.1	45.0
56.7	66.6	53.4	.....	51.3	61.2	49.5	.....	53.0	75.7	57.6	.....	53.8	70.5	56.2	.....	44.4	62.4	38.5

in this report, but in this city it is called "rump" steak.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES

Article.	Unit.	Houston, Tex.			Indianapolis, Ind.				Jacksonville, Fla.			
		Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
					1913	1919			1913	1919		
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak	Pound	33.1	35.7	34.5	25.5	33.9	37.9	34.9	25.5	38.6	40.0	37.1
Round steak	do	32.0	35.0	34.1	24.2	33.2	36.3	33.4	21.0	34.2	36.3	33.6
Rib roast	do	27.2	30.2	29.9	17.8	26.0	28.2	27.3	21.3	27.8	29.1	27.9
Chuck roast	do	23.3	26.8	25.8	16.3	23.5	25.1	23.5	14.1	22.5	23.2	21.6
Plate beef	do	18.6	21.3	19.9	12.5	17.1	18.0	16.5	10.6	15.7	15.8	15.1
Pork chops	do	39.2	43.8	37.3	20.7	36.0	38.8	28.8	22.5	39.7	41.8	35.2
Bacon	do	62.1	61.5	59.4	29.7	47.9	50.0	46.8	30.1	51.6	52.1	46.3
Ham	do	50.0	60.4	55.4	30.3	53.1	58.8	51.4	29.3	51.7	56.4	49.3
Lamb	do	37.5	42.0	38.0	19.0	37.5	38.2	35.5	20.6	32.9	35.8	33.8
Hens	do	37.8	41.3	36.3	20.8	34.0	38.6	38.2	24.2	40.4	43.2	39.6
Salmon, canned	do	33.2	37.4	36.8	.....	29.2	32.4	30.9	.....	38.0	32.1	30.8
Milk, fresh	Quart	21.4	20.5	20.5	8.0	14.0	14.0	14.0	12.3	21.0	25.0	25.0
Milk, evaporated	15–16 oz. can.	16.5	15.3	15.0	.....	17.4	15.0	15.2	.....	17.3	15.1	15.0
Butter	Pound	75.5	64.7	59.5	38.3	77.9	68.5	59.0	39.6	79.7	70.7	65.2
Oleomargarine	do	43.6	41.4	41.3	.....	44.5	40.3	38.2	.....	44.4	40.6	39.6
Nut margarine	do	37.0	36.6	35.8	.....	35.4	34.6	33.5	.....	38.5	38.2	38.1
Cheese	do	41.9	38.1	36.7	21.8	45.6	40.2	40.2	22.5	43.5	38.1	37.4
Lard	do	34.8	27.5	27.4	14.6	31.9	26.9	22.3	15.3	36.0	30.5	28.0
Crisco	do	33.6	30.1	30.2	.....	37.0	31.0	28.7	.....	39.6	30.2	29.6
Eggs, strictly fresh	Dozen	82.5	74.8	83.9	38.5	88.8	81.2	84.8	50.0	77.5	78.8	87.5
Eggs, storage	do	61.8	64.4	70.1	32.8	59.6	63.8	67.9	40.0	62.7	68.1	70.6
Bread	Pound	9.2	10.2	9.6	5.1	9.7	11.6	10.1	6.1	10.0	12.2	11.7
Flour	do	7.5	8.0	7.5	3.1	7.4	7.0	6.5	3.7	7.9	8.4	7.6
Corn meal	do	6.0	4.8	4.7	2.6	5.8	4.9	4.3	2.8	5.5	4.7	4.3
Rolled oats	do	9.9	13.3	12.2	.....	9.9	11.8	11.1	.....	11.3	13.0	12.1
Corn flakes	8-oz. pkg	14.5	14.6	14.6	.....	14.9	14.5	14.5	.....	14.8	15.0	15.0
Cream of Wheat	28-oz. pkg	27.0	29.9	29.9	.....	28.8	33.1	32.5	.....	27.8	30.8	31.1
Macaroni	Pound	19.9	21.4	20.6	.....	20.4	22.8	22.2	.....	20.4	22.7	23.1
Rice	do	15.4	10.9	10.0	9.2	19.6	15.6	14.2	6.8	16.5	11.9	10.9
Beans, navy	do	12.5	10.4	10.2	.....	12.0	8.1	7.6	.....	13.9	12.0	11.1
Potatoes	do	4.8	4.7	4.3	1.7	4.4	3.2	2.7	2.5	4.8	4.0	4.1
Onions	do	7.4	5.5	5.2	.....	8.2	4.2	4.0	.....	8.4	5.9	5.8
Cabbage	do	7.4	5.3	5.4	.....	6.1	3.5	3.5	.....	6.9	4.9	4.9
Beans, baked	No. 2 can	18.2	17.0	16.6	.....	18.0	16.4	15.9	.....	17.9	16.0	16.1
Corn, canned	do	18.2	15.4	15.0	.....	18.7	16.0	15.7	.....	20.5	18.6	18.3
Peas, canned	do	19.5	20.2	20.3	.....	17.7	16.2	15.8	.....	21.7	22.1	22.6
Tomatoes, canned	do	14.8	13.0	11.9	.....	16.4	14.0	14.0	.....	15.3	12.7	10.7
Sugar, granulated	Pound	15.5	12.4	9.7	5.8	17.2	12.5	10.4	5.9	19.1	14.1	11.0
Tea	do	66.6	74.9	74.1	60.0	86.8	86.4	86.9	60.0	89.5	90.3	88.5
Coffee	do	45.1	35.9	33.1	30.0	51.4	44.1	42.0	34.5	53.3	42.2	41.6
Prunes	do	28.3	26.1	23.9	.....	30.7	28.8	28.2	.....	31.3	26.5	26.4
Raisins	do	21.9	32.7	31.3	.....	26.8	35.3	35.6	.....	25.6	34.9	35.5
Bananas	Dozen	38.5	43.6	39.0	.....	32.3	31.8	29.1	.....	40.0	42.9	37.5
Oranges	do	48.1	62.1	46.9	.....	49.2	61.1	48.4	.....	36.7	36.4	35.4

[3] The steak for which prices are here quoted is known as "porterhouse" in most of the cities included in this report, but in this city it is called "sirloin" steak.

OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES—Continued.

Kansas City.				Little Rock, Ark.				Los Angeles, Calif.				Louisville, Ky.				Manchester, N. H.			
Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
1913	1919			1913	1919			1913	1919			1913	1919			1913	1919		
Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
24.6	34.3	40.5	37.9	25.0	34.4	36.9	35.3	23.1	31.5	37.1	35.6	23.0	32.7	34.0	32.7	[3]34.5	[3]54.8	[3]62.3	[3]54.9
22.1	30.5	35.5	32.1	20.0	32.1	35.6	33.5	21.3	29.5	32.5	31.9	20.0	31.2	33.1	31.3	28.8	48.2	53.8	47.0
18.1	26.1	28.7	27.0	20.0	27.9	30.8	29.3	19.4	26.5	31.1	30.9	18.1	26.0	26.9	25.5	20.8	31.0	32.9	28.7
15.6	20.2	21.7	19.5	16.3	23.2	23.7	23.5	16.1	20.5	22.4	21.7	15.5	22.9	22.6	21.1	17.3	26.9	28.9	24.8
12.2	14.5	16.0	14.8	12.5	17.1	18.5	17.5	13.4	16.4	19.2	18.0	13.1	19.3	19.4	18.0	.....	.....	22.3	18.3
19.6	33.5	39.9	28.3	20.0	39.5	42.2	35.1	25.3	46.6	53.0	45.2	19.0	31.6	38.3	27.9	19.3	36.3	46.0	32.4
30.3	53.2	55.0	50.0	36.7	54.7	56.5	52.1	33.5	58.8	63.9	58.6	27.0	47.9	51.6	44.3	24.0	46.6	49.7	44.1
28.8	52.5	58.5	50.6	27.5	51.3	59.7	52.8	34.5	59.4	71.1	65.6	28.5	49.3	53.5	46.5	27.5	47.2	58.5	46.6
18.7	29.4	32.3	30.3	18.8	33.8	37.5	40.7	19.1	31.6	35.2	34.5	18.2	29.0	32.3	31.7	20.0	34.6	37.5	33.5
16.4	34.4	36.8	33.6	20.0	33.9	37.1	33.3	27.9	48.2	51.0	49.3	21.6	36.8	40.1	35.1	24.5	45.9	51.2	48.5
....	34.6	36.8	35.6	....	34.0	39.0	41.4	.....	43.5	50.3	50.0	.....	32.8	31.2	30.0	.....	37.4	40.8	40.6
9.3	16.0	16.0	16.0	10.5	20.0	20.0	19.3	10.0	16.0	18.0	18.0	8.6	16.0	16.0	15.5	8.0	15.0	16.8	16.8
....	17.7	15.3	15.1	....	18.3	15.8	15.8	.....	15.1	12.6	12.7	.....	16.9	15.3	15.0	.....	18.1	17.1	16.6
40.3	80.5	69.3	60.9	45.0	77.4	68.3	62.1	39.7	75.2	67.4	62.7	41.3	77.8	71.1	60.6	41.4	79.9	71.9	67.7
....	41.5	39.8	38.2	....	44.0	41.8	40.0	.....	45.5	43.4	43.1	.....	44.3	42.3	40.0	.....	43.5	42.3	42.1
....	35.6	34.6	33.8	....	38.5	37.3	36.7	.....	36.0	35.2	35.2	.....	34.7	34.8	34.6	.....	34.3	35.3	34.3
22.0	43.9	40.7	39.2	23.3	43.4	40.1	38.1	19.5	44.6	43.7	43.2	22.5	42.4	38.9	36.6	22.3	42.9	40.2	39.1
16.4	35.8	29.9	26.4	16.5	37.2	28.1	26.6	18.1	35.2	30.6	30.2	15.8	31.2	27.1	22.1	15.8	36.1	28.2	24.8
....	39.8	33.9	31.0	....	39.1	29.5	28.7	.....	37.9	30.8	28.7	.....	35.0	32.6	29.9	.....	37.2	33.4	30.4
38.0	84.2	75.2	83.9	40.0	81.0	74.3	85.8	53.3	79.8	96.3	84.7	36.6	81.9	78.3	81.6	52.4	108.2	106.7	110.4
33.0	63.5	66.3	69.6	....	66.4	68.8	77.1	38.3	64.3	71.3	72.2	33.3	60.3	60.9	66.0	37.0	64.8	71.5	72.6
6.0	10.0	12.1	11.9	....	10.0	11.0	10.7	6.0	10.0	9.7	9.7	5.7	10.0	10.2	10.1	5.9	9.5	11.2	10.3
3.0	7.5	6.9	6.2	3.6	7.5	7.9	7.4	3.5	7.4	7.3	6.8	3.5	7.5	7.1	6.7	3.4	8.2	7.7	6.8
2.8	7.0	6.6	5.6	2.8	5.9	4.4	3.9	3.5	7.5	7.2	6.6	2.4	5.2	3.7	3.2	3.4	7.3	7.4	6.7
....	12.0	13.8	13.0	....	11.0	13.2	12.9	.....	8.7	11.2	10.9	.....	9.8	11.6	11.7	.....	9.6	12.4	10.7
....	15.0	15.0	15.0	....	14.7	14.8	14.6	.....	13.1	13.5	13.5	.....	14.0	14.3	14.3	.....	14.9	15.1	14.9
....	27.9	30.8	30.7	....	26.9	31.5	31.5	.....	28.0	29.7	29.7	.....	26.5	30.5	30.5	.....	26.8	29.8	29.9
....	18.7	24.6	23.2	....	19.0	23.8	23.2	.....	17.3	19.5	19.0	.....	17.3	21.2	19.8	.....	24.3	27.4	27.2
8.7	18.7	13.2	12.4	8.3	16.9	11.7	10.9	7.7	17.0	13.3	12.8	9.0	18.1	12.6	12.0	8.8	17.7	14.4	12.6
....	12.5	10.0	9.9	....	12.6	10.6	10.2	.....	10.2	8.6	8.7	.....	11.9	8.3	7.6	.....	12.1	10.3	8.6
1.9	4.8	3.4	3.2	2.2	4.5	3.6	3.5	1.9	5.2	3.3	3.0	2.0	3.8	2.7	2.5	1.6	3.5	3.1	2.8
....	9.1	5.1	5.4	....	8.9	5.4	5.6	.....	7.0	3.7	3.4	.....	7.3	3.6	3.6	.....	9.1	3.6	3.6
....	7.4	3.7	3.6	....	7.7	4.4	4.2	.....	4.8	3.5	3.1	.....	6.3	3.3	3.1	.....	5.1	3.0	2.8
....	17.3	16.5	16.5	....	16.9	15.6	15.5	.....	17.9	18.1	18.1	.....	15.9	16.0	15.9	.....	17.9	17.8	18.2
....	16.8	15.4	15.0	....	18.1	17.3	16.5	.....	18.5	18.8	18.6	.....	17.9	17.1	17.1	.....	20.9	20.5	19.8
....	16.8	17.7	16.3	....	18.9	18.8	18.4	.....	19.0	19.6	19.2	.....	17.7	17.7	17.8	.....	20.8	22.5	21.8
....	15.8	13.2	12.5	....	14.8	13.4	12.8	.....	[4]14.7	[4]15.0	[4]14.9	.....	15.3	13.1	12.1	.....	[5]22.7	[5]22.1	[5]21.4
5.5	13.9	12.9	10.6	5.3	22.4	13.5	11.4	5.3	13.9	12.3	10.1	5.3	18.1	12.5	10.2	5.3	11.5	13.1	10.8
54.0	78.8	87.8	86.5	50.0	85.8	97.6	97.6	54.5	69.8	73.9	73.3	65.0	79.8	84.9	84.1	47.5	62.1	62.1	61.2
27.8	47.3	41.6	39.4	30.8	51.4	43.5	42.4	36.3	45.4	41.3	37.6	27.5	48.7	43.1	38.1	32.0	51.5	45.2	42.9
....	29.0	27.6	27.0	....	27.7	28.6	28.2	.....	27.2	27.0	24.6	.....	29.1	27.7	26.7	.....	29.8	28.2	25.0
....	26.4	35.3	35.9	....	26.5	32.2	33.5	.....	22.3	30.6	31.9	.....	23.7	33.6	33.6	.....	25.3	33.3	32.4
....	52.5	55.9	32.2	....	38.6	50.0	43.8	.....	[6]12.7	[6]15.1	[6]14.3	.....	37.1	41.1	38.0	.....	40.0	48.8	41.3
....	56.3	82.3	59.0	....	50.9	61.6	50.6	.....	46.9	62.0	45.0	.....	42.7	47.7	37.3	.....	55.8	66.5	45.6

[4] No. 2½ can. [5] No. 3 can. [6] Per pound.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES

Article.	Unit.	Memphis, Tenn.				Milwaukee, Wis.				Minneapolis, Minn.			
		Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
		1913	1919			1913	1919			1913	1919		
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak	Pound	24.0	35.4	35.9	32.6	23.4	35.0	40.2	36.7	19.3	32.2	32.7	29.9
Round steak	do	20.0	32.8	32.4	28.8	21.6	32.8	36.7	33.6	18.0	28.1	28.8	26.6
Rib roast	do	21.0	28.3	29.4	27.1	18.8	28.2	30.4	28.6	18.7	26.5	25.9	24.6
Chuck roast	do	15.0	22.5	20.7	19.6	16.4	24.8	26.7	25.2	14.7	20.8	21.1	18.6
Plate beef	do	12.5	18.0	17.9	15.9	12.1	17.4	17.5	16.3	10.0	14.2	14.1	13.1
Pork chops	do	20.0	36.1	39.3	29.6	17.4	33.0	39.7	28.1	17.2	35.0	37.3	27.7
Bacon	do	30.0	53.6	57.2	48.0	27.4	50.2	55.6	50.1	26.7	53.8	55.0	47.7
Ham	do	29.0	52.5	55.0	48.7	27.8	50.5	55.9	50.6	28.3	50.0	56.1	48.8
Lamb	do	20.6	36.7	40.4	37.7	18.5	32.7	39.3	37.0	14.6	28.2	29.4	27.1
Hens	do	19.6	36.9	37.9	30.8	17.2	31.6	35.8	35.0	16.4	32.0	31.8	31.8
Salmon, canned	do	.....	36.2	38.6	38.5	.....	35.3	41.8	41.3	.....	44.2	47.6	46.2
Milk, fresh	Quart	10.0	19.0	20.0	20.0	7.0	13.0	11.0	11.0	8.0	13.0	14.0	13.0
Milk, evaporated	15–16 oz. can.	.....	17.6	16.4	16.1	.....	17.0	15.2	15.2	.....	18.0	15.5	15.4
Butter	Pound	38.8	79.5	67.0	56.4	38.8	77.2	68.5	57.5	36.9	75.0	64.8	55.3
Oleomargarine	do	.....	42.2	41.8	42.3	.....	43.1	37.3	35.3	.....	41.9	41.3	40.6
Nut margarine	do	.....	40.3	36.3	36.7	.....	33.8	33.0	32.1	.....	33.1	32.5	32.2
Cheese	do	22.0	43.5	36.2	35.6	22.3	41.6	36.0	34.6	21.3	41.9	38.2	37.5
Lard	do	15.0	34.2	26.7	22.8	16.0	34.7	28.9	26.2	15.4	33.9	28.4	24.4
Crisco	do	.....	36.9	30.2	28.1	.....	37.1	31.1	29.2	.....	38.6	32.2	29.3
Eggs, strictly fresh	Dozen	39.0	86.2	72.9	86.5	40.0	87.2	77.5	90.1	39.1	96.3	79.1	89.5
Eggs, storage	do	30.0	66.2	65.0	67.7	33.0	60.3	61.7	64.5	31.6	61.9	61.4	65.0
Bread	Pound	6.0	10.0	13.3	12.9	5.7	10.0	11.0	10.3	5.6	9.8	10.3	10.3
Flour	do	3.5	7.6	7.9	7.4	3.0	8.0	6.9	6.3	2.8	8.1	6.1	5.7
Corn meal	do	2.5	5.2	4.0	3.4	3.2	6.5	6.3	5.9	2.5	6.5	5.5	5.0
Rolled oats	do	.....	11.1	12.8	12.2	.....	8.2	8.7	8.4	.....	7.3	9.0	8.8
Corn flakes	8-oz. pkg	.....	14.3	14.5	14.2	.....	14.2	14.3	14.2	.....	14.6	14.6	14.4
Cream of Wheat	28-oz. pkg	.....	27.1	30.1	29.6	.....	28.2	29.8	29.7	.....	29.8	31.4	31.1
Macaroni	Pound	.....	19.3	21.6	21.0	.....	18.8	20.6	20.6	.....	18.4	19.6	18.9
Rice	do	8.1	17.1	10.1	9.7	9.0	18.0	15.9	14.7	8.6	19.0	14.6	13.2
Beans, navy	do	.....	13.0	9.6	8.5	.....	11.0	9.4	8.8	.....	12.0	10.3	9.6
Potatoes	do	2.0	4.9	3.6	3.1	1.7	4.2	2.9	2.9	1.6	3.7	2.7	2.7
Onions	do	.....	8.3	3.8	3.5	.....	8.1	3.4	3.5	.....	7.9	4.5	4.5
Cabbage	do	.....	6.2	3.3	3.0	.....	7.0	2.2	2.4	.....	5.6	3.1	3.4
Beans, baked	No. 2 can	.....	18.4	17.2	16.6	.....	15.9	15.1	14.9	.....	18.3	18.3	18.1
Corn, canned	do	.....	18.6	18.4	17.6	.....	17.8	17.0	16.8	.....	17.7	17.2	16.7
Peas, canned	do	.....	18.6	18.2	18.2	.....	17.4	16.2	15.7	.....	17.8	18.2	17.7
Tomatoes, canned	do	.....	15.8	12.4	11.5	.....	16.6	14.4	14.2	.....	16.7	16.2	15.4
Sugar, granulated	Pound	5.3	21.8	13.4	10.2	5.5	14.4	12.3	10.2	5.0	14.0	12.9	10.7
Tea	do	63.8	87.7	93.1	92.3	50.0	68.0	72.2	71.9	45.0	64.1	69.9	68.5
Coffee	do	27.5	53.3	37.8	38.7	27.5	47.6	37.3	35.8	30.8	54.2	42.0	40.2
Prunes	do	.....	33.9	29.3	27.9	.....	28.8	27.4	26.0	.....	31.2	27.7	26.0
Raisins	do	.....	24.4	34.0	33.2	.....	25.1	31.2	31.3	.....	21.8	31.1	31.7
Bananas	Dozen	.....	41.4	43.2	39.5	.....	40.0	41.7	45.0	.....	[9]13.0	[9]16.2	[9]15.3
Oranges	do	.....	44.0	45.6	38.6	.....	58.9	73.7	57.2	.....	56.6	78.9	66.2

[7] Whole.

[8] No. 3 can.

OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES—Continued.

Mobile, Ala.			Newark, N. J.				New Haven, Conn.				New Orleans, La.				New York, N. Y.			
Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15,		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15,		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15,		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
			1913	1919			1913	1919			1913	1919			1913	1919		
Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
33.6	36.7	33.8	27.2	44.0	49.6	43.1	30.8	52.2	57.3	51.7	21.5	31.6	33.6	32.6	25.7	42.7	47.9	42.9
32.7	35.3	33.5	26.5	44.6	49.2	42.8	28.4	46.3	50.8	44.6	19.1	29.1	31.0	30.1	25.3	44.5	47.7	42.5
30.0	29.3	28.0	21.0	35.6	38.8	34.8	22.8	37.3	42.0	36.8	18.5	28.7	29.6	28.8	21.3	37.8	40.7	37.3
23.6	24.9	23.5	17.3	27.4	27.5	25.0	18.8	30.5	32.6	28.0	15.4	21.4	22.0	21.3	15.8	27.6	28.2	25.2
19.5	20.5	18.7	12.4	18.0	17.0	15.5	.....	.....	.....	.....	12.0	19.5	19.4	18.9	14.5	24.8	21.7	20.7
45.0	48.0	36.7	21.0	38.6	46.2	33.9	19.6	36.7	46.2	32.2	24.0	42.7	49.5	40.8	18.4	41.0	47.1	35.1
57.5	58.6	49.2	25.3	46.0	47.1	42.0	28.2	53.8	55.4	50.0	30.4	52.0	56.1	50.8	25.5	47.7	50.9	45.0
52.0	57.3	51.3	[7]19.8	[7]34.8	[7]39.7	[7]32.2	30.8	55.4	64.0	55.5	27.0	48.5	57.1	48.8	29.0	56.0	60.4	53.3
34.3	38.3	35.0	20.0	36.5	40.2	38.4	18.7	38.3	41.9	37.5	20.5	38.2	42.3	40.4	15.4	28.8	32.0	29.7
42.1	46.3	40.3	23.4	40.7	44.8	43.9	23.3	43.7	49.6	47.5	22.0	41.9	46.0	41.4	20.7	40.1	44.4	42.1
38.8	38.1	38.1	.....	38.0	39.1	39.0	.....	38.1	40.8	41.1	.....	37.0	40.5	40.3	.....	41.9	42.7	42.9
24.0	23.5	23.5	9.0	18.0	19.0	18.0	9.0	16.0	17.0	17.0	9.8	18.5	18.5	18.5	9.0	18.0	18.0	17.0
17.7	16.3	15.3	.....	15.7	14.3	14.0	.....	16.8	15.0	14.2	.....	16.6	15.1	14.9	.....	16.1	14.2	14.2
78.5	72.5	63.9	43.7	82.6	74.4	64.3	37.3	72.5	65.3	60.3	39.8	80.7	70.8	63.5	41.1	80.6	71.6	63.0
44.9	41.1	38.7	.....	42.8	40.4	39.8	.....	43.8	41.8	40.5	.....	45.9	42.4	41.1	.....	41.6	41.9	40.4
40.4	38.7	36.8	.....	35.5	35.2	33.5	.....	36.1	35.8	34.8	.....	36.1	35.6	35.2	.....	34.5	34.4	34.0
44.3	38.4	37.8	24.8	44.3	42.0	41.5	23.5	42.7	39.5	38.2	21.9	43.2	39.5	38.3	20.2	43.1	40.9	39.6
36.5	28.2	24.8	16.3	35.3	29.0	25.8	15.6	34.4	27.7	24.5	15.0	35.9	27.8	24.9	16.1	34.3	29.9	25.8
38.2	32.0	28.9	.....	36.1	29.5	27.4	.....	36.0	29.8	28.0	.....	39.2	31.9	31.2	.....	36.6	30.2	28.6
84.3	79.4	88.6	57.2	98.4	101.9	109.9	56.4	108.6	103.1	115.2	34.0	80.9	68.8	76.2	54.3	101.3	99.9	104.7
65.1	70.5	69.3	35.6	65.9	72.1	74.2	34.2	64.4	72.1	70.4	30.0	64.0	61.7	66.8	36.7	65.2	68.9	71.5
9.6	11.0	10.4	5.5	9.8	11.4	10.6	6.0	10.6	12.0	11.3	5.0	9.1	10.5	9.6	6.1	10.0	11.9	11.6
7.3	8.3	7.5	3.6	7.9	7.4	6.6	3.1	8.1	7.3	6.5	3.7	7.6	8.2	7.8	3.2	8.1	7.3	6.6
6.1	4.7	4.0	3.6	7.6	7.7	7.2	3.2	7.8	7.8	7.2	2.7	5.5	4.7	4.1	3.4	7.7	7.9	7.4
11.2	13.3	11.9	.....	9.2	10.0	9.4	.....	9.4	11.6	11.2	.....	9.0	11.8	11.2	.....	8.1	9.9	9.4
14.7	14.6	14.1	.....	12.3	13.1	12.9	.....	14.1	13.8	13.8	.....	14.5	14.1	14.1	.....	12.1	12.6	12.5
26.8	31.4	30.6	.....	26.0	28.3	28.2	.....	27.6	29.3	29.4	.....	27.4	30.0	30.0	.....	26.0	28.8	28.9
18.9	21.2	21.1	.....	21.9	25.6	25.7	.....	21.0	22.5	22.4	.....	12.0	11.7	11.0	.....	21.1	24.0	24.0
16.5	11.9	10.6	9.0	17.1	14.4	12.8	9.3	18.0	15.3	14.3	7.5	15.4	10.5	9.7	8.0	16.9	13.6	12.6
14.0	10.7	10.2	.....	12.1	10.4	9.6	.....	12.3	10.7	10.2	.....	11.7	9.6	8.6	.....	12.3	10.6	10.2
5.0	4.4	4.1	2.5	4.5	3.5	3.6	1.7	3.8	3.3	3.1	2.2	5.1	4.2	4.2	2.4	4.7	3.8	3.7
8.4	4.7	3.2	.....	9.2	4.9	5.0	.....	8.9	4.3	4.3	.....	8.2	4.1	4.0	.....	8.3	4.6	4.2
5.7	4.4	4.2	.....	6.0	3.6	3.6	.....	6.6	3.7	3.6	.....	4.3	3.1	3.6	.....	5.5	3.3	3.2
17.8	15.7	14.8	.....	14.7	14.2	14.0	.....	17.9	16.5	16.8	.....	17.1	16.3	16.3	.....	15.2	14.9	15.1
19.8	18.3	17.1	.....	20.4	18.3	17.0	.....	21.6	21.1	21.7	.....	18.0	16.1	15.9	.....	18.6	17.7	17.2
18.9	18.7	18.5	.....	19.8	18.7	17.7	.....	21.9	22.9	21.9	.....	18.6	17.7	17.8	.....	18.5	17.4	16.9
15.2	14.1	13.1	.....	15.3	12.1	10.6	.....	[8]22.2	[8]21.8	[8]22.0	.....	15.4	14.2	13.9	.....	16.2	12.1	11.2
21.3	13.8	10.9	5.3	11.2	12.2	10.3	5.5	12.1	13.0	10.3	5.1	12.2	12.3	10.0	4.9	11.9	11.9	9.7
75.0	78.8	78.8	53.8	56.4	52.5	50.6	55.0	63.5	61.5	59.5	62.1	70.7	73.1	73.3	43.3	57.1	53.4	54.0
46.2	40.4	37.7	29.3	45.9	34.8	33.8	33.8	51.4	43.7	42.4	25.0	42.2	34.4	34.1	27.2	45.1	34.3	34.2
28.1	28.5	25.7	.....	26.3	24.5	21.8	.....	29.6	25.2	23.0	.....	30.5	26.4	25.0	.....	29.6	25.2	22.9
25.4	34.1	34.1	.....	22.2	31.7	31.5	.....	24.9	33.6	32.4	.....	23.6	32.4	33.6	.....	23.4	32.4	31.1
30.6	32.5	31.0	.....	41.0	50.0	47.1	.....	37.5	42.3	40.4	.....	25.0	30.0	27.5	.....	37.7	45.9	43.2
42.9	49.6	40.7	.....	54.2	73.9	53.0	.....	58.7	77.1	48.2	.....	45.8	45.6	45.1	.....	56.0	82.4	52.6

[9] Per pound.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES

Article.	Unit.	Norfolk, Va.			Omaha, Nebr.				Peoria, Ill.		
		Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.
					1913	1919					
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak	Pound	43.5	48.8	43.3	26.0	36.1	41.6	35.9	33.3	35.2	31.6
Round steak	...do	39.2	43.1	37.7	22.4	32.9	38.1	31.7	30.7	34.6	30.6
Rib roast	...do	35.9	37.8	36.0	20.0	26.2	29.3	26.1	23.7	26.4	24.6
Chuck roast	...do	27.3	27.1	24.3	16.6	21.9	22.5	20.6	21.5	23.5	20.4
Plate beef	...do	17.9	18.4	17.1	11.2	15.3	15.2	13.4	15.4	15.8	14.3
Pork chops	...do	39.2	45.9	32.4	19.7	35.1	41.9	27.6	33.9	40.4	28.8
Bacon	...do	46.8	52.3	46.2	28.0	53.9	58.2	51.2	50.2	54.1	48.3
Ham	...do	42.5	52.0	43.0	30.0	54.6	61.6	53.2	53.3	57.5	48.6
Lamb	...do	35.8	42.9	38.0	16.3	31.8	37.4	32.0	31.3	35.1	33.3
Hens	...do	43.9	48.5	42.0	15.6	33.6	35.1	32.0	32.4	36.3	33.7
Salmon, canned	...do	34.0	34.5	34.9	.....	38.2	39.8	39.0	35.3	37.9	37.5
Milk, fresh	Quart	21.0	21.3	21.3	8.7	16.4	15.5	15.1	14.3	15.1	15.1
Milk, evaporated	15-16 oz. can	16.6	14.8	14.7	.....	17.8	15.7	15.4	17.8	15.3	14.8
Butter	Pound	78.0	72.8	69.5	37.2	79.1	66.7	57.3	76.3	65.3	55.7
Oleomargarine	...do	49.0	45.8	44.4	.....	44.4	42.9	41.1	44.7	39.9	37.6
Nut margarine	...do	39.3	35.5	35.0	.....	35.9	35.7	35.2	35.6	35.3	34.7
Cheese	...do	42.4	39.2	37.6	23.5	44.4	38.7	38.0	44.3	38.5	37.3
Lard	...do	37.1	29.3	25.8	17.6	36.8	31.0	27.7	34.6	28.9	25.5
Crisco	...do	38.2	31.8	27.6	.....	39.0	33.3	32.5	38.3	32.6	31.1
Eggs, strictly fresh	Dozen	85.2	81.5	84.5	36.0	86.7	72.4	78.3	84.2	80.2	87.2
Eggs, storage	...do	64.5	64.0	69.7	31.7	65.4	62.3	65.6	62.7	64.9	68.0
Bread	Pound	10.0	11.4	10.5	5.2	10.0	11.5	11.5	10.0	12.6	11.3
Flour	...do	7.8	7.7	7.0	2.8	7.3	6.6	5.8	8.3	7.7	6.5
Corn meal	...do	5.7	5.1	4.7	2.5	6.7	5.6	5.2	6.2	5.4	5.0
Rolled oats	...do	10.4	11.6	10.6	.....	9.0	13.5	11.4	9.4	12.6	12.1
Corn flakes	8-oz. pkg	14.5	13.9	13.8	.....	15.0	15.0	14.7	14.7	15.1	14.8
Cream of Wheat	28-oz. pkg	27.6	28.3	27.8	.....	28.8	31.5	31.6	29.4	32.0	31.3
Macaroni	Pound	20.0	21.1	21.7	.....	20.7	23.1	23.3	19.8	21.8	20.1
Rice	...do	19.1	18.0	15.4	8.5	18.2	14.8	13.8	18.2	14.7	13.9
Beans, navy	...do	13.2	10.7	9.5	.....	13.3	10.0	9.2	12.1	9.4	8.5
Potatoes	...do	4.2	3.6	3.6	2.0	4.4	3.0	3.0	4.0	2.9	2.8
Onions	...do	8.7	4.9	4.8	.....	9.0	3.9	3.6	7.7	4.5	4.7
Cabbage	...do	5.5	4.6	4.2	.....	7.1	3.2	3.2	6.4	3.6	3.7
Beans, baked	No. 2 can	14.2	13.6	13.5	.....	21.1	18.9	19.0	18.1	17.2	17.1
Corn, canned	...do	20.6	20.4	19.6	.....	18.3	17.2	16.3	17.4	17.3	16.9
Peas, canned	...do	21.6	21.9	21.3	.....	19.3	17.7	17.3	18.3	17.9	18.1
Tomatoes, canned	...do	15.0	12.6	12.8	.....	17.4	15.6	14.5	15.5	15.1	14.5
Sugar, granulated	Pound	12.9	13.0	10.4	5.7	18.2	12.6	10.4	14.0	13.1	10.2
Tea	...do	83.1	88.2	88.7	56.0	78.6	80.2	81.1	73.0	72.7	72.1
Coffee	...do	52.0	47.0	44.3	30.0	53.6	41.6	40.3	47.2	42.3	39.1
Prunes	...do	30.7	25.9	24.9	.....	30.4	29.4	26.1	31.0	30.7	30.3
Raisins	...do	23.5	30.2	32.2	.....	26.4	32.5	33.4	24.9	33.4	32.9
Bananas	Dozen	40.0	45.6	42.5	.....	47.5	60.0	52.5	[12] 10.9	[12] 13.9	[12] 12.6
Oranges	...do	50.2	56.8	49.0	.....	55.0	78.5	56.6	52.7	71.5	55.4

[10] The steak for which prices are here quoted is known as "porterhouse" in most of the cities included in this report, but in these cities it is called "sirloin" steak.

OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES—Continued.

Philadelphia, Pa.				Pittsburgh, Pa.				Portland, Me.			Portland, Oreg.				Providence, R. I.			
Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
1913	1919			1913	1919						1913	1919			1913	1919		
Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
[10]30.0	[10]49.1	[10]55.3	[10]53.1	27.0	43.6	48.3	44.4	[10]56.3	[10]61.4	[10]53.1	21.8	31.2	31.6	31.3	[10]39.2	[10]66.7	[10] 75.8	[10] 68.4
26.0	44.9	48.8	43.3	22.8	39.3	43.5	39.0	45.7	50.3	43.9	21.0	29.8	30.0	29.9	31.0	54.3	58.7	52.5
21.8	38.5	40.3	37.0	21.8	34.3	36.6	33.9	30.4	30.6	28.5	18.7	27.8	29.0	28.1	23.8	42.6	44.1	39.5
17.8	29.4	29.0	26.1	16.7	27.4	28.4	25.4	23.7	23.4	20.3	16.0	22.2	21.0	20.4	18.8	34.9	34.0	29.1
12.1	17.7	15.9	14.7	12.7	17.5	18.2	16.6	.....	.....	.....	13.0	16.5	16.2	16.0	.....	.....	.....	.....
20.6	39.5	45.0	32.8	20.8	38.8	45.0	33.2	40.4	47.7	31.3	21.4	42.1	44.6	37.4	19.6	39.8	50.6	34.5
25.0	49.4	49.2	43.4	28.8	53.6	55.3	51.4	48.2	50.8	44.5	30.3	55.6	57.7	51.4	22.8	49.3	48.8	44.3
29.1	56.1	62.6	54.0	29.0	57.0	63.6	56.9	51.6	63.9	53.3	30.8	53.8	57.2	51.1	32.7	60.6	64.5	55.2
18.8	39.2	42.6	40.8	20.7	37.7	43.0	41.1	34.8	38.1	34.5	17.1	31.9	32.9	32.1	19.0	40.5	45.2	40.5
22.6	44.5	46.9	43.9	24.8	43.1	48.8	46.4	44.4	49.2	48.7	21.0	41.1	40.1	39.2	24.2	47.4	52.3	50.6
.....	34.0	35.8	36.3	.....	36.8	40.2	39.8	36.4	38.6	38.2	.....	40.8	47.2	47.2	.....	41.0	42.5	42.6
8.0	14.0	15.0	13.0	9.2	16.0	16.0	16.0	15.0	17.0	16.5	9.7	15.9	15.6	15.6	9.0	17.0	18.1	18.1
.....	16.5	15.1	14.7	.....	16.7	14.8	14.7	17.5	15.8	15.2	.....	17.4	14.0	14.0	.....	17.6	16.0	15.9
46.6	86.3	76.4	70.8	42.0	81.8	73.9	63.9	78.4	70.1	63.7	41.5	76.1	66.1	61.7	38.8	76.6	67.5	61.8
.....	45.2	41.9	39.3	.....	43.5	37.7	35.8	44.4	43.1	42.3	.....	42.2	41.0	40.0	.....	40.8	41.6	39.0
.....	37.5	36.6	35.8	.....	35.6	34.1	33.6	35.6	34.9	34.6	.....	38.7	37.1	36.5	.....	35.2	35.2	34.4
25.0	46.4	41.3	41.1	24.5	43.7	40.4	40.0	44.7	41.6	39.8	20.8	44.1	40.6	40.9	22.0	42.9	41.1	40.8
15.2	33.5	28.3	25.3	15.6	35.0	28.4	24.7	35.1	28.2	24.7	17.3	40.0	34.1	30.8	15.8	34.6	28.6	24.9
.....	35.3	29.2	28.1	.....	37.4	30.1	27.4	38.0	31.9	30.5	.....	42.7	34.7	32.1	.....	37.2	31.7	29.3
48.3	96.1	90.8	96.6	49.2	94.4	86.6	96.7	105.0	110.8	117.3	50.8	87.1	85.2	72.3	57.3	107.8	111.2	121.7
34.7	64.5	68.2	71.2	35.1	63.4	67.1	70.5	67.9	70.1	72.8	37.5	67.5	67.9	64.3	35.6	64.8	68.7	73.1
4.8	9.4	10.6	9.7	5.4	10.3	11.8	11.1	11.0	12.0	11.0	5.5	10.6	10.4	10.3	6.1	10.7	12.3	11.5
3.1	7.6	7.5	6.6	3.2	7.9	7.3	6.5	8.0	7.4	6.5	2.9	6.8	6.4	6.1	3.4	8.8	7.7	6.9
2.8	6.4	5.3	5.2	3.0	7.6	6.9	6.5	6.8	5.9	5.6	3.6	7.7	6.7	6.3	2.9	6.5	6.2	5.7
.....	8.4	9.7	10.1	.....	9.0	11.3	11.2	7.9	9.3	8.0	.....	9.1	12.0	11.7	.....	9.8	11.9	11.3
.....	12.3	12.8	12.7	.....	13.8	13.9	14.1	14.2	14.7	14.4	.....	14.6	14.4	14.4	.....	14.1	14.1	14.2
.....	27.1	28.7	28.6	.....	27.6	29.9	29.8	28.0	29.9	29.9	.....	31.3	33.4	33.1	.....	27.3	30.5	30.1
.....	21.5	22.2	22.8	.....	19.0	22.6	22.1	22.9	24.7	24.6	.....	17.5	18.5	18.2	.....	22.7	15.1	14.2
9.8	18.7	15.6	13.8	9.2	18.5	16.1	14.2	16.7	16.1	14.3	8.6	17.9	15.6	13.8	9.3	17.8	24.3	24.2
.....	12.2	10.1	10.0	.....	12.3	9.3	8.5	12.1	10.2	9.4	.....	11.0	8.6	8.6	.....	11.7	9.8	8.9
2.3	4.5	3.4	3.3	1.9	4.2	3.3	2.9	3.8	3.0	2.8	1.2	4.0	2.4	2.3	1.7	4.0	3.4	3.1
.....	8.3	4.0	3.7	.....	8.4	4.6	4.2	8.8	3.6	3.6	.....	6.4	4.0	3.4	.....	8.8	4.1	3.9
.....	6.8	3.3	2.8	.....	6.2	4.1	3.6	4.8	2.2	2.1	.....	5.6	2.8	2.7	.....	6.0	3.9	3.6
.....	14.8	14.9	14.5	.....	16.1	16.4	16.5	19.3	18.9	18.0	.....	22.0	21.2	20.8	.....	16.8	16.2	16.2
.....	18.0	17.3	16.3	.....	18.8	17.2	16.8	19.6	19.2	18.8	.....	22.3	21.9	21.8	.....	20.5	20.6	20.4
.....	18.9	17.3	17.5	.....	18.9	17.9	17.5	21.1	20.7	20.6	.....	22.9	20.7	21.0	.....	20.4	21.3	20.9
.....	15.6	12.6	11.6	.....	15.3	12.9	12.6	19.0	16.7	14.0	.....	[11]18.3	[11]13.6	[11]13.6	.....	17.8	14.8	13.7
5.0	11.0	11.9	9.6	5.5	12.6	13.2	11.0	11.3	13.0	10.8	6.0	12.5	12.8	10.9	5.1	11.6	13.0	11.1
54.0	64.0	60.8	60.9	58.0	81.9	77.9	77.4	62.6	61.6	61.6	55.0	63.9	68.2	68.2	48.3	60.5	60.1	59.6
24.5	45.1	32.5	32.0	30.0	49.6	42.9	42.1	50.7	44.5	43.1	35.0	50.7	43.4	41.6	30.0	52.7	44.7	43.7
.....	29.6	25.9	22.1	.....	31.7	28.2	25.8	28.2	25.3	24.1	.....	26.2	19.1	17.5	.....	28.6	25.0	24.3
.....	22.6	29.9	29.4	.....	25.4	34.3	33.8	25.0	31.2	31.5	.....	21.8	30.9	31.5	.....	23.2	29.8	29.9
.....	41.4	40.0	37.7	.....	45.0	52.6	46.2	[12]11.3	[12]12.7	[12]14.3	.....	[12]13.8	[12]17.5	[12]17.7	.....	41.7	50.6	42.8
.....	52.5	66.9	41.1	.....	50.5	78.2	46.5	61.3	81.0	43.5	.....	59.2	91.7	61.9	.....	61.3	74.1	51.1

[11] No. 2½ can.

[12] Per pound.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES

Article.	Unit.	Richmond, Va.				Rochester, N. Y.			St. Louis, Mo.			
		Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
		1913	1919						1913	1919		
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak	Pound	22.2	41.0	44.8	40.2	38.1	42.0	39.1	26.6	34.8	40.0	35.4
Round steak	do	20.0	37.6	41.1	36.5	34.4	38.2	35.1	23.6	34.4	38.5	34.0
Rib roast	do	18.9	34.5	34.2	30.7	30.5	32.2	31.2	19.5	28.4	31.4	29.5
Chuck roast	do	15.9	27.3	27.9	25.1	27.3	28.2	26.5	15.9	20.8	22.5	19.9
Plate beef	do	13.2	22.5	22.1	20.1	18.4	18.7	16.8	12.8	17.4	17.9	15.6
Pork chops	do	20.8	39.5	44.6	31.7	38.9	44.9	34.0	17.8	31.8	37.4	27.1
Bacon	do	25.0	46.6	49.5	43.3	42.0	44.9	39.5	25.0	46.1	48.1	40.7
Ham	do	25.0	46.7	54.7	47.9	48.5	56.1	48.9	27.3	49.5	55.6	47.6
Lamb	do	19.3	39.3	45.0	41.9	30.2	36.6	36.2	18.3	31.9	34.5	32.6
Hens	do	19.3	39.7	45.3	40.1	40.8	45.4	43.8	17.3	31.7	33.4	32.3
Salmon, canned	do	.....	27.5	25.7	25.1	37.1	38.8	38.5	.....	34.2	37.1	36.8
Milk, fresh	Quart	10.0	16.7	16.0	16.0	14.8	15.5	14.5	8.8	16.0	16.0	16.0
Milk, evaporated	15-16 oz. can	.....	17.3	16.5	15.6	17.3	15.8	15.4	.....	16.4	13.8	13.9
Butter	Pound	42.2	82.6	75.9	71.4	75.5	68.6	64.3	39.6	81.7	71.7	59.7
Oleomargarine	do	.....	43.3	43.4	41.4	44.4	41.9	40.8	.....	41.0	37.9	36.7
Nut margarine	do	.....	38.1	37.6	36.9	34.8	34.7	34.0	.....	34.7	33.9	32.7
Cheese	do	22.3	43.7	39.9	39.3	42.0	39.2	37.5	20.7	41.5	36.7	36.1
Lard	do	15.4	35.7	29.5	27.3	34.8	27.7	25.8	12.7	28.3	23.9	17.6
Crisco	do	.....	38.5	31.2	30.1	36.4	29.8	28.5	.....	35.5	28.7	26.6
Eggs, strictly fresh	Dozen	38.0	83.1	79.2	84.5	102.5	96.7	112.9	40.8	80.2	77.7	84.3
Eggs, storage	do	33.2	66.3	66.0	69.5	62.7	65.1	66.5	28.8	59.5	61.4	64.5
Bread	Pound	5.3	10.9	12.8	11.1	10.0	11.2	10.9	5.6	10.0	12.0	11.4
Flour	do	3.2	8.1	7.5	6.7	8.0	7.4	6.6	2.9	7.3	6.6	5.9
Corn meal	do	2.3	6.2	5.5	4.9	7.3	7.0	6.4	2.6	5.5	4.6	4.0
Rolled oats	do	.....	10.6	12.2	11.9	7.5	7.7	8.1	.....	6.4	10.0	9.8
Corn flakes	8-oz. pkg	.....	14.5	14.3	14.4	13.9	14.5	14.5	.....	13.2	12.8	12.9
Cream of Wheat	28-oz. pkg	.....	27.8	31.0	31.1	27.8	30.1	30.0	.....	28.7	30.1	30.4
Macaroni	Pound	.....	19.0	20.9	22.0	20.8	22.3	22.0	.....	18.3	20.8	20.4
Rice	do	10.0	18.9	17.2	15.5	18.4	14.9	13.6	8.2	17.2	12.9	11.5
Beans, navy	do	.....	13.3	10.8	9.9	12.1	10.6	9.7	.....	11.6	8.7	8.0
Potatoes	do	2.0	4.8	4.1	3.8	3.8	2.5	2.5	1.7	4.4	3.6	3.5
Onions	do	.....	8.6	4.9	5.1	7.6	3.9	3.6	.....	8.2	4.2	3.9
Cabbage	do	.....	6.6	4.1	3.8	4.7	1.8	1.9	.....	5.9	3.3	3.1
Beans, baked	No. 2 can	.....	14.3	13.4	12.8	14.8	14.4	14.3	.....	15.5	15.1	14.1
Corn, canned	do	.....	19.4	19.2	16.6	19.6	19.6	18.5	.....	16.5	15.6	15.5
Peas, canned	do	.....	22.0	21.2	20.4	19.7	20.3	20.3	.....	16.1	15.8	15.7
Tomatoes, canned	do	.....	18.8	13.3	11.9	16.2	15.5	15.5	.....	14.9	12.7	12.0
Sugar, granulated	Pound	5.4	11.9	13.8	10.7	11.9	12.9	10.6	5.1	18.6	12.0	9.9
Tea	do	56.0	84.3	89.6	89.6	64.7	67.5	66.2	55.0	72.0	74.3	74.9
Coffee	do	26.8	46.6	42.1	40.0	46.3	38.1	37.3	24.4	45.5	37.6	35.3
Prunes	do	.....	29.5	28.0	26.9	28.7	25.8	25.3	.....	29.3	28.0	26.8
Raisins	do	.....	23.6	32.8	33.2	23.4	31.2	31.6	.....	24.3	31.7	31.8
Bananas	Dozen	.....	45.5	51.8	47.6	41.6	49.3	46.3	.....	35.6	39.4	37.2
Oranges	do	.....	43.8	59.3	41.6	49.8	81.3	62.9	.....	46.0	57.9	45.6

[13] No. 2½ can.

OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES—Continued.

St. Paul, Minn.				Salt Lake City, Utah.				San Francisco, Calif.				Savannah, Ga.		Scranton, Pa.			
Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
1913	1919			1913	1919			1913	1919					1913	1919		
Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
25.0	32.8	37.7	35.7	22.6	31.5	33.3	31.5	21.0	30.1	34.4	34.4	37.9	35.8	25.5	42.5	51.9	46.3
20.8	28.8	31.6	30.7	20.0	28.4	30.2	28.6	20.0	29.0	32.1	31.9	34.6	33.5	21.5	36.8	43.7	37.8
19.6	28.8	30.0	28.5	19.0	24.8	25.9	25.2	21.7	29.3	31.5	31.8	29.4	29.4	22.8	33.7	38.4	34.2
16.0	22.9	23.4	22.6	14.5	20.3	22.3	20.7	15.0	21.1	22.4	22.2	22.5	22.1	17.6	27.4	31.1	26.7
10.3	15.0	14.5	13.5	12.5	15.4	15.6	14.5	15.0	18.1	19.5	19.0	19.3	18.2	11.3	17.4	18.6	15.4
17.4	34.0	37.8	27.0	23.4	40.4	47.3	35.9	24.2	44.7	46.4	44.9	42.9	34.4	20.8	42.6	47.4	34.4
26.0	46.8	53.3	46.1	29.0	52.3	55.8	48.1	34.4	59.2	64.8	61.0	50.0	46.5	25.8	53.6	54.2	48.7
27.0	48.1	57.1	49.1	30.0	53.3	55.4	50.4	34.0	57.7	62.8	61.0	53.3	47.0	27.7	47.5	59.7	51.8
16.3	27.4	31.5	28.6	18.0	26.8	31.0	30.7	16.6	32.3	35.9	35.7	43.3	40.0	18.7	40.7	46.0	42.8
16.8	31.2	32.4	31.6	22.6	33.1	42.5	38.6	24.5	49.7	51.6	50.2	46.0	40.8	21.8	45.5	50.3	47.3
.....	37.7	40.7	41.2	.....	36.9	40.4	40.4	.....	33.4	34.9	35.1	38.2	38.5	.....	38.8	43.6	43.5
7.8	13.0	14.0	14.0	8.7	12.5	12.5	12.5	10.0	15.3	16.8	16.8	24.7	24.7	8.8	15.0	16.0	14.0
.....	17.6	14.8	14.7	.....	16.0	14.8	14.9	.....	15.2	13.0	13.0	14.7	14.8	.....	16.4	15.1	14.6
36.9	74.1	65.3	54.1	40.0	76.8	66.1	56.9	38.6	75.5	66.7	60.0	71.2	64.7	37.8	73.2	63.9	61.0
.....	41.2	42.6	39.8	.....	42.0	41.5	39.0	.....	37.9	37.9	37.9	43.7	42.9	.....	45.3	42.2	39.6
.....	34.6	34.4	33.8	.....	38.5	37.5	36.6	.....	35.3	35.3	35.2	37.4	36.4	.....	36.1	36.4	35.4
21.0	42.6	37.8	36.6	24.2	42.7	38.6	36.9	21.0	44.8	42.1	41.7	38.1	37.2	18.3	41.4	38.3	37.3
14.8	34.5	29.0	24.6	19.7	39.6	31.5	27.8	18.0	37.4	32.1	31.0	33.0	30.0	16.5	36.5	29.7	26.8
.....	39.7	34.9	34.0	.....	44.5	35.6	34.5	.....	39.2	32.4	31.1	32.0	29.4	.....	38.4	32.4	30.5
37.6	94.5	77.0	84.6	48.3	83.8	84.3	81.2	53.3	83.9	95.5	82.9	80.0	90.8	52.5	108.3	96.1	106.3
30.8	62.3	62.5	66.5	37.0	67.0	70.0	70.0	41.7	64.4	64.4	66.8	63.3	69.2	35.3	63.5	67.9	69.7
6.0	9.2	10.4	10.4	5.9	10.0	12.2	11.8	5.9	11.7	10.9	10.1	12.4	11.0	5.5	10.0	13.9	12.3
2.8	8.2	6.4	5.9	2.4	6.5	5.5	5.0	3.4	7.3	7.4	6.9	7.9	7.4	3.6	8.3	7.9	7.3
2.5	6.6	6.1	5.9	3.3	7.4	6.9	6.1	3.5	6.9	6.8	6.3	4.6	4.1	.....	9.1	8.4	8.5
.....	7.8	9.5	8.1	.....	9.6	10.4	10.0	.....	8.9	11.1	11.0	13.5	13.0	.....	10.5	11.9	11.6
.....	14.5	14.9	15.0	.....	14.8	15.0	15.0	.....	14.0	14.6	14.3	15.0	14.7	.....	14.2	14.4	14.1
.....	30.2	31.0	30.7	.....	29.7	34.0	33.6	.....	26.2	29.0	29.0	31.2	30.5	.....	26.4	29.9	29.6
.....	19.2	19.9	19.9	.....	20.1	23.0	22.3	.....	13.2	13.9	14.0	23.1	24.0	.....	22.2	25.4	25.4
10.0	18.8	14.6	13.3	8.2	17.3	13.5	12.5	8.5	16.8	13.9	12.7	11.6	10.8	8.5	18.6	15.0	13.9
.....	11.8	10.4	10.1	.....	13.4	10.9	10.6	.....	9.8	7.8	7.5	13.2	11.6	.....	14.5	11.8	11.3
1.4	3.5	2.6	2.7	1.4	4.0	2.6	2.3	1.9	4.5	2.9	2.9	3.8	3.5	1.9	3.9	3.0	2.9
.....	7.8	3.3	3.5	.....	7.0	3.4	3.2	.....	6.3	2.4	2.3	5.4	5.0	.....	7.7	5.0	4.8
.....	5.1	3.1	3.4	.....	6.3	3.2	3.3	.....	.....	.....	.....	5.0	4.9	.....	4.4	2.6	2.5
.....	19.3	19.0	18.9	.....	20.0	20.0	20.0	.....	18.0	18.0	18.2	17.9	17.4	.....	16.1	15.0	15.3
.....	17.7	17.6	17.2	.....	17.8	18.9	18.9	.....	18.5	19.3	19.1	18.3	17.4	.....	19.4	18.0	17.3
.....	17.4	17.2	17.2	.....	18.2	17.3	17.3	.....	18.6	18.7	19.0	18.2	18.2	.....	18.8	18.4	18.0
.....	16.3	14.4	14.5	.....	16.9	15.0	14.2	.....	[13]13.8	[13]13.8	[13]13.5	13.8	13.1	.....	17.9	14.9	13.9
5.1	14.4	13.1	10.8	5.8	12.8	13.8	11.0	5.4	11.9	12.5	10.4	12.5	10.0	5.5	12.4	13.8	11.1
45.0	65.0	73.4	73.4	65.7	79.2	82.3	82.3	50.0	58.5	59.8	59.3	78.2	75.9	52.5	67.5	68.3	66.9
30.0	51.0	43.3	43.7	35.8	57.8	54.6	51.7	32.0	44.5	39.2	38.4	36.1	36.0	31.3	49.5	45.7	43.6
.....	30.4	28.6	25.1	.....	27.9	26.4	26.6	.....	23.3	21.7	22.0	31.4	27.4	.....	28.5	24.6	23.1
.....	24.4	33.1	32.8	.....	24.8	30.8	31.1	.....	21.9	29.7	29.4	31.8	32.0	.....	24.6	31.5	31.7
.....	[14] 12.2	[14] 16.3	[14] 15.0	.....	[14] 15.3	[14] 18.2	[14] 18.7	.....	43.0	43.6	44.4	55.0	50.6	.....	34.3	39.5	38.9
.....	58.1	14.0	15.0	.....	53.8	73.8	53.8	.....	55.2	70.0	56.5	47.0	40.3	.....	55.9	70.6	50.8

[14] Per pound.

TABLE 8.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 51 CITIES ON CERTAIN SPECIFIED DATES.—Concluded.

Article.	Unit.	Seattle, Wash.				Springfield, Ill.			Washington, D. C.			
		Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15, 1919.	Nov. 15, 1920.	Dec. 15, 1920.	Dec. 15.		Nov. 15, 1920.	Dec. 15, 1920.
		1913	1919						1913	1919		
		Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak	Pound	23.6	35.7	35.8	33.4	32.1	39.2	34.5	26.5	47.1	50.5	45.3
Round steak	do	20.6	33.7	32.3	30.7	32.0	38.5	33.1	22.6	42.8	45.1	39.7
Rib roast	do	20.0	29.2	28.8	27.3	22.9	26.5	23.4	21.0	36.2	39.8	36.5
Chuck roast	do	15.6	23.1	20.9	19.7	20.1	22.0	19.6	17.3	27.8	30.2	27.3
Plate beef	do	12.9	18.5	16.6	16.1	16.0	17.2	15.1	12.4	18.0	18.5	16.4
Pork chops	do	24.0	45.0	46.2	39.1	35.5	41.2	29.0	19.9	39.8	48.2	36.1
Bacon	do	33.0	59.4	61.4	56.9	45.4	48.7	44.3	24.9	27.9	50.6	44.4
Ham	do	30.0	57.2	60.3	56.1	48.9	56.4	50.4	29.0	55.2	61.2	57.4
Lamb	do	18.0	33.1	32.5	31.7	31.9	36.7	36.0	19.4	38.7	45.7	42.1
Hens	do	24.6	43.4	39.7	39.8	31.5	38.5	33.5	22.0	42.9	48.6	41.9
Salmon, canned	do	.....	35.3	38.0	38.1	35.8	40.4	40.1	.....	35.2	37.7	38.0
Milk, fresh	Quart	9.8	15.0	13.0	13.0	16.7	16.7	14.3	9.0	18.0	18.0	18.0
Milk, evaporated	15–16 oz. can	.....	15.2	13.0	12.7	18.6	17.3	16.5	.....	16.9	15.1	15.0
Butter	Pound	43.8	76.4	63.4	59.7	78.9	73.4	61.9	42.3	82.6	74.2	67.6
Oleomargarine	do	.....	40.6	41.3	41.0	44.9	40.5	37.6	.....	42.5	42.6	41.4
Nut margarine	do	.....	36.7	36.1	35.8	36.3	35.9	34.5	.....	35.1	35.6	35.3
Cheese	do	22.3	43.1	40.5	40.7	44.8	40.9	41.1	23.5	42.7	40.3	39.4
Lard	do	16.9	38.6	31.8	29.7	35.9	28.5	25.8	15.0	34.1	28.9	26.3
Crisco	do	.....	42.0	34.3	32.7	40.6	34.6	31.0	.....	37.5	30.7	29.3
Eggs, strictly fresh	Dozen	54.2	83.4	85.2	71.2	82.0	82.2	90.8	42.1	97.4	90.6	98.5
Eggs, storage	do	37.0	66.4	67.0	62.7	65.2	68.3	72.3	35.0	64.4	68.9	71.3
Bread	Pound	6.6	11.5	11.4	10.1	10.0	13.5	11.5	5.5	10.1	12.0	10.4
Flour	do	2.9	6.9	6.2	5.8	8.1	7.4	6.4	3.8	8.1	7.8	6.9
Corn meal	do	3.3	7.3	6.3	5.7	6.4	6.1	5.4	2.6	5.5	4.8	4.5
Rolled oats	do	.....	8.6	10.3	9.8	10.5	13.6	12.2	.....	10.7	12.9	12.3
Corn flakes	8-oz. pkg	.....	14.9	14.7	14.5	15.0	15.4	15.2	.....	14.0	13.9	13.9
Cream of Wheat	28-oz. pkg	.....	28.8	31.5	31.2	28.5	31.4	30.6	.....	26.6	29.8	29.7
Macaroni	Pound	.....	17.1	19.0	18.9	19.5	23.6	23.9	.....	20.6	24.4	23.8
Rice	do	7.7	19.0	15.6	13.9	19.3	15.9	14.4	9.4	18.2	15.5	14.8
Beans, navy	do	.....	11.6	8.5	8.2	12.8	9.6	8.7	.....	12.6	10.2	9.4
Potatoes	do	1.5	4.2	2.7	2.5	4.4	3.3	3.0	1.8	3.9	3.1	3.1
Onions	do	.....	7.7	3.7	3.5	7.9	4.2	4.0	.....	7.4	4.6	4.5
Cabbage	do	.....	6.3	2.9	2.7	6.0	3.3	3.4	.....	6.1	3.4	3.2
Beans, baked	No. 2 can	.....	21.8	19.5	19.2	19.2	18.1	17.6	.....	14.8	14.6	14.5
Corn, canned	do	.....	20.4	20.3	20.2	17.0	17.2	17.1	.....	19.0	17.3	16.4
Peas, canned	do	.....	20.4	20.3	20.0	18.7	18.3	17.7	.....	18.6	17.8	17.5
Tomatoes, canned	do	.....	[15]17.5	[15]14.9	[15]14.4	17.1	15.3	13.8	.....	16.4	12.7	12.0
Sugar, granulated	Pound	6.1	12.8	12.8	10.8	14.7	13.9	11.4	5.0	13.6	12.8	10.6
Tea	do	50.0	63.6	69.3	67.7	84.4	88.2	87.8	57.5	75.9	78.8	78.2
Coffee	do	28.0	48.1	42.1	41.8	51.2	43.0	41.9	28.8	47.5	39.1	36.9
Prunes	do	.....	28.4	25.8	24.4	33.1	28.7	27.9	.....	31.9	28.5	26.7
Raisins	do	.....	24.4	30.8	30.5	25.0	35.4	36.3	.....	24.3	32.5	32.3
Bananas	Dozen	.....	[16]14.4	[16]17.2	[16]17.4	[16]11.8	[16]14.0	[16]12.3	.....	43.6	48.6	43.9
Oranges	do	.....	58.1	80.4	59.5	51.9	72.5	53.3	.....	49.8	57.7	41.0

[15] No. 2½ can.

[16] Per pound.

Comparison of Retail Food Costs in 51 Cities.

TABLE 9 shows for 39 cities the percentage of increase or decrease in the retail cost of 22 food articles[6] in December, 1920, compared with the average cost in the year 1913, in December, 1919, and in November, 1920. For 11 other cities comparisons are given for the one-year and one-month periods. These cities have been scheduled by the bureau at different dates since 1913. For Savannah, Ga., the comparison is given only for the month, as this city was first scheduled by the bureau in 1920. These percentage changes are based on actual retail prices secured each month from retail dealers and on the average family consumption of these articles in each city.[7]

Effort has been made by the bureau each month to have perfect reporting cities. For the month of December, 99 per cent of all the firms reporting in the 51 cities sent in a report promptly. The following were perfect reporting cities; that is, every merchant in the following-named 38 cities who is cooperating with the bureau sent in his report in time for his prices to be included in the city averages: Atlanta, Baltimore, Boston, Bridgeport, Butte, Charleston, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Detroit, Houston, Indianapolis, Kansas City, Little Rock, Los Angeles, Louisville, Manchester, Milwaukee, Minneapolis, Mobile, Newark, Norfolk, Omaha, Peoria, Philadelphia, Pittsburgh, Portland, Me., Providence, Richmond, St. Louis, St. Paul, Salt Lake City, Scranton, Seattle, Springfield, and Washington.

The following summary shows the promptness with which the merchants responded in December:

RETAIL PRICE REPORTS RECEIVED DURING DECEMBER.

Item.	United States.	Geographical division.				
		North Atlantic.	South Atlantic.	North Central.	South Central.	Western.
Percentage of reports received	99	99	99	100	97	99
Number of cities in each section from which every report was received	38	9	6	[a] 14	5	4

[a] Total number of cities in this division.

[6] For list of articles, see note 2, p. 12.

[7] The consumption figure used for each article in each city is given in the MONTHLY LABOR REVIEW for November, 1918, pp. 94 and 95.

TABLE 9.—PERCENTAGE CHANGES IN THE RETAIL COST OF 22 FOOD ARTICLES IN DECEMBER, 1920, COMPARED WITH THE COST IN NOVEMBER, 1920, DECEMBER, 1919, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES.

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers.]

City.	Percentage increase December, 1920, compared with year 1913.	Percentage decrease December, 1920, compared with—		City.	Percentage increase December, 1920, compared with year 1913.	Percentage decrease December, 1920, compared with—	
		December, 1919.	November, 1920.			December, 1919.	November, 1920.
Atlanta	78	12	7	Milwaukee	77	12	8
Baltimore	82	9	9	Minneapolis	73	16	8
Birmingham	85	11	7	Mobile	----	13	9
Boston	82	4	9	Newark	74	8	8
Bridgeport	----	8	8	New Haven	79	6	8
Buffalo	84	8	9	New Orleans	78	9	7
Butte	----	9	8	New York	81	9	8
Charleston	89	8	4	Norfolk	----	8	9
Chicago	75	12	10	Omaha	73	17	10
Cincinnati	74	10	10	Peoria	----	12	10
Cleveland	76	11	10	Philadelphia	76	10	9
Columbus	----	10	9	Pittsburgh	80	9	8
Dallas	72	10	7	Portland, Me.	----	7	9
Denver	64	14	10	Portland, Oreg.	63	11	6
Detroit	81	12	10	Providence	88	6	8
Fall River	80	5	9	Richmond	88	9	9
Houston	----	7	5	Rochester	----	6	5
Indianapolis	70	13	9	St. Louis	76	14	10
Jacksonville	72	8	6	St. Paul	----	13	8
Kansas City, Mo.	76	11	8	Salt Lake City	59	11	9
Little Rock	72	11	6	San Francisco	72	5	5
Los Angeles	66	5	6	Savannah	----	----	6
Louisville	64	14	10	Scranton	85	7	9
Manchester	82	6	9	Seattle	60	15	7
Memphis	71	17	9	Springfield, Ill.	----	11	11
				Washington, D. C.	86	9	8

Retail Prices of Coal in the United States.[1]

THE following table shows the average retail prices of coal on January 15, November 15, and December 15, 1920, for the United States and for each of the cities included in the total for the United States. Prices for coal are secured from the cities from which monthly retail prices of food are received.

In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

The prices shown for bituminous coal are averages of prices of the several kinds used. The coal dealers in each city are asked to quote prices on the kinds of bituminous coal usually sold for household use.

The prices quoted are for coal delivered to consumers but do not include charges for storing the coal in cellar or coal bin where an extra handling is necessary.

[1] Prices of coal have formerly been secured semiannually and published in the March and September issues of the MONTHLY LABOR REVIEW. Since June, 1920, these prices have been secured and published monthly.

AVERAGE RETAIL PRICES OF COAL, PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JAN. 15, NOV. 15, AND DEC. 15, 1920.

City, and kind of coal.	1920		
	Jan. 15.	Nov. 15.	Dec. 15.
United States:			
Pennsylvania anthracite—			
Stove	$12.588	$16.216	$16.158
Chestnut	12.768	16.292	16.290
Bituminous	8.808	12.525	12.299
Atlanta, Ga.:			
Bituminous	9.050	14.375	12.146
Baltimore, Md.:			
Pennsylvania anthracite—			
Stove	[1] 12.500	[1] 15.708	[1] 15.500
Chestnut	[1] 12.600	[1] 15.708	[1] 15.500
Bituminous	[1] 7.500	[1] 11.594	[1] 11.639
Birmingham, Ala.:			
Bituminous	7.496	10.421	10.568
Boston, Mass.:			
Pennsylvania anthracite—			
Stove	12.750	16.000	16.000
Chestnut	12.750	16.000	16.000
Bridgeport, Conn.:			
Pennsylvania anthracite—			
Stove	12.500	17.500	17.500
Chestnut	12.500	17.500	17.500
Bituminous	8.500	.....	.....
Buffalo, N. Y.:			
Pennsylvania anthracite—			
Stove	10.890	13.220	13.220
Chestnut	10.990	13.240	13.240
Butte, Mont.:			
Bituminous	10.381	12.801	12.801
Charleston, S. C.:			
Pennsylvania anthracite—			
Stove	[1] 13.400	[1] 17.875	[1] 17.875
Chestnut	[1] 13.500	[1] 17.725	[1] 17.725
Bituminous	8.500	13.250	13.250
Chicago, Ill.:			
Pennsylvania anthracite—			
Stove	12.590	16.638	16.638
Chestnut	12.690	16.663	16.750
Bituminous	8.020	10.661	10.443
Cincinnati, Ohio:			
Pennsylvania anthracite—			
Stove	12.500	16.215	15.970
Chestnut	12.667	16.250	16.125
Bituminous	6.739	9.000	8.873
Cleveland, Ohio:			
Pennsylvania anthracite—			
Stove	12.300	16.290	15.878
Chestnut	12.233	16.263	15.850
Bituminous	7.911	12.064	9.643
Columbus, Ohio:			
Pennsylvania anthracite—			
Chestnut	12.000	16.500	16.500
Bituminous	6.513	10.875	10.053
Dallas, Tex.:			
Arkansas anthracite—			
Egg	18.500	20.500	20.500
Bituminous	14.583	15.583	16.333
Denver, Colo.:			
Colorado anthracite—			
Stove, 3 and 5 mixed	14.000	17.600	17.600
Furnace, 1 and 2 mixed	13.500	17.600	17.600
Bituminous	8.908	11.691	11.662
Detroit, Mich.:			
Pennsylvania anthracite—			
Stove	12.650	17.700	16.650
Chestnut	12.750	17.600	16.550
Bituminous	8.781	13.706	12.806
Fall River, Mass.:			
Pennsylvania anthracite—			
Stove	13.000	16.333	16.333
Chestnut	12.750	16.250	16.250
Bituminous	10.000	14.000	14.000
Houston, Tex.:			
Bituminous	12.000	16.600	16.232
Indianapolis, Ind.:			
Pennsylvania anthracite—			
Stove	13.000	.....	15.750
Chestnut	13.167	.....	15.750
Bituminous	8.188	10.708	10.729

[1] Per ton of 2,240 pounds.

AVERAGE RETAIL PRICES OF COAL, PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JAN. 15, NOV. 15, AND DEC. 15, 1920—Continued.

City, and kind of coal.	1920		
	Jan. 15.	Nov. 15.	Dec. 15.
Jacksonville, Fla.:			
Pennsylvania anthracite—			
Stove	$17.000	$23.000	$23.000
Chestnut	17.000	23.000	23.000
Bituminous	11.000	16.000	16.000
Kansas City, Mo.:			
Arkansas anthracite—			
Furnace	15.950	19.100	18.700
Stove, or No. 4	16.583	19.500	19.333
Bituminous	8.625	11.438	10.885
Little Rock, Ark.:			
Arkansas anthracite—			
Egg	.....	17.000	17.000
Bituminous	10.375	15.385	15.133
Los Angeles, Calif.:			
Bituminous	16.000	19.222	19.222
Louisville, Ky.:			
Pennsylvania anthracite—			
Stove	13.750	.....	.....
Chestnut	13.750	17.000	17.000
Bituminous	6.836	11.176	11.088
Manchester, N. H.:			
Pennsylvania anthracite—			
Stove	13.417	18.000	18.000
Chestnut	13.417	18.000	18.000
Bituminous	10.000	15.000	14.333
Memphis, Tenn.:			
Pennsylvania anthracite—			
Stove	16.000	18.000	18.000
Chestnut	16.000	18.000	18.000
Bituminous	8.000	11.550	11.550
Milwaukee, Wis.:			
Pennsylvania anthracite—			
Stove	12.600	16.200	16.200
Chestnut	12.700	16.300	16.280
Bituminous	8.960	14.469	14.083
Minneapolis, Minn.:			
Pennsylvania anthracite—			
Stove	14.000	18.390	18.370
Chestnut	14.100	18.470	18.460
Bituminous	10.425	15.547	15.528
Mobile, Ala.:			
Pennsylvania anthracite—			
Stove	17.000	.....	.....
Chestnut	17.000	.....	.....
Bituminous	10.333	14.235	14.344
Newark, N. J.:			
Pennsylvania anthracite—			
Stove	10.483	13.000	13.000
Chestnut	10.483	13.000	13.000
New Haven, Conn.:			
Pennsylvania anthracite—			
Stove	12.250	18.000	17.750
Chestnut	12.250	18.000	17.750
New Orleans, La.:			
Pennsylvania anthracite—			
Stove	17.500	22.500	22.500
Chestnut	17.500	22.500	22.500
Bituminous	9.269	14.145	13.827
New York, N. Y.:			
Pennsylvania anthracite—			
Stove	11.536	14.873	14.708
Chestnut	11.600	14.873	14.708
Norfolk, Va.:			
Pennsylvania anthracite—			
Stove	13.000	16.000	16.000
Chestnut	13.000	16.000	16.000
Bituminous	9.750	13.679	13.679
Omaha, Nebr.:			
Pennsylvania anthracite—			
Stove	17.275	23.900	23.750
Chestnut	17.450	24.000	23.750
Bituminous	10.108	14.753	14.025
Peoria, Ill.:			
Pennsylvania anthracite—			
Stove	13.000	16.500	17.000
Chestnut	13.000	16.500	17.000
Bituminous	6.000	9.031	7.750

AVERAGE RETAIL PRICES OF COAL, PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE ON JAN. 15, NOV. 15, AND DEC. 15, 1920—Concluded.

City, and kind of coal.	1920		
	Jan. 15.	Nov. 15.	Dec. 15.
Philadelphia, Pa.:			
Pennsylvania anthracite—			
Stove	[2] $11.881	[2] $14.975	[2] $14.975
Chestnut	[2] 11.906	[2] 14.975	[2] 14.975
Pittsburgh, Pa.:			
Pennsylvania anthracite—			
Stove	[2] 13.750	[2] 18.500	[2] 18.500
Chestnut	[2] 14.000	[2] 18.500	[2] 18.500
Bituminous	6.179	9.125	8.813
Portland, Me.:			
Pennsylvania anthracite—			
Stove	13.440	17.280	17.280
Chestnut	13.440	17.280	17.280
Bituminous	9.370	14.373	14.047
Portland, Oreg.:			
Bituminous	11.618	14.272	14.250
Providence, R. I.:			
Pennsylvania anthracite—			
Stove	[3] 12.950	[3] 17.100	[3] 17.100
Chestnut	[3] 13.000	[3] 17.100	[3] 17.100
Bituminous	[3] 10.000	[3] 14.667	[3] 14.000
Richmond, Va.:			
Pennsylvania anthracite—			
Stove	12.125	15.500	15.625
Chestnut	12.125	15.500	15.625
Bituminous	8.931	12.528	12.472
Rochester, N. Y.:			
Pennsylvania anthracite—			
Stove	10.800	13.400	13.400
Chestnut	10.900	13.500	13.500
St. Louis, Mo.:			
Pennsylvania anthracite—			
Stove	13.100	16.250	17.050
Chestnut	13.225	16.250	17 050
Bituminous	5.970	8.400	8.368
St. Paul, Minn.:			
Pennsylvania anthracite—			
Stove	14.000	18.458	18.458
Chestnut	14.100	18.492	18.492
Bituminous	11.531	16.824	16.979
Salt Lake City, Utah:			
Colorado anthracite—			
Furnace, 1 and 2 mixed	16.313	17.900	18.000
Stove, 3 and 5 mixed	16.583	18.500	18.500
Bituminous	8.236	10.069	10.006
San Francisco, Calif.:			
New Mexico anthracite—			
Cerillos egg	23.000	28.650	26.750
Colorado anthracite—			
Egg	21.750	26.750	28.650
Bituminous	15.100	19.400	19.400
Savannah, Ga.:			
Pennsylvania anthracite—			
Stove	[4] 15.100	[4] 19.100	[4] 19.100
Chestnut	[4] 15.100	[4] 19.100	[4] 19.100
Bituminous	[4] 11.100	[4] 17.350	[4] 17.350
Scranton, Pa.:			
Pennsylvania anthracite—			
Stove	8.233	9.833	9.833
Chestnut	8.300	9.833	9.833
Seattle, Wash.:			
Bituminous	[5] 9.588	[5] 11.612	[5] 11.612
Springfield, Ill.:			
Bituminous	3.950	4.740	4,950
Washington, D. C.:			
Pennsylvania anthracite—			
Stove	[2] 12.447	[2] 15.600	[2] 15.600
Chestnut	[2] 12.538	[2] 15.529	[2] 15.529
Bituminous	[2] 8.267	[2] 11.510	[2] 11.480

[2] Per ton of 2,240 pounds.

[3] Fifty cents per ton additional is charged for "binning." Most customers require binning or basketing the coal into the cellar.

[4] All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above prices.

[5] Prices in zone A. The cartage charge in zone A is $1.85, which has been included in the average. The cartage charges in Seattle range from $1.85 to $2.80, according to distance.

Index Numbers of Wholesale Prices in the United States.

A SHARP decline in the general level of wholesale prices in the United States was again manifested in December, according to data gathered in representative markets by the Bureau of Labor Statistics. The bureau's weighted index number, which assigns to each commodity an influence proportionate to its importance in the country's markets, registered 189 in December, a drop of 8¾ per cent from the November price level and 30½ per cent from the high peak of prices in May.

Farm products and foods again showed large price recessions, the figures for these two groups being 12¾ per cent and 11¾ per cent, respectively, below those of the previous month. Chemicals and drugs followed next in order, with a decrease of 9¼ per cent. Fuel and lighting materials were 8½ per cent and metal products were 7½ per cent cheaper than in November, while house-furnishing goods and miscellaneous commodities, the latter group including such important articles as cottonseed meal and oil, mill feed, manila hemp, jute, rubber, soap, paper, lubricating oil, and wood pulp, each averaged over 6 per cent decline from November prices.

Cloths and clothing were about 6 per cent cheaper in December, while building materials showed the smallest decrease of all—approximately 3 per cent. In no group was the level of prices as high as in the preceding month.

Of 326 commodities or price quotations included in the comparison for November and December, 219 showed a decrease and only 13 showed an increase. In 94 cases, no change in price was recorded. Of these, a majority belong in the two groups of building materials and cloths and clothing.

Some of the more important price changes occurring between November and December, as measured by average prices in each month, are as follows:

IMPORTANT ARTICLES INCREASING OR DECREASING IN AVERAGE PRICE IN DECEMBER, AS COMPARED WITH NOVEMBER, 1920, BY GROUPS OF COMMODITIES.

Increases.

Commodity.	Per cent.	Commodity.	Per cent.	Commodity.	Per cent.
Farm products.		*Food, etc.*—Concluded.		*Building materials.*	
Rye, No. 2, cash, Chicago.	1.2	Onions, fresh, Chicago....	21.1	Brick, building, New York	3.0
Food, etc.		*Cloths and clothing.*		Lumber: Maple, New York	3.4
Eggs:					
Chicago	5.2	Leather: Glazed kid, black,			
New York	3.2	Boston	7.1		
Flour: Rye, Minneapolis..	3.7				

Decreases.

Farm products.		*Farm products*—Contd.		*Farm products*—Contd.	
Cotton, middling:		Corn: Cash, No. 3 mixed,		Wheat—Concluded.	
New Orleans	18.9	Chicago	8.3	No. 1, northern spring,	
New York	18.6	Oats, cash, Chicago	4.1	Minneapolis	4.1
Flaxseed, No. 1, Minneapolis	9.9	Wheat:		Hard white, Portland, Oreg	3.4
Barley, malting, Chicago..	10.2	No. 2, hard winter, Kansas City	5.1		

IMPORTANT ARTICLES INCREASING OR DECREASING IN AVERAGE PRICE IN DECEMBER, AS COMPARED WITH NOVEMBER, 1920, BY GROUPS OF COMMODITIES—Concl'd.

Decreases—Concluded.

Commodity.	Per cent.
Farm products—Concl'd.	
Hay: Timothy, No. 1, Chicago	11.9
Hides:	
Calfskins, No. 1, Chicago	16.5
Packers', native steers, Chicago	18.3
Hops: Portland	29.8
Hogs: Light, Chicago	20.4
Sheep: Ewes, Chicago	10.8
Steers: Good to choice, Chicago	17.0
Peanuts, No. 1, Norfolk	11.2
Poultry: Live, New York	16.6
Food, etc.	
Beans: Medium, choice, New York	5.2
Butter, creamery, extra:	
Chicago	14.0
New York	12.8
San Francisco	10.2
Cheese:	
Chicago	9.2
New York	9.6
San Francisco	8.9
Coffee, Rio, New York	12.1
Corn, canned: Maryland-Maine style, New York	19.2
Eggs: San Francisco	10.6
Flour, wheat:	
Kansas City, patent	1.5
Minneapolis, standard patent	3.8
Portland, Oreg., patent	9.2
Fruit:	
Apples, Baldwins, Chicago	5.3
Bananas, New York	43.6
Currants, New York	8.7
Lemons, Chicago	27.6
Oranges, California, Chicago	43.0
Prunes, New York	13.0
Lard, prime contract, New York	25.1
Meal, corn, white, Decatur	11.5
Meat:	
Bacon, short clear sides, Chicago	14.4
Beef, fresh, Chicago	7.5
Hams: Smoked, loose, Chicago	16.0
Mutton, dressed, New York	13.3
Poultry, iced, Chicago	10.9
Milk, fresh, Chicago	13.3
Molasses, New Orleans, New York	32.7
Oleo oil, extra, Chicago	10.0
Potatoes, white, Chicago	23.9
Rice, Blue Rose, New Orleans	8.2
Sugar, New York:	
Raw	21.9
Granulated	15.9
Food, etc.—Concluded.	
Tallow, packers' prime, Chicago	24.3
Tea: Formosa, fine, New York	17.0
Cloths and clothing.	
Boots and shoes, factory:	
Men's tan grain blucher	4.7
Women's McKay sewed, lace	2.8
Drilling, Mass. D Standard, New York	22.0
Hosiery, New York:	
Men's half hose, combed yarn	17.8
Women's, seamless, combed yarn	9.5
Print cloths, 27-inch, Boston	8.2
Sheeting, New York:	
Bleached, Pepperell, 10-4	8.2
Brown, Ware Shoals, L. L. 4-4	23.1
Muslin, bleached:	
Rough Rider, New York	4.9
Underwear, New York:	
Men's shirts and drawers	13.1
Women's union suits	15.8
Yarn, Boston:	
Carded, 22/1	13.7
Twisted, 40/2	20.4
Leather, Boston:	
Side, black, chrome tanned	16.7
Sole, hemlock, middle, No. 1	12.8
Blankets, all wool, factory	6.2
Flannel, white, 4-4 Ballard Vale factory	24.8
Suiting: Middlesex, New York	15.0
Underwear, New York:	
Men's union suits, 33 per cent worsted	9.6
Wool, Ohio, scoured fleece:	
Fine clothing, Boston	20.5
¼ and ⅜ grades, Boston	21.0
Yarns, worsted, Boston:	
Half blood, 2-40s	20.0
Fine domestic, 2-50s	18.2
Fuel and lighting.	
Coal, bituminous:	
Prepared sizes, Chicago	10.7
Prepared sizes, Pittsburgh	15.0
Run of mine, St. Louis	11.3
Coal, semibituminous:	
Pocahontas, Norfolk	23.1
Coke: Connelsville, furnace	29.5
Metals and metal products.	
Bar iron, common, Pittsburgh	11.3
Copper, ingot, electrolytic, New York	5.9
Metals and metal products—Concluded.	
Lead, pig, New York	23.9
Nails, wire, Pittsburgh	19.3
Pig iron:	
Bessemer, Pittsburgh	10.4
Foundry No. 2, northern, Pittsburgh	9.7
Pipe, cast iron, New York	13.5
Silver, bar, fine, New York	16.9
Steel billets, Bessemer, Pittsburgh	12.5
Steel, structural, Chicago	7.5
Tin, pig, New York	7.9
Tinplate, coke, Pittsburgh	6.7
Zinc (spelter), New York	11.4
Building materials.	
Cement, Portland, New York	3.5
Lumber:	
Pine, yellow, siding, Norfolk	20.1
Carbonate of lead, New York	5.5
Linseed oil, raw, New York	8.1
Turpentine, New York	28.1
Shingles, red cedar, mills	16.2
Chemicals and drugs.	
Acetic acid, New York	21.5
Sulphuric acid, New York	13.9
Alcohol, grain, New York	9.7
Ammonia, anhydrous, New York	10.7
Copper sulphate, New York	11.6
Glycerin, New York	12.0
Quinine, New York	3.5
Caustic soda, New York	11.7
Nitrate of soda, New York	3.0
Soda ash, light, New York	10.8
House-furnishing goods.	
Bedroom sets, 3 pieces, Chicago	9.1
Chairs, rockers, Chicago	9.7
Miscellaneous.	
Bran, Minneapolis	14.2
Cottonseed meal, New York	15.6
Cottonseed oil, New York	14.8
Jute, raw, New York	22.6
Paper, news, rolls, contract, New York	11.3
Phosphate rock, Tampa	16.3
Rubber, New York	6.3
Wood pulp, sulphite, unbleached, New York	10.1
Hemp, manila, New York	12.3
Mill feed middlings, Minneapolis	15.9
Sisal, New York	11.1
Tankage, 9 and 20 per cent, New York	25.8
Soya bean oil, New York	19.3

Comparing prices in December with those of a year ago, as measured by the changes in the index numbers, it is seen that foods have declined 26½ per cent, cloths and clothing 34⅓ per cent, and farm products 41 per cent. In the groups of metal products and miscel-

laneous commodities, smaller declines have taken place. In the remaining groups the December price level was higher than that of a year ago, ranging from 5 per cent in the case of chemicals and drugs to over 30 per cent in the case of fuel and lighting. All commodities, taken in the aggregate, were over 20½ per cent cheaper than in December, 1919.

INDEX NUMBERS OF WHOLESALE PRICES IN SPECIFIED YEARS AND MONTHS, 1913 TO DECEMBER, 1920, BY GROUPS OF COMMODITIES.

[1913=100.]

Year and month.	Farm products.	Food, etc.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Building materials.	Chemicals and drugs.	House furnishing goods.	Miscellaneous.	All commodities.
1913	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
January	97	99	100	103	107	100	101	100	100	100
April	97	96	100	98	102	101	101	100	98	98
July	101	102	100	99	98	101	99	100	101	100
October	103	102	100	100	99	98	100	100	100	101
1914	**103**	**103**	**98**	**96**	**87**	**97**	**101**	**99**	**99**	**100**
January	101	102	98	99	92	98	100	99	99	100
April	103	95	99	98	91	99	100	99	101	98
July	104	104	99	95	85	97	99	99	97	100
October	103	107	97	93	83	96	105	99	96	99
1915	**105**	**104**	**100**	**93**	**97**	**94**	**114**	**99**	**99**	**101**
January	102	106	96	93	83	94	103	99	100	99
April	107	105	99	89	91	94	102	99	99	100
July	108	104	99	90	102	93	108	99	98	101
October	105	103	103	96	100	93	124	99	99	101
1916	**122**	**126**	**128**	**119**	**148**	**101**	**159**	**115**	**120**	**124**
January	108	113	110	105	126	99	150	105	107	110
April	114	117	119	108	147	101	172	108	110	117
July	118	121	126	108	145	99	156	121	120	119
October	136	140	138	133	151	101	150	124	132	134
1917	**189**	**176**	**181**	**175**	**208**	**124**	**198**	**144**	**155**	**176**
January	148	150	161	176	183	106	159	132	138	151
April	181	182	169	184	208	114	170	139	149	172
July	199	181	187	192	257	132	198	152	153	186
October	208	183	193	146	182	134	252	152	163	181
1918	**220**	**189**	**239**	**163**	**181**	**151**	**221**	**196**	**193**	**196**
January	207	187	211	157	174	136	232	161	178	185
February	208	186	216	157	176	138	232	161	181	186
March	212	177	223	158	176	144	232	165	184	187
April	217	178	232	157	177	146	229	172	191	190
May	214	177	237	160	178	148	223	173	194	190
June	217	179	245	159	178	150	219	198	196	193
July	224	184	249	166	184	154	216	199	190	198
August	230	191	252	166	185	157	222	221	191	202
September	237	199	255	167	184	159	220	226	194	207
October	224	201	257	167	187	158	218	226	196	204
November	221	206	256	171	188	164	215	226	203	206
December	222	210	250	171	184	164	195	227	204	206
1919	**234**	**210**	**261**	**173**	**161**	**192**	**179**	**236**	**217**	**212**
January	222	207	234	170	172	161	191	218	212	203
February	218	196	223	169	168	163	185	218	208	197
March	228	203	216	168	162	165	183	218	217	201
April	235	211	217	167	152	162	178	217	216	203
May	240	214	228	167	152	164	179	217	213	207
June	231	204	258	170	154	175	174	233	212	207
July	246	216	282	171	158	186	171	245	221	218
August	243	227	304	175	165	208	172	259	225	226
September	226	211	306	181	160	227	173	262	217	220
October	230	211	313	181	161	231	174	264	220	223
November	240	219	325	179	164	236	176	299	220	230
December	244	234	335	181	169	253	179	303	220	238
1920	**218**	**236**	**302**	**238**	**186**	**308**	**210**	**366**	**236**	**243**
January	246	253	350	184	177	268	189	324	227	248
February	237	244	356	187	189	300	197	329	227	249
March	239	246	356	192	192	325	205	329	230	253
April	246	270	353	213	195	341	212	331	238	265
May	244	287	347	235	193	341	215	339	246	272
June	243	279	335	246	190	337	218	362	247	269
July	236	268	317	252	191	333	217	362	243	262
August	222	235	299	268	193	328	216	363	240	250
September	210	223	278	284	192	318	222	371	239	242
October	182	204	257	282	184	313	216	371	229	225
November	165	195	234	258	170	274	207	369	220	207
December [1]	144	172	220	236	157	266	188	346	205	189

[1] Preliminary.

In order that a comparison of wholesale price trends over the entire period of years since 1890 may be obtained, the following table is presented. These yearly index numbers are constructed in the same manner as the monthly figures shown in the preceding table and are directly comparable therewith:

INDEX NUMBERS OF WHOLESALE PRICES, 1890 TO 1920, BY GROUPS OF COMMODITIES.

[1913=100.]

Year.	Farm products.	Food, etc.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Building materials.	Chemicals and drugs.	House furnishing goods.	Miscellaneous.	All commodities.
1890	68	89	94	69	114	72	90	72	92	81
1891	73	89	91	68	102	70	92	72	92	82
1892	66	80	91	66	93	67	91	71	88	76
1893	67	87	88	66	85	68	90	68	91	77
1894	59	77	78	61	72	66	83	67	86	69
1895	60	74	78	67	77	64	88	62	82	70
1896	54	67	75	69	80	63	91	58	80	66
1897	58	71	75	62	71	62	89	56	80	67
1898	61	76	79	61	71	65	93	61	79	69
1899	62	75	82	71	108	71	96	62	82	74
1900	69	79	88	80	106	76	97	69	91	80
1901	73	80	82	78	98	73	98	69	90	79
1902	81	85	84	92	97	77	97	73	92	85
1903	75	82	88	105	96	80	96	74	94	85
1904	80	87	89	91	88	80	97	73	94	86
1905	77	86	91	87	98	85	96	71	95	85
1906	78	84	97	90	113	94	94	74	97	88
1907	85	89	104	93	120	97	96	80	101	94
1908	85	94	94	91	94	92	100	78	97	91
1909	97	99	98	88	92	97	101	77	109	97
1910	103	100	99	84	93	101	102	80	116	99
1911	93	99	96	82	89	101	103	85	104	95
1912	101	108	98	89	99	100	101	91	101	101
1913	100	100	100	100	100	100	100	100	100	100
1914	103	103	98	96	87	97	101	99	99	100
1915	105	104	100	93	97	94	114	99	99	101
1916	122	126	128	119	148	101	159	115	120	124
1917	189	176	181	175	208	124	198	144	155	176
1918	220	189	239	163	181	151	221	196	193	196
1919	234	210	261	173	161	192	179	236	217	212
1920	218	236	302	238	186	308	210	366	236	243

Changes in Wholesale Prices in the United States.

A REVIEW of wholesale price movements in 1920 shows that the year was remarkable for the unprecedentedly high level reached in the early months and the violent declines that followed in the summer and fall. From January to May, prices of most commodities steadily advanced, the general level in the latter month being about 14 per cent above that prevailing at the close of 1919 and 172 per cent above the level of 1913. In June a slight reaction took place, followed later by radical declines that brought the December average down to a point 30½ per cent below that of May and only 89 per cent above the average for the prewar year 1913.

Monthly changes in the wholesale prices of a number of important articles in 1920 are shown in the table which follows. Figures for July of the years 1917 to 1919 and the average for the year 1913 also

are included by way of comparison. In the second section of the table the average money price for the month stated is in each instance expressed as a percentage of the 1913 average price to facilitate comparisons.

Among the articles that increased greatly in price in the first five months of 1920 were corn, oats, rye, corn meal, rye flour, potatoes, sugar, bituminous coal, and coke. Substantial increases also were recorded for wheat, flour, cotton, cotton goods, anthracite coal, pig iron, steel, crude and refined petroleum, gasoline, cement, lime, plate glass, and oak and yellow pine lumber.

On the other hand, decided decreases from January to May were reported for cattle, beef, milk, eggs, hides, leather, shoes, Douglas fir lumber, and red cedar shingles, while hogs, bacon, pork, lard, wool, woolen goods, tin, lead, and spelter also declined in price during this period.

Following the high peak reached in April and May, prices in general receded sharply and in some instances were below the prewar level by the end of the year. For example, native ewes at Chicago averaged 24 per cent less in price in December than in the year 1913, corn meal at Decatur, Ill., was 3.8 per cent cheaper, and electrolytic copper and pig tin at New York were 12.7 per cent and 24.5 per cent, respectively, below the average for 1913.

Measured by average prices in each month, good to choice steers in Chicago decreased 21.4 per cent in price from July to December, heavy hogs in the same market decreased 42.3 per cent from September to December, while native ewes decreased 75 per cent from April to December. From May to December No. 1 northern spring wheat at Minneapolis declined 45.3 per cent, wheat flour declined 40.5 per cent, corn in Chicago declined 62.2 per cent, oats 54.9 per cent, potatoes 79.4 per cent, and packers' hides 46.3 per cent.

Among other commodities decreasing greatly in price after April or May, as shown by the figures in the table, were sugar 64 per cent, cotton 63.4 per cent, cotton yarn 60 per cent, print cloth 64.2 per cent, wool 54.5 per cent, worsted yarn 50 per cent, and chrome calf shoe leather 54 per cent. Other radical decreases were prompt shipment furnace coke 66.6 per cent from August to December, Bessemer pig iron 26.8 per cent from September to December, steel billets 30.4 per cent from July to December, and pig tin 45.6 per cent from April to December.

In like manner, after spring or summer, building brick decreased 32 per cent, Douglas fir lumber 56 per cent, red cedar shingles 54.7 per cent, linseed oil 55.1 per cent, and turpentine 69.3 per cent.

WHOLESALE PRICES IN JULY, 1917 TO 1919, AND 1920, BY MONTHS, AS COMPARED WITH AVERAGE PRICES IN 1913.[1]

Average money prices.

Article.	Unit.	1913	July—			1920											
			1917	1918	1919	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
FOODSTUFFS.																	
(*a*) *Animal.*																	
Cattle, good to choice steers	100 lbs.	$8.507	$12.560	$17.625	$16.869	$15.938	$14.969	$14.400	$13.906	$12.600	$15.031	$15.381	$15.350	$15.250	$14.688	$14.575	$12.094
Beef, fresh, good native steers	Lb.	.130	.164	.240	.208	.232	.213	.205	.209	.195	.223	.255	.255	.260	.252	.240	.222
Beef, salt, extra mess	Bbl.	18.923	30.500	34.875	34.300	18.625	17.000	17.000	17.000	17.000	17.000	18.125	18.500	19.250	19.500	19.500	18.250
Hogs, heavy	100 lbs.	8.365	15.460	17.720	22.225	15.094	14.513	14.435	14.806	13.975	14.725	14.856	15.130	16.544	14.775	12.120	9.538
Bacon, short, clear sides	Lb.	.127	.248	.276	.337	.221	.220	.211	.219	.218	.212	.207	.200	.202	.217	.191	.164
Hams, smoked, loose	Lb.	.166	.240	.303	.384	.294	.306	.316	.331	.356	.365	.377	.373	.363	.358	.307	.258
Lard, prime, contract	Lb.	.110	.201	.264	.351	.241	.210	.210	.200	.208	.206	.191	.189	.201	.206	.191	.143
Pork, salt, mess	Bbl.	22.471	42.250	48.500	58.900	44.875	43.438	42.300	42.813	42.250	40.400	36.250	32.900	31.000	30.500	30.800	29.750
Sheep, ewes	100 lbs.	4.687	8.600	10.975	8.125	10.875	13.063	13.525	14.250	12.525	7.344	6.594	6.575	5.544	5.219	5.150	3.563
Mutton, dressed	Lb.	.103	.145	.205	.159	.158	.206	.196	.251	.195	.172	.170	.139	.118	.114	.124	.108
Butter, creamery, extra	Lb.	.310	.376	.432	.512	.631	.622	.663	.639	.571	.549	.553	.540	.568	.568	.590	.508
Eggs, fresh, firsts	Doz.	.226	.318	.374	.416	.652	.515	.450	.413	.411	.388	.423	.471	.527	.570	.675	.710
Milk	Qt.	.035	.050	.054	.071	.085	.081	.079	.061	.061	.067	.070	.078	.084	.084	.084	.075
(*b*) *Vegetable.*																	
Wheat, No. 1, northern	Bu.	.874	2.582	2.170	2.680	2.931	2.688	2.755	3.006	3.075	2.900	2.831	2.550	2.490	2.106	1.753	1.681
Wheat flour, standard patent	Bbl.	4.584	12.750	[2]10.702	12.155	14.444	13.538	13.165	14.281	15.031	14.160	13.669	12.235	12.594	11.206	9.295	8.944
Corn, No. 2, mixed	Bu.	.625	2.044	1.665	1.920	1.503	1.450	1.579	1.706	1.995	1.851	1.549	1.541	1.315	.888	.807	.755
Corn meal	100 lbs.	1.599	4.880	4.825	4.488	3.080	3.013	3.450	3.775	4.220	4.375	3.590	3.400	2.863	2.150	1.738	1.538
Oats, standard, in store	Bu.	.376	.764	.765	.764	.836	.833	.901	1.003	1.095	1.114	.935	.699	.585	.530	.516	.494
Rye, No. 2	Bu.	.636	2.226	1.705	1.555	1.766	1.568	1.744	2.007	2.174	2.208	2.232	1.963	1.945	1.696	1.577	1.598
Rye flour	Bbl.	3.468	11.417	10.500	8.050	9.538	8.513	9.510	11.138	11.869	12.010	11.650	10.250	9.988	9.813	8.940	9.269
Barley, fair to good malting	Bu.	.625	1.391	1.125	1.268	1.494	1.390	1.518	1.656	1.725	1.520	1.214	1.085	1.006	.923	.867	.779
Rice, Honduras, head	Lb.	.051	.070	.094	.123	.127	.128	.125	.123	.122	.123	.125	.102	.095	.079	.068	.066
Potatoes, white	Bu.	.614	2.375	1.035	1.683	2.621	2.678	3.291	4.249	4.425	3.975	3.570	2.097	1.395	1.069	1.197	.911
Sugar, granulated	Lb.	.043	.075	.074	.088	.154	.150	.137	[3].192	[3].225	[3].212	[3].191	.167	.143	.108	.096	.081

[1] This table is published quarterly in the February, May, August, and November issues of the MONTHLY LABOR REVIEW.
[2] Standard war flour.
[3] Estimated price. No market quotation.

WHOLESALE PRICES IN JULY, 1917 TO 1919, AND 1920, BY MONTHS, AS COMPARED WITH AVERAGE PRICES IN 1913—Continued.

Average money prices—Concluded.

Article.	Unit.	1913	July—			1920											
			1917	1918	1919	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
TEXTILES AND LEATHER GOODS.																	
Cotton, upland, middling	Lb	$0.128	$0.261	$0.312	$0.351	$0.393	$0.388	$0.414	$0.424	$0.413	$0.393	$0.410	$0.360	$0.301	$0.226	$0.190	$0.155
Cotton yarn, carded, 10/1	Lb	.221	.450	.641	.591	.727	.747	.755	.778	.767	.730	.701	.631	.543	.434	.370	.311
Print cloth, 27-inch	Yd	.035	.073	.113	.116	.149	.154	.153	.165	.160	.154	.142	.117	.100	.082	.065	.059
Sheeting, brown, Pepperell	Yd	.073	.140	(4)	.219	.285	(4)	(4)	(4)	(4)	(4)	(4)	.277	.238	.201	.163	.143
Bleached muslin, Lonsdale	Yd	.082	.160	.250	.274	.323	.333	.333	.333	.333	.333	.333	.305	.304	.239	.186	.186
Wool, ¼ and ⅜ grades scoured	Lb	.471	1.200	1.437	1.236	1.236	1.236	1.236	1.200	1.164	1.000	.909	.873	.836	.727	.691	.546
Worsted yarn, 2–32s	Lb	.777	1.600	2.150	1.600	2.250	2.250	2.200	2.200	2.000	2.000	1.750	1.750	1.600	1.500	1.300	1.100
Clay worsted suitings, 16-ounce	Yd	1.382	3.250	4.450	(4)	(4)	5.423	5.423	5.423	5.423	5.423	5.423	5.423	4.499	4.163	4.163	4.163
Storm serge, all-wool, 50-inch	Yd	.563	1.176	1.470	1.223	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.267	1.150	1.150	1.150
Hides, packers' heavy native steers	Lb	.184	.330	.324	.486	.400	.403	.364	.361	.354	.341	.294	.285	.284	.255	.233	.190
Leather, chrome calf	Sq. ft	.270	.540	.640	1.100	1.275	1.275	1.275	1.250	1.175	1.075	.875	.875	.800	.750	.625	.575
Leather, sole, oak	Lb	.449	.815	.830	.950	.915	.915	.915	.915	.910	.900	.900	.875	.875	.800	.725	.625
Shoes, men's, Goodyear welt, vici calf, blucher	Pair	3.113	4.750	5.645	7.476	9.282	9.500	9.600	9.600	9.600	9.100	9.100	9.100	9.100	7.944	7.750	7.750
Shoes, women's, Goodyear welt, kid, 8-inch lace [5]	Pair	2.175	3.500	5.000	7.250	8.000	8.250	8.250	8.250	8.250	7.750	7.750	7.218	7.000	7.000	7.000	7.000
MINERAL AND METAL PRODUCTS.																	
Coal, anthracite, chestnut	2,240 lbs.	5.313	5.933	6.693	8.304	8.518	8.513	8.514	8.522	9.059	9.462	9.551	9.711	10.541	10.536	10.543	10.548
Coal, bituminous, run of mine	2,000 lbs.	2.200	5.000	4.100	4.000	4.100	4.100	4.100	5.500	6.000	6.000	6.000	6.000	7.100	7.100	7.100	7.100
Coke, furnace, prompt shipment	2,000 lbs.	2.538	15.000	6.000	4.172	6.000	6.000	6.000	10.500	12.000	15.400	17.250	17.600	16.625	15.125	8.100	5.875
Copper, electrolytic	Lb	.157	.318	.255	.215	.193	.191	.186	.192	.191	.190	.190	.190	.187	.168	.146	.137
Copper wire, bare, No. 8	Lb	.167	.338	.285	.244	.228	.230	.230	.230	.230	.230	.230	.230	.229	.206	.183	.170
Pig iron, Bessemer	2,240 lbs.	17.133	57.450	36.600	29.350	40.400	42.900	43.400	43.650	44.025	44.800	47.150	49.112	50.460	49.210	1.260	36.960
Steel billets	2,240 lbs.	25.789	100.000	47.500	38.500	48.000	55.250	60.000	60.000	60.000	60.000	62.500	61.000	58.750	55.000	9.700	43.500
Tin plate, domestic, coke	100 lbs.	3.558	12.000	7.750	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.500	9.000	9.000	8.625	7.500	7.000
Pig tin	Lb	.449	.620	.932	.702	.637	.603	.621	.623	.556	.490	.491	.472	.444	.406	.368	.339
Pig lead	Lb	.044	.114	.080	.056	.087	.088	.092	.090	.086	.085	.086	.090	.082	.073	.063	.048
Spelter	Lb	.058	.093	.087	.079	.097	.092	.089	.086	.081	.080	.082	.083	.078	.075	.068	.060
Petroleum, crude, Pennsylvania	Bbl	2.450	3.100	4.000	4.000	5.063	5.513	6.100	6.100	6.100	6.100	6.100	6.100	6.100	6.100	6.100	6.100
Petroleum, crude, Kansas-Oklahoma	Bbl	.934	1.700	2.250	2.250	2.900	3.000	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500
Petroleum, refined, water-white	Gal	.123	.120	.171	.205	.224	.240	.250	.260	.260	.260	.260	.260	.275	.290	.290	.290
Gasoline, motor	Gal	.168	.240	.241	.245	.257	.265	.280	.285	.294	.300	.300	.300	.310	.310	.310	.310

BUILDING MATERIALS.																	
Brick, red, domestic, building	1,000	6.563	8.875	12.750	15.000	24.000	25.000	25.000	25.000	25.000	25.000	25.000	22.484	15.767	16.500	16.500	17.000
Cement, Portland, domestic	Bbl.	1.580	2.120	2.600	3.250	3.370	3.400	3.400	3.560	4.325	4.575	4.800	5.100	5.063	4.980	5.100	4.920
Lime, common, lump	Bbl.	1.078	1.900	2.500	2.700	3.525	3.800	3.875	4.100	4.100	4.225	4.600	4.600	4.600	4.800	4.800	4.800
Glass, plate, polished, 5 to 10 square feet	Sq. ft.	.318	.400	.460	.580	.750	.780	.800	.820	.820	.820	.820	.820	.820	.820	.820	.820
Glass, window, single, B	50 sq. ft.	2.221	3.420	5.700	5.700	6.555	6.555	6.555	6.555	6.555	6.555	6.555	6.555	6.555	6.555	6.555	6.555
Lath, 1½-inch slab	1,000	4.284	5.625	5.125	5.750	17.000	17.000	17.000	17.000	17.000	16.000	16.000	16.000	10.500	10.500	9.125	9.125
Douglas fir, No. 1	1,000 ft.	9.208	18.500	19.500	28.500	37.500	37.500	37.500	37.500	37.500	29.500	29.500	29.500	25.500	24.500	16.500	16.500
Hemlock	1,000 ft.	24.227	28.000	34.500	41.000	53.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000
Oak, white, plain	1,000 ft.	60.591	69.000	75.500	97.500	186.000	186.000	230.000	230.000	230.000	228.500	228.500	217.000	185.000	185.000	175.000	175.000
Pine, yellow, flooring	1,000 ft.	44.591	57.000	60.000	73.000	112.000	139.000	139.000	160.000	160.000	160.000	160.000	157.000	157.000	152.000	124.500	124.500
Shingles, red cedar	1,000	1.967	3.000	3.080	4.820	6.570	6.820	6.080	5.720	4.990	4.190	4.570	4.960	3.880	3.220	3.090	2.590
Nails, wire, 8-penny	100 lbs.	1.819	4.100	3.600	3.350	4.600	4.600	4.100	4.100	4.100	4.100	4.100	4.350	4.350	4.350	4.150	3.350
Pipe, cast-iron, 6-inch	2,000 lbs.	23.371	65.525	61.750	50.920	67.300	70.300	71.500	74.300	76.300	76.300	76.300	76.484	77.220	77.220	77.220	66.780
Steel, structural	Lb.	.016	.062	.033	.027	.027	.029	.033	.035	.035	.035	.032	.031	.032	.032	.031	.028
Lead, carbonate of (white)	Lb.	.068	.128	.136	.130	.146	.151	.155	.155	.155	.155	.155	.155	.155	.155	.149	.141
Linseed oil, raw	Gal.	.462	1.120	1.770	2.115	1.770	1.770	1.803	1.828	1.690	1.653	1.520	1.413	1.215	1.076	.893	.820
Turpentine, spirits of	Gal.	.428	.420	.700	1.176	1.885	1.985	2.238	2.575	2.475	1.868	1.599	1.624	1.473	1.230	1.098	.790

[4] No quotation.

[5] Prior to January, 1918, prices are for gun metal, button.

WHOLESALE PRICES IN JULY, 1917 TO 1919, AND 1920, BY MONTHS, AS COMPARED WITH AVERAGE PRICES IN 1913—Concluded.

Relative prices.

Article.	1913	July—			1920											
		1917	1918	1919	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
FOODSTUFFS.																
(a) *Animal.*																
Cattle, good to choice steers	100	147.6	207.2	198.3	187.4	176.0	169.3	163.5	148.1	176.7	180.8	180.4	179.3	172.7	171.3	142.2
Beef, fresh, good native steers	100	126.2	184.6	160.0	178.5	163.8	157.7	160.8	150.0	171.5	196.2	196.2	200.0	193.8	184.6	170.8
Beef, salt, extra mess	100	161.2	184.3	181.3	98.4	89.8	89.8	89.8	89.8	89.8	95.8	97.8	101.7	103.0	103.0	96.4
Hogs, heavy	100	184.8	211.8	265.7	180.4	173.5	172.6	177.0	167.1	176.0	177.6	180.9	197.8	176.6	144.9	114.0
Bacon, short, clear sides	100	195.3	217.3	265.4	174.0	173.2	166.1	172.4	171.7	166.9	163.0	157.5	159.1	170.9	150.4	129.1
Hams, smoked, loose	100	144.6	182.5	231.3	177.1	184.3	190.4	199.4	214.5	219.9	227.1	224.7	218.7	215.7	184.9	155.4
Lard, prime, contract	100	182.7	240.0	319.1	219.1	190.9	190.9	181.8	189.1	187.3	173.6	171.8	182.7	187.3	173.6	130.0
Pork, salt, mess	100	188.0	215.8	262.1	199.7	193.3	188.2	190.5	188.0	179.8	161.3	146.4	138.0	135.7	137.1	132.4
Sheep, ewes	100	183.5	234.2	173.4	232.0	278.7	288.6	304.0	267.2	156.7	140.7	140.3	118.3	111.4	109.9	76.0
Mutton, dressed	100	140.8	199.0	154.4	153.4	200.0	190.3	243.7	189.3	167.0	165.0	135.0	114.6	110.7	120.4	104.9
Butter, creamery, extra	100	121.3	139.4	165.2	203.5	200.6	213.9	206.1	184.2	177.1	178.4	174.2	183.2	183.2	190.3	163.9
Eggs, fresh, firsts	100	140.7	165.6	184.1	288.5	227.9	199.1	182.7	181.9	171.7	187.2	208.4	233.2	252.2	298.7	314.2
Milk	100	142.9	154.3	202.9	242.9	231.4	225.7	174.3	174.3	191.4	200.0	222.9	240.0	240.0	240.0	214.3
(b) *Vegetable.*																
Wheat, No. 1, northern	100	295.4	248.3	306.6	335.4	307.6	315.2	343.9	351.8	331.8	323.9	291.8	284.9	241.0	200.6	192.3
Wheat flour, standard patent	100	278.1	[2] 233.5	265.2	315.1	295.3	287.2	311.5	327.9	308.9	298.2	266.9	274.7	244.5	202.8	195.1
Corn, No. 2, mixed	100	327.0	266.4	307.2	240.5	232.0	252.6	273.0	319.2	296.2	247.8	246.6	210.4	142.1	129.1	120.8
Corn meal	100	305.2	301.8	280.7	192.6	188.4	215.3	236.1	263.9	273.6	224.5	212.6	179.0	134.5	108.7	96.2
Oats, standard, in store	100	203.2	203.5	203.2	222.3	221.5	239.6	266.8	291.2	296.3	248.7	185.9	155.6	141.0	137.2	131.4
Rye, No. 2	100	350.0	268.1	244.5	277.7	246.5	274.2	315.6	341.8	347.2	350.9	308.6	305.8	266.7	248.0	251.3
Rye flour	100	329.2	302.8	232.1	275.0	245.5	274.2	321.2	342.2	346.3	335.9	295.6	288.0	283.0	257.8	267.3
Barley, fair to good malting	100	222.6	180.0	202.9	239.0	222.4	242.9	265.0	276.0	243.2	194.2	173.6	161.0	147.7	138.7	124.6
Rice, Honduras, head	100	137.3	184.3	241.1	249.0	251.0	245.1	241.2	239.2	241.2	245.1	200.0	186.3	154.9	133.3	129.4
Potatoes, white	100	386.8	168.6	274.1	426.9	436.2	536.0	692.0	720.7	647.4	581.4	341.5	227.2	174.1	195.0	148.4
Sugar, granulated	100	174.4	172.1	204.7	358.1	348.8	318.6	[3] 446.5	[3] 523.3	[3] 493.0	[3] 444.2	388.4	332.6	251.2	223.3	188.4
TEXTILES AND LEATHER GOODS.																
Cotton, upland, middling	100	203.9	243.8	274.2	307.0	303.1	323.4	331.3	322.7	307.0	320.3	281.3	235.2	176.6	148.4	131.1
Cotton yarn, carded, 10/1	100	203.6	289.6	267.4	329.0	338.0	341.6	352.0	347.1	330.3	317.2	285.5	245.7	196.4	167.4	140.7
Print cloth, 27-inch	100	208.6	322.9	331.4	425.7	440.0	437.1	471.4	457.1	440.0	405.7	334.3	285.7	234.3	185.7	168.6
Sheeting, brown, Pepperell	100	191.8	(4)	300.0	390.4	(4)	(4)	(4)	(4)	(4)	(4)	379.5	326.0	275.3	223.3	195.9
Bleached muslin, Lonsdale	100	195.1	304.9	334.1	393.9	406.1	406.1	406.1	406.1	406.1	406.1	371.9	370.7	291.5	226.8	226.8
Wool, ¼ and ⅜ grades, scoured	100	254.8	305.1	262.4	262.4	262.4	262.4	254.8	247.1	212.3	193.0	185.3	177.5	154.3	146.7	115.9
Worsted yarn, 2–32s	100	205.9	276.7	205.9	289.6	289.6	283.1	283.1	257.4	257.4	225.2	225.2	205.9	193.1	167.3	141.6

Clay worsted suitings, 16-ounce	100	235.2	322.0	(4)	(4)	392.4	392.4	392.4	392.4	392.4	392.4	392.4	325.5	301.2	301.2	301.2
Storm serge, all wool, 50-inch	100	208.9	261.1	217.2	252.4	252.4	252.4	252.4	252.4	252.4	252.4	252.4	225.0	204.3	204.3	204.3
Hides, packers' heavy native steers	100	179.3	176.1	264.1	217.4	219.0	197.8	196.2	192.4	185.3	159.8	154.9	154.3	138.6	126.6	103.3
Leather, chrome calf	100	200.0	237.0	407.4	472.2	472.2	472.2	463.0	435.2	398.1	324.1	324.1	296.3	277.8	231.5	213.0
Leather, sole, oak	100	181.5	184.9	211.6	203.8	203.8	203.8	203.8	202.7	200.4	200.4	194.9	194.9	178.2	161.5	139.2
Shoes, men's, Goodyear welt, vici calf, blucher	100	152.6	181.3	240.2	298.2	305.2	308.4	308.4	308.4	292.3	292.3	292.3	292.3	255.2	249.0	249.0
Shoes, women's, Goodyear welt, kid, 8-inch lace [5]	100	160.9	189.2	274.5	302.8	312.3	312.3	312.3	312.3	293.3	293.3	273.2	265.0	265.9	265.0	265.0
MINERAL AND METAL PRODUCTS.																
Coal, anthracite, chestnut	100	111.7	126.0	156.3	160.3	160.2	160.3	160.4	170.5	178.1	179.8	182.8	198.4	198.3	198.4	198.5
Coal, bituminous, run of mine	100	227.3	186.4	181.8	186.4	186.4	186.4	250.0	272.7	272.7	272.7	272.7	322.7	322.7	322.7	322.7
Coke, furnace, prompt shipment	100	591.0	236.4	164.4	236.4	236.4	236.4	413.7	472.8	606.8	679.7	693.5	655.0	595.9	319.1	231.5
Copper, electrolytic	100	282.5	162.4	136.9	122.9	121.7	118.5	122.3	121.7	121.0	121.0	121.0	119.1	107.0	93.0	87.3
Copper wire, bare, No. 8	100	202.4	170.7	146.1	136.5	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.1	123.4	109.6	101.8
Pig iron, Bessemer	100	335.3	213.6	171.3	235.8	250.4	253.3	254.8	257.0	261.5	275.2	286.7	294.5	287.2	240.8	215.7
Steel billets	100	387.8	184.2	149.3	186.1	214.2	232.7	232.7	232.7	232.7	242.4	236.5	227.8	213.3	192.7	168.7
Tin plate, domestic, coke	100	337.3	217.8	196.7	196.7	196.7	196.7	196.7	196.7	196.7	210.8	253.0	253.0	242.4	210.8	196.7
Pig tin	100	138.1	207.6	156.3	141.9	134.3	138.3	138.8	123.8	109.1	109.4	105.1	98.9	90.4	82.0	75.5
Pig lead	100	259.1	181.8	124.7	197.7	200.0	209.1	204.5	195.5	193.2	195.5	204.5	186.4	165.9	143.2	109.1
Spelter	100	160.3	150.0	136.2	167.2	158.6	153.4	148.3	139.7	137.9	141.4	143.1	134.5	129.3	117.2	103.4
Petroleum, crude, Pennsylvania	100	126.5	163.3	163.3	206.7	225.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0	249.0
Petroleum, crude, Kansas-Oklahoma	100	182.0	240.9	240.9	310.5	321.2	374.7	374.7	374.7	374.7	374.7	374.7	374.7	374.7	374.7	374.7
Petroleum, refined, water-white	100	97.6	139.0	166.7	182.1	195.1	203.3	211.4	211.4	211.4	211.4	211.4	223.6	235.8	235.8	235.8
Gasoline, motor	100	142.9	143.5	145.8	153.0	157.7	166.7	169.6	175.0	178.6	178.6	178.6	184.5	184.5	184.5	184.5
BUILDING MATERIALS.																
Brick, red, domestic, building	100	135.2	194.3	228.6	365.7	380.9	380.9	380.9	380.9	380.9	380.9	342.6	240.2	251.4	251.4	259.0
Cement, Portland, domestic	100	136.0	166.8	208.5	216.2	218.1	218.1	228.4	277.5	293.5	307.9	327.2	324.9	319.5	327.2	315.7
Lime, common, lump	100	165.9	218.3	235.8	307.9	331.9	338.4	358.0	358.0	369.0	401.8	401.8	401.8	419.2	419.2	419.2
Glass, plate, polished, 5 to 10 square feet	100	125.8	144.7	182.4	235.9	245.3	251.6	257.9	257.9	257.9	257.9	257.9	257.9	257.9	257.9	257.9
Glass, window, single, B	100	154.0	256.6	256.6	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1	295.1
Lath 1½-inch slab	100	131.3	119.6	134.2	396.8	396.8	396.8	396.8	396.8	373.5	373.5	373.5	245.1	245.1	213.0	213.0
Douglas fir, No. 1	100	200.9	211.8	309.5	407.3	407.3	407.3	407.3	407.3	320.4	320.4	320.4	276.9	266.1	179.2	179.2
Hemlock	100	115.6	142.4	169.2	218.8	235.3	235.3	235.3	235.3	235.3	235.3	235.3	235.3	235.3	235.3	235.3
Oak, white, plain	100	113.9	124.6	160.9	307.0	307.0	379.6	379.6	379.6	377.1	377.1	358.1	305.3	305.3	288.8	288.8
Pine, yellow, flooring	100	127.8	134.6	163.7	251.2	311.7	311.7	358.8	358.8	358.8	358.8	352.1	352.1	340.9	279.2	279.2
Shingles, red cedar	100	152.5	156.6	245.0	334.0	346.7	309.1	290.8	253.7	213.0	232.3	252.2	197.3	163.7	157.1	131.7
Nails, wire, 8-penny	100	225.4	197.9	184.2	252.9	252.9	225.4	225.4	225.4	225.4	225.4	239.1	239.1	239.1	228.1	184.2
Pipe, cast-iron, 6-inch	100	280.4	264.2	217.9	288.0	300.8	305.9	317.9	326.5	326.5	326.5	327.3	330.4	330.4	330.4	285.7
Steel, structural	100	387.5	206.3	168.8	168.8	181.3	206.3	218.8	218.8	218.8	200.0	193.8	200.0	200.0	193.8	175.0
Lead, carbonate of (white)	100	188.2	200.0	191.2	214.7	222.1	227.9	227.9	227.9	227.9	227.9	227.9	227.9	227.9	219.1	207.4
Linseed oil, raw	100	242.4	383.1	457.8	383.1	383.1	390.3	395.7	365.8	357.8	329.0	305.8	263.0	232.9	193.3	177.5
Turpentine, spirits of	100	98.1	163.5	274.8	440.4	463.8	522.9	601.6	578.3	436.4	373.6	379.4	344.2	287.4	256.5	184.6

[2] Standard war flour. [3] Estimated prices. No market quotation. [4] No quotation. [5] Prior to January, 1918, prices are for gun metal, button.

Changes in Cost of Living in the United States.

THE following table shows the changes in the cost of living from December, 1914, to December, 1920, by specified periods, in 19 cities in the United States. These changes are based on actual prices secured from merchants and dealers for each of the periods named. The prices of food are furnished to the Bureau of Labor Statistics by from 15 to 25 merchants and dealers in each city in accordance with arrangements made through personal visits of the bureau's agents. All other data are secured by special agents of the bureau, who visit the various merchants, dealers and agents and secure the figures direct from their records. Four quotations are secured on each of a large number of articles of clothing, furniture, fuel and light, and miscellaneous items. There are a few exceptions to this rule, such as gas, electric light, street car fares, etc., where, in the nature of things, only one or two quotations can be secured. Rental figures are secured for from 200 to 500 houses and apartments in each city.

The first column in the table shows the average per cent of total family expenditures that is devoted to each of the different groups of items—food, clothing, etc., in the usual family budget. The succeeding columns show the per cent of increase in the prices of the several groups of items in each of the years named over the prices for December, 1914.

It will be noted that from December, 1914, to June, 1920, there was, with an occasional exception, a steady increase in prices, becoming much more decided during the latter part of that period. From June to December, 1920, however, there was an appreciable drop in the figures representing the combined expenditures. While rents and fuel and light continued to advance considerably and miscellaneous items to a less extent, the large decrease in food and clothing and the somewhat smaller decrease in furniture and house furnishings had the effect of reducing the totals for December by from 2.5 to 10 per cent, in the several cities, below the prices for June.

CHANGES IN COST OF LIVING IN 19 CITIES FROM DECEMBER, 1914, TO DECEMBER, 1920.

Baltimore, Md.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1914, to—							
		Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	42.0	[1] 4.1	20.9	64.4	96.4	91.1	92.5	110.9	75.6
Clothing:									
Male	.....	2.5	23.0	49.6	98.7	122.1	175.9	188.9	158.3
Female	.....	3.0	25.1	54.7	117.4	136.3	183.1	198.4	164.7
All clothing	15.1	2.7	24.0	52.1	107.7	128.9	177.4	191.3	159.5
Housing	14.0	[1] .2	.9	3.0	13.8	16.8	25.8	41.6	49.5
Fuel and light	5.0	.5	9.1	25.5	46.0	37.1	48.1	57.6	79.0
Furniture and furnishings	4.3	5.6	26.4	60.8	122.3	134.6	167.0	191.8	181.9
Miscellaneous	19.7	[1] 1.4	18.5	51.3	78.7	82.8	99.4	111.4	112.9
Total	100.0	[1] 1.4	18.5	51.3	84.7	84.0	98.4	114.3	96.8

[1] Decrease.

CHANGES IN COST OF LIVING IN 19 CITIES FROM DECEMBER, 1914, TO DECEMBER, 1920—Continued.

Boston, Mass.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1914, to—							
		Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	44.5	[1] 0.3	18.0	45.8	74.9	67.9	80.8	105.0	74.4
Clothing:									
Male		6.1	21.0	45.3	112.8	127.0	172.1	189.5	181.1
Female		7.8	22.9	49.9	122.5	148.5	209.1	228.9	198.6
All clothing	15.5	6.6	21.9	47.5	117.5	137.9	192.4	211.1	192.7
Housing	12.8	[1].1	.1	[1].1	2.8	5.1	12.2	16.2	25.8
Fuel and light	5.6	1.1	10.5	29.2	56.6	55.0	63.2	83.6	106.0
Furniture and furnishings	3.3	8.4	26.3	58.4	137.6	153.7	198.7	233.7	226.4
Miscellaneous	18.3	1.6	15.7	38.1	62.0	64.8	81.1	91.8	96.6
Total	100.0	1.6	15.7	38.1	70.6	72.8	92.3	110.7	97.4

Buffalo, N. Y.

Food	36.1	2.4	30.1	64.1	87.8	82.9	94.7	115.7	78.5
Clothing:									
Male		9.1	31.0	59.3	127.9	138.4	186.7	208.5	165.3
Female		8.8	27.9	57.5	117.5	141.4	189.1	213.1	172.7
All clothing	17.5	8.9	29.6	58.5	123.1	140.7	190.8	210.6	168.7
Housing	15.4	1.2	4.7	9.4	20.7	28.0	29.0	46.6	48.5
Fuel and light	4.9	1.3	9.3	23.5	49.3	51.9	55.7	69.8	74.9
Furniture and furnishings	5.6	7.1	24.1	50.2	106.3	118.1	165.4	199.7	89.2
Miscellaneous	20.6	3.5	24.4	51.1	76.0	78.7	90.3	101.9	107.4
Total	100.0	3.5	24.4	51.1	80.9	84.2	102.7	121.5	101.7

Chicago, Ill.

Food	37.8	2.7	25.2	53.4	78.7	73.3	93.1	120.0	70.5
Clothing:									
Male		8.5	26.5	51.9	137.1	146.1	211.8	207.7	166.5
Female		6.2	21.2	50.0	141.3	164.2	232.9	202.6	150.3
All clothing	16.0	7.5	24.2	50.6	138.9	157.1	224.0	205.3	158.6
Housing	14.9	[1].1	.7	1.4	2.6	8.0	14.0	35.1	48.9
Fuel and light	6.0	[1].9	6.6	19.3	37.1	35.7	40.1	62.4	83.5
Furniture and furnishings	4.4	5.9	20.0	47.5	108.9	126.9	176.0	215.9	205.8
Miscellaneous	20.6	3.0	19.5	41.8	58.7	61.7	84.3	87.5	96.5
Total	100.0	3.0	19.5	41.8	72.2	74.5	100.6	114.6	93.3

Cleveland, Ohio.

Food	35.6	1.4	26.4	54.3	79.4	79.7	92.9	118.7	71.7
Clothing:									
Male		1.6	17.4	42.9	102.7	107.8	165.1	180.5	150.8
Female		2.4	18.6	44.7	102.4	134.9	173.9	185.7	157.7
All clothing	16.0	2.0	18.0	43.7	102.6	125.2	171.2	185.1	156.0
Housing	16.4	.1	.9	11.3	16.5	21.8	39.9	47.3	80.0
Fuel and light	4.1	.3	10.0	26.8	51.9	47.9	62.9	90.3	94.5
Furniture and furnishings	6.0	4.7	19.7	47.8	102.4	117.0	112.3	129.1	121.3
Miscellaneous	21.8	1.4	19.1	42.9	67.1	74.7	85.9	117.9	134.0
Total	100.0	1.4	19.1	42.9	71.4	77.2	95.1	116.8	104.0

[1] Decrease.

CHANGES IN COST OF LIVING IN 19 CITIES FROM DECEMBER, 1914, TO DECEMBER, 1920—Continued.

Detroit, Mich.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1914, to—							
		Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	35.2	4.1	26.5	59.7	82.5	86.4	99.5	132.0	75.6
Clothing:									
Male		1.7	19.4	46.9	123.7	141.4	203.5	235.1	192.9
Female		3.0	18.3	46.5	102.5	109.6	163.2	186.1	162.4
All clothing	16.6	2.3	18.9	46.7	113.8	125.2	181.8	208.8	176.1
Housing	17.5	2.1	17.5	32.6	39.0	45.2	60.2	68.8	108.1
Fuel and light	6.3	1.6	9.9	30.2	47.6	47.6	57.9	74.9	104.5
Furniture and furnishings	5.9	8.7	24.5	50.4	107.3	129.3	172.6	206.7	184.0
Miscellaneous	18.3	3.5	22.3	49.9	72.6	80.3	100.1	141.3	144.0
Total	100.0	3.5	22.3	49.9	78.0	84.4	107.9	136.0	118.6

Houston, Tex.

Food	38.4	[1] 1.0	19.9	57.3	86.1	85.7	97.5	107.5	83.2
Clothing:									
Male		3.1	24.8	49.3	117.4	125.0	182.1	199.3	184.0
Female		2.1	25.3	53.9	117.3	142.6	200.5	221.8	187.4
All clothing	15.2	2.7	25.0	51.5	117.3	134.8	192.0	211.3	187.0
Housing	13.2	[1] 2.3	[1] 7.3	[1] 7.7	[1] 1.7	1.9	13.4	25.3	35.1
Fuel and light	4.2	[1] .9	8.3	22.7	47.5	37.6	60.0	55.1	74.2
Furniture and furnishings	5.6	6.1	29.6	62.3	119.9	144.5	181.8	213.9	208.2
Miscellaneous	23.4	[1] .3	16.4	44.9	67.6	72.3	88.2	90.4	103.9
Total	100.0	[1] .3	16.4	44.9	75.7	80.2	101.7	112.2	104.0

Jacksonville, Fla.

Food	34.6	[1] 0.3	17.6	50.8	76.2	74.2	80.9	90.1	65.6
Clothing:									
Male		10.4	35.1	74.8	136.6	144.1	199.4	213.2	209.4
Female		10.6	32.0	68.5	123.1	133.7	226.1	246.7	209.1
All clothing	16.8	10.5	33.7	71.9	130.5	139.8	217.2	234.0	209.3
Housing	12.3	[1] 6.9	[1] 18.2	[1] 18.7	5.9	9.7	22.0	28.9	34.1
Fuel and light	4.6	([2])	2.3	15.1	55.2	49.2	64.1	72.6	92.6
Furniture and furnishings	5.4	15.1	43.4	73.7	126.5	140.0	186.2	224.2	222.3
Miscellaneous	26.3	1.3	14.7	41.6	60.5	65.9	80.9	102.8	105.6
Total	100.0	1.3	14.7	41.6	71.5	77.5	101.5	116.5	106.2

Los Angeles, Calif.

Food	35.8	[1] 4.1	0.4	33.4	61.8	60.7	71.0	90.8	62.7
Clothing:									
Male		1.7	10.3	41.9	104.6	115.1	151.5	164.9	153.8
Female		3.9	18.4	48.3	113.8	130.6	180.5	201.5	175.6
All clothing	14.9	2.8	14.3	45.0	109.1	123.3	167.6	184.5	166.6
Housing	13.4	[1] 2.7	[1] 2.5	[1] .6	4.4	8.7	26.8	42.6	71.4
Fuel and light	3.1	.4	2.3	10.4	18.3	18.6	35.3	53.5	53.5
Furniture and furnishings	5.1	6.3	23.1	56.4	118.5	134.2	175.5	202.2	202.2
Miscellaneous	27.7	[1] 1.9	7.7	28.9	52.0	59.1	76.9	86.6	100.6
Total	100.0	[1] 1.9	7.7	28.9	58.0	65.1	85.3	101.7	96.7

[1] Decrease. [2] No change.

CHANGES IN COST OF LIVING IN 19 CITIES FROM DECEMBER, 1914, TO DECEMBER, 1920—Continued.

Mobile, Ala.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1914, to—							
		Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	39.1	[1] 1.0	19.9	57.3	80.6	83.6	98.4	110.5	73.5
Clothing:									
Male		1.8	9.1	37.9	74.6	85.9	104.3	117.0	104.8
Female		2.4	8.8	39.7	98.7	101.0	144.4	159.0	140.1
All clothing	18.6	2.0	9.0	38.8	86.0	94.0	123.7	137.4	122.2
Housing	10.3	[1] 1.9	[1] 4.3	[1] 3.6	11.2	11.9	29.6	34.6	53.6
Fuel and light	5.1	[2]	8.8	27.1	57.1	66.6	75.6	86.3	122.3
Furniture and furnishings	4.3	4.1	15.3	42.8	108.3	113.9	163.3	177.9	175.4
Miscellaneous	22.5	[1] .4	13.8	43.2	72.4	75.3	87.0	100.3	100.7
Total	100.0	[1] .4	13.8	43.2	71.4	76.6	94.5	107.0	93.3

New York, N. Y.

Food	42.0	1.3	16.3	55.3	82.6	75.3	91.0	105.3	73.5
Clothing:									
Male		4.8	20.3	51.4	126.4	138.6	201.3	220.8	188.4
Female		4.9	24.7	57.6	137.2	162.2	235.0	258.8	211.8
All clothing	16.6	4.8	22.3	54.2	131.3	151.6	219.7	241.4	201.8
Housing	14.3	[1] .1	[1] .1	2.6	6.5	13.4	23.4	32.4	38.1
Fuel and light	4.3	[1] .1	11.0	19.9	45.5	45.4	50.6	60.1	87.5
Furniture and furnishings	3.3	8.4	27.6	56.5	126.5	136.6	172.9	205.1	185.9
Miscellaneous	18.7	2.0	14.9	44.7	70.0	75.1	95.8	111.9	116.3
Total	100.0	2.0	14.9	44.7	77.3	79.2	103.8	119.2	101.4

Norfolk, Va.

Food	34.9	0.8	22.4	63.9	86.2	89.8	91.5	107.6	76.3
Clothing:									
Male		1.6	10.3	37.2	97.6	107.7	144.0	160.8	141.8
Female		[2]	1.7	26.0	91.6	101.9	168.1	186.8	159.8
All clothing	21.1	.8	6.0	31.6	94.6	104.8	158.4	176.5	153.6
Housing	11.8	.1	[1] 1.7	[1] 1.7	39.0	46.5	63.3	70.8	90.8
Fuel and light	5.4	[2]	17.0	33.3	74.6	69.7	89.9	110.6	128.9
Furniture and furnishings	6.7	.6	8.7	39.0	105.5	110.7	143.6	165.0	160.5
Miscellaneous	20.2	.6	14.7	45.2	76.8	83.7	97.5	108.4	106.3
Total	100.0	.6	14.7	45.2	80.7	87.1	107.0	122.2	109.0

Philadelphia, Pa.

Food	40.2	0.3	18.9	54.4	80.7	75.5	87.2	101.7	68.1
Clothing:									
Male		3.3	16.2	54.1	119.6	139.4	204.2	233.4	194.1
Female		3.9	15.9	49.1	101.7	129.8	175.9	206.0	172.3
All clothing	16.3	3.6	16.0	51.3	111.2	135.9	190.3	219.6	183.5
Housing	13.2	[1] .3	[1] .7	2.6	8.0	11.3	16.7	28.6	38.0
Fuel and light	5.1	[1] .8	5.4	21.5	47.9	43.3	51.3	66.8	96.0
Furniture and furnishings	4.4	6.9	19.9	49.8	107.7	117.8	162.8	187.4	183.4
Miscellaneous	20.8	1.2	14.7	43.8	67.5	71.2	88.6	102.8	122.3
Total	100.0	1.2	14.7	43.8	73.9	76.2	96.5	113.5	100.7

[1] Decrease. [2] No change.

CHANGES IN COST OF LIVING IN 19 CITIES FROM DECEMBER, 1914, TO DECEMBER, 1920—Continued.

Portland, Me.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1914, to—							
		Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	41.2	[1] 2.0	18.6	49.8	86.8	80.6	91.9	114.5	78.7
Clothing:									
Male		1.1	9.0	31.5	82.3	91.8	137.8	154.2	136.4
Female		3.2	10.5	34.2	89.4	111.2	156.7	174.9	156.5
All clothing	17.4	2.1	9.7	32.8	85.8	103.8	148.5	165.9	147.8
Housing	12.4	.2	.6	2.4	2.5	5.7	10.7	14.5	20.0
Fuel and light	6.4	.4	11.4	28.9	67.7	58.4	69.8	83.9	113.5
Furniture and furnishings	4.1	6.2	20.9	43.5	110.8	126.4	163.7	190.3	191.2
Miscellaneous	18.5	[1] .4	13.8	38.0	65.6	72.1	83.2	89.4	94.3
Total	100.0	[1] .4	13.8	38.0	72.2	74.3	91.6	107.6	93.1

Portland, Oreg.

Food	34.3	[1] 3.8	9.8	42.2	70.6	67.1	81.6	107.1	60.9
Clothing:									
Male		3.4	16.8	44.3	99.5	115.0	148.6	163.7	125.5
Female		2.6	14.7	44.5	93.5	115.9	136.9	155.2	120.7
All clothing	16.1	3.0	15.8	44.4	96.6	115.5	142.1	158.6	122.1
Housing	12.8	[1] 10.9	[1] 19.6	[1] 22.2	12.3	20.2	27.7	33.2	36.9
Fuel and light	4.9	[1] 1.0	3.4	20.2	30.9	31.3	42.3	46.9	65.9
Furniture and furnishings	6.1	2.9	18.0	54.5	109.0	122.1	145.1	183.9	179.9
Miscellaneous	25.7	[1] 3.1	6.1	31.2	57.9	62.3	71.6	79.7	81.1
Total	100.0	[1] 3.1	6.1	31.2	64.2	69.2	83.7	100.4	80.3

San Francisco and Oakland, Calif.

Food	37.9	[1] 4.3	9.6	35.9	66.2	63.3	74.2	93.9	64.9
Clothing:									
Male		2.1	14.4	42.1	118.4	139.3	173.9	193.6	180.7
Female		2.8	14.5	45.1	99.6	127.3	163.2	184.2	166.3
All clothing	16.6	2.5	14.5	43.6	109.0	134.6	170.4	191.0	175.9
Housing	14.8	[1] .7	[1] 2.5	[1] 4.0	[1] 3.9	[1] 3.5	4.7	9.4	15.0
Fuel and light	4.1	[1] .1	4.6	14.4	30.1	28.9	41.3	47.2	66.3
Furniture and furnishings	4.2	6.0	21.7	48.2	103.4	116.6	143.8	180.1	175.6
Miscellaneous	22.4	[1] 1.7	8.3	28.6	50.5	61.0	74.7	79.6	84.8
Total	100.0	[1] 1.7	8.3	28.6	57.8	65.6	87.8	96.0	85.1

Savannah, Ga.

Food	34.3	[1] 0.3	17.6	50.8	76.2	74.2	80.9	91.7	63.5
Clothing:									
Male		[2]	25.6	60.0	137.9	153.8	200.0	221.6	180.8
Female		1.7	22.2	52.5	128.2	138.1	189.9	200.1	160.2
All clothing	18.8	.8	24.1	56.6	133.6	146.3	195.9	212.1	171.5
Housing	12.9	[1] 1.4	[1] 3.0	[1] 4.3	5.9	10.2	22.0	33.5	58.6
Fuel and light	5.7	[1] 1.3	[1] 1.7	[1] 21.1	37.5	35.5	52.2	65.3	94.4
Furniture and furnishings	5.1	1.8	12.8	50.7	128.6	136.5	182.1	207.2	206.6
Miscellaneous	23.2	[1] .2	14.5	42.5	67.3	71.2	82.0	83.8	91.5
Total	100.0	[1] .2	14.6	42.5	75.0	79.8	98.7	109.4	98.7

[1] Decrease. [2] No change.

CHANGES IN COST OF LIVING IN 19 CITIES FROM DECEMBER ,1914, TO DECEMBER, 1920—Concluded.

Seattle, Wash.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1914, to—							
		Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	33.5	[1] 2.8	8.5	38.7	72.5	69.3	80.9	102.3	54.1
Clothing:									
Male		.8	10.9	34.8	89.9	96.1	135.0	153.1	141.7
Female		1.6	11.7	37.9	86.2	117.0	163.0	183.0	167.7
All clothing	15.8	1.2	11.3	36.4	88.0	110.2	154.5	173.9	160.5
Housing	15.4	[1] 2.4	5.4	[1] .6	44.3	51.5	71.5	74.8	76.7
Fuel and light	5.4	[1] .2	2.9	23.9	51.8	51.8	63.8	65.8	78.7
Furniture and furnishings	5.1	[1] 8.5	27.4	52.3	141.5	154.4	201.0	221.2	216.4
Miscellaneous	24.7	[1] 1.0	7.4	31.1	58.5	71.4	86.8	90.4	95.5
Total	100.0	[1] 1.0	7.4	31.1	69.9	76.9	97.7	110.5	94.1

Washington, D. C.

Food	38.2	0.6	15.7	61.1	90.9	[3] 84.6	[4] 93.3	108.4	79.0
Clothing	16.6	3.7	23.2	60.1	112.6	109.5	165.9	184.0	151.1
Housing	13.4	[1] 1.5	[1] 3.7	[1] 3.4	[1] 1.5	[1] 1.4	5.4	15.6	24.7
Fuel and light	5.3	[2]	7.3	24.9	40.9	41.8	42.8	53.7	68.0
Furniture and furnishings	5.1	6.3	30.5	72.1	127.4	126.0	159.3	196.4	194.0
Miscellaneous	21.3	.4	15.3	44.3	55.9	57.4	62.7	68.2	73.9
Total	100.0	1.0	14.6	47.3	73.8	71.2	87.6	101.3	87.8

[1] Decrease.
[2] No change.
[3] Figures in this column are for April, 1919.
[4] Figures in this column are for November, 1919.

The next table shows the changes in the cost of living from December, 1917, to December, 1920, semiannually, for 13 cities. The table is constructed in the same manner as the preceding one and differs from it only in the length of time covered.

CHANGES IN THE COST OF LIVING IN 13 CITIES FROM DECEMBER, 1917, TO DECEMBER, 1920.

Atlanta, Ga.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1917, to—				
		December, 1918.	June, 1919.	December, 1919.	June, 1920.	December, 1920.
Food	38.5	19.0	18.0	27.9	34.0	12.8
Clothing:						
Male		43.3	46.4	88.0	102.0	83.6
Female		22.3	34.7	56.7	71.1	40.0
All clothing	18.6	29.1	40.7	66.9	80.5	56.5
Housing	10.4	14.0	14.5	32.6	40.4	73.1
Fuel and light	5.6	17.0	17.9	30.8	61.0	66.8
Furniture and furnishings	5.6	24.9	30.1	49.9	65.0	58.4
Miscellaneous	21.4	14.8	21.5	31.7	34.6	39.7
Total	100.0	19.7	23.3	37.9	46.7	38.5

CHANGES IN THE COST OF LIVING IN 13 CITIES FROM DECEMBER, 1917, TO DECEMBER, 1920—Continued.

Birmingham, Ala.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1917, to—				
		December, 1918.	June, 1919.	December, 1919.	June, 1920.	December, 1920.
Food	38.1	17.7	18.3	26.5	36.4	11.9
Clothing:						
Male		30.7	37.6	70.6	80.8	56.2
Female		19.3	23.4	49.2	56.8	38.3
All clothing	16.5	23.9	29.8	57.6	66.4	45.1
Housing	12.2	8.1	12.8	34.9	40.3	68.5
Fuel and light	4.6	22.8	31.9	39.8	55.3	74.2
Furniture and furnishings	5.3	19.4	20.2	45.1	55.6	48.1
Miscellaneous	23.3	13.8	16.3	26.8	28.7	30.4
Total	100.0	17.0	19.8	34.3	41.9	33.3

Cincinnati, Ohio.

Food	40.6	15.3	18.1	22.9	38.7	10.3
Clothing:						
Male		41.7	53.6	85.6	99.9	77.5
Female		28.8	44.9	82.8	93.6	69.6
All clothing	15.2	33.8	48.3	84.2	96.7	73.5
Housing	14.4	.2	.8	12.8	13.6	25.0
Fuel and light	4.1	10.0	5.6	11.0	26.9	34.1
Furniture and furnishings	5.2	25.7	30.5	51.1	75.5	66.7
Miscellaneous	20.3	20.4	21.8	40.3	47.6	53.4
Total	100.0	17.3	21.1	35.2	47.1	34.7

Denver, Colo.

Food	38.3	20.0	20.7	26.0	41.5	7.9
Clothing:						
Male		46.3	55.9	87.2	102.2	84.6
Female		36.9	51.8	79.4	94.4	74.8
All clothing	16.2	40.1	53.2	82.1	96.8	78.3
Housing	12.0	12.8	21.8	33.5	51.9	69.8
Fuel and light	5.7	8.1	8.4	19.6	22.3	47.1
Furniture and furnishings	5.5	22.6	31.3	46.3	60.2	58.9
Miscellaneous	22.4	14.8	17.7	32.3	35.4	38.8
Total	100.0	20.7	25.3	38.2	50.3	38.7

Indianapolis, Ind.

Food	37.0	17.8	16.4	28.2	49.0	11.0
Clothing:						
Male		38.4	41.6	75.3	89.8	75.6
Female		28.1	38.8	72.7	86.4	68.9
All clothing	15.8	32.4	40.1	73.8	87.9	72.3
Housing	13.1	1.6	2.6	11.6	18.9	32.9
Fuel and light	5.9	19.8	16.7	27.3	45.6	60.3
Furniture and furnishings	5.9	18.9	24.8	48.4	67.5	63.0
Miscellaneous	22.2	21.9	26.8	38.2	40.5	47.5
Total	100.0	19.1	21.1	36.5	50.2	37.6

CHANGES IN THE COST OF LIVING IN 13 CITIES FROM DECEMBER, 1917, TO DECEMBER, 1920—Continued.

Kansas City, Mo.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1917, to—				
		December, 1918.	June, 1919.	December, 1919.	June, 1920.	December, 1920.
Food	38.7	17.3	15.1	24.5	44.9	10.2
Clothing:						
Male		42.9	46.8	79.0	96.2	69.7
Female		39.1	43.1	94.3	105.5	76.3
All clothing	15.2	40.7	44.7	89.9	104.5	76.3
Housing	13.6	5.4	6.7	26.0	29.4	63.9
Fuel and light	5.7	18.0	9.6	27.5	35.2	55.1
Furniture and furnishings	4.9	31.1	37.9	61.8	73.0	68.7
Miscellaneous	21.8	15.6	20.8	31.5	37.1	40.3
Total	100.0	19.6	20.6	38.2	51.0	39.5

Memphis, Tenn.

Food	36.2	20.3	22.7	28.4	38.8	7.0
Clothing:						
Male		32.9	40.9	64.6	77.5	58.0
Female		25.2	36.7	66.9	77.4	60.4
All clothing	16.3	27.7	38.3	66.2	77.5	59.0
Housing	13.5	[1]	8.2	23.1	35.9	66.2
Fuel and light	5.1	26.8	23.4	34.1	49.7	105.4
Furniture and furnishings	4.5	25.4	30.7	53.2	67.1	53.9
Miscellaneous	24.4	16.1	20.9	28.3	38.8	43.2
Total	100.0	18.3	23.3	35.2	46.4	39.3

Minneapolis, Minn.

Food	35.4	17.7	21.4	34.1	50.0	13.0
Clothing:						
Male		30.6	44.7	66.6	76.2	60.7
Female		35.4	36.7	67.5	77.3	67.2
All clothing	15.5	33.5	40.1	67.0	76.7	63.6
Housing	16.8	[2].1	[2]2.0	8.0	10.7	36.8
Fuel and light	6.8	14.7	13.4	22.4	36.9	60.3
Furniture and furnishings	4.8	18.1	23.6	45.6	65.5	65.8
Miscellaneous	20.5	12.3	15.9	25.4	31.3	37.6
Total	100.0	15.8	18.8	32.7	43.4	35.7

New Orleans, La.

Food	42.6	16.6	17.4	21.1	28.6	10.7
Clothing:						
Male		44.4	54.7	91.8	105.2	78.5
Female		31.4	41.7	77.1	87.0	62.5
All clothing	15.0	36.8	48.8	83.2	94.9	69.4
Housing	12.0	[1]	.1	10.8	12.9	39.7
Fuel and light	4.8	19.7	20.8	24.7	36.3	41.5
Furniture and furnishings	3.9	23.8	30.0	57.7	75.9	63.9
Miscellaneous	21.8	15.9	17.5	35.1	42.8	57.1
Total	100.0	17.9	20.7	33.9	41.9	36.7

[1] No change. [2] Decrease.

CHANGES IN THE COST OF LIVING IN 13 CITIES FROM DECEMBER, 1917, TO DECEMBER, 1920—Concluded.

Pittsburgh, Pa.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from December, 1917, to—				
		December, 1918.	June, 1919.	December, 1919.	June, 1920.	December, 1920.
Food	40.2	18.8	16.2	25.1	36.5	14.3
Clothing:						
Male		41.3	47.6	84.1	93.9	81.1
Female		33.0	44.2	82.4	89.3	69.8
All clothing	17.8	35.9	45.3	82.8	91.3	75.4
Housing	14.5	7.6	13.5	15.5	34.9	35.0
Fuel and light	3.2	9.2	9.4	9.8	31.7	64.4
Furniture and furnishings	5.4	26.3	34.1	63.1	77.4	78.1
Miscellaneous	18.9	16.3	16.7	28.3	41.2	46.3
Total	100.0	19.8	21.8	36.2	49.1	39.3

Richmond, Va.

Food	41.6	20.5	20.6	23.1	36.1	11.9
Clothing:						
Male		44.0	55.4	85.0	96.4	69.0
Female		27.2	31.8	73.7	93.3	68.9
All clothing	15.9	33.8	42.3	78.6	93.6	69.0
Housing	10.5	1.0	3.6	9.8	12.5	25.9
Fuel and light	5.6	11.8	11.4	18.7	36.1	62.2
Furniture and furnishings	4.8	26.3	28.6	55.9	75.4	70.0
Miscellaneous	21.5	9.0	13.5	24.0	32.4	36.0
Total	100.0	17.9	20.6	32.0	43.8	33.3

St. Louis, Mo.

Food	38.5	18.0	16.1	26.2	46.2	8 8
Clothing:						
Male		29.9	32.8	64.6	76.0	61. 5
Female		34.9	44.3	89.7	101.0	75. 1
All clothing	15.0	32.4	39.3	78.1	89.7	70.0
Housing	13.4	2.7	3.8	16.8	29.8	42.4
Fuel and light	4.9	4.8	3.7	8.2	19.6	42.6
Furniture and furnishings	5.6	21.8	32.5	52.9	73.1	70.2
Miscellaneous	22.6	14.5	15.7	30.3	37.6	43.2
Total	100.0	16.7	17.9	34.2	48.9	35.4

Scranton, Pa.

Food	42.6	21.3	18.1	26.9	41.4	17 8
Clothing:						
Male		37.0	49.5	69.1	84.7	66 0
Female		32.6	49.6	86.8	101.2	78 1
All clothing	18.4	34.4	49.6	82.1	97.7	76.5
Housing	10.9	.5	6.2	2.4	17.2	18.5
Fuel and light	4.6	24.7	25.7	31.5	43.5	67.3
Furniture and furnishings	4.9	27.0	35.6	48.9	62.8	62.0
Miscellaneous	18.5	21.4	24.9	34.7	47.9	50.4
Total	100.0	21.9	25.0	37.1	51.5	39.1

The following table shows the increase in the cost of living in the United States from 1913 to December, 1920. These figures are averages based on the prices secured in 32 cities, the results of which appear in the preceding tables.

It will be noted that the total cost of living was six-tenths of 1 per cent higher in December, 1920, than in December, 1919, and 7.4 per cent less than in June, 1920.

CHANGES IN COST OF LIVING IN THE UNITED STATES, 1913, to DECEMBER, 1920.

Item of expenditure.	Per cent of total expenditure.	Per cent of increase from 1913 (average) to—								
		Dec., 1914.	Dec., 1915.	Dec., 1916.	Dec., 1917.	Dec., 1918.	June, 1919.	Dec., 1919.	June, 1920.	Dec., 1920.
Food	38.2	5.0	5.0	26.0	57.0	87.0	84.0	97.0	119.0	78.0
Clothing	16.6	1.0	4.7	20.0	49.1	105.3	114.5	168.7	187.5	158.5
Housing	13.4	(1)	1.5	2.3	.1	9.2	14.2	25.3	34.9	51.1
Fuel and light	5.3	1.0	1.0	8.4	24.1	47.9	45.6	56.8	71.9	94.9
Furniture and furnishings	5.1	4.0	10.6	27.8	50.6	113.6	125.1	163.5	192.7	185.4
Miscellaneous	21.3	3.0	7.4	13.3	40.5	65.8	73.2	90.2	101.4	108.2
Total	100.0	3.0	5.1	18.3	42.4	74.4	77.3	99.3	116.5	100.4

[1] No change.

Cost of Living in New York City in November, 1920.[1]

DURING the last week in October and the first in November, 1920, the Labor Bureau (Inc.), No. 1 Union Square, New York City, conducted an investigation to determine how much it would cost a worker's family of five in that city to live for one year on a level of health and decency, based on the then existing prices of commodities and services. Exception must be noted in the case of some seasonal articles for which quotations were obtained for the time when they were in common use; the memory of the shopkeepers had to be relied upon in such instances. It would have been obviously ridiculous to determine the cost of certain fresh fruits and vegetables at a time when no worker's family could afford to buy them; and it would have given an equally distorted picture if quotations had been obtained for such things as straw hats and summer underwear at the beginning of the winter season, when no one buys such articles, and when merchants are willing to sacrifice any stock they may have been compelled to carry over.

The investigation was carried on for the purpose of using the results in connection with arbitration cases pending between a group of unions in the printing industry and the Closed Shop (Printers' League) Branch, New York Association of Employing Printers. The unions were seeking a wage increase at the hands of an arbitration board, and they wanted to show that their present wages were inadequate to enable them to live on a level upon which they felt themselves entitled to live and to maintain their families. This did not mean, however, that an attempt was made to pad prices and to make the cost of living appear higher than it actually was. On the contrary, the Labor Bureau realized, and so did the unions employing it, that unless the quotations were absolutely proof against attack on the ground of bias, the effect on the arbitrators would be detrimental to their own interests. Therefore the investigators going into the

[1] An investigation made by the Labor Bureau (Inc.), 1 Union Square, New York City, which forwarded this report to the Bureau of Labor Statistics. Cf. article on Cost of Living in the United States, published on pp. 52 to 61 of this issue of the REVIEW.

field were carefully instructed to reject in all cases the highest prices, and to bear constantly in mind that they were getting quotations for families in very moderate circumstances. The source for every quotation was noted to enable anyone so desiring to verify the prices, and these sources are on record in the office of the Labor Bureau.

As it was essential to make the study in the shortest time possible on account of the purpose for which it was to be used, it was necessary to select one district which could be considered typical of the city of New York. If time had permitted it would have been desirable to take several scattered sections and use them for purposes of comparison and also to obtain an average which might furnish a somewhat truer picture of conditions existing in Greater New York as a whole than would a single isolated district. But, on the other hand, it was felt that the differences between districts would be only slight, provided that they were all workingmen's districts and were all selected in accordance with certain standards laid down. So it was concluded that whatever advantages the more extensive survey might offer, they were not great enough to compensate for the additional time, effort, and money that would be involved.

The district finally chosen after careful deliberation was the one bounded by One hundred and sixth Street on the south, Second Avenue on the east, One hundred and twenty-fifth Street on the north, and Madison Avenue on the west, and all quotations were obtained within these limits, except in only five instances where the investigators went between Fifth and Lenox Avenues for rent quotations. The reasons prompting the selection of this district were several. The most important was that it was known that prices there obtained would probably be conservative and not likely to be questioned. This was due to two facts—first, that almost all of the tenements in this part of the city were old-law tenements; and second, that the presence of pushcart competition was an influence in keeping prices down in the shops. And yet the district, though cheap, was in no way a slum, and was one in which a workman could bring up his family amid fairly decent surroundings.

In the second place, it was felt that the district was one which presented a typical picture of conditions under which the mediumly well paid workman in New York was living. Lying somewhere between the slum and the newer, improved sections, it houses a conglomerate population of workers in all branches of industry. Though usually spoken of as a "Ghetto," it includes, besides a large number of Jewish families, numerous Italians and a considerable sprinkling of Irish, German, and native born. The nationalities are to quite an extent mixed helter-skelter, often as many as three or four different ones being found living side by side in the same flat house.

In the third place, the district actually contains quite a number of the men in the unions whose cases were being arbitrated, and this was desirable for the purpose in hand.

The Labor Bureau made no attempt to discover how much was actually spent by individuals and families living within the section of the city they had mapped out or how their expenses were distributed. This no doubt would have been interesting, but it would not have served the purpose. The unions wanted to tell the arbitrators not how much they or their fellow-workmen were spending, but how

much money they needed to live according to a proper standard. If they could prove that their earnings were not sufficient to live according to some recognized standard, then they felt they would have not merely a strong case to present to the arbitrators in their plea for higher wages but they would also have the approval of society of any increase they might be granted.

Health and Decency Budget.

THE first thing to decide, therefore, was what standard of living should the unions aspire to and just how it could be translated from a vague phrase into concrete terms of goods and services. We have always heard a great deal in this country of the "American standard of living." Especially during the war and the two years thereafter, with the accompanying rapid and violent changes in price levels, it became a phrase readily bandied about from mouth to mouth as though it were something with a perfectly definite connotation. And yet it was seldom clearly defined, and never used twice with the same meaning. Why? Obviously, because there is no such thing as *the* "American standard of living." There are many standards, limited in number only by the number of social groups in the community—on the one extreme the destitution level with its choice between starvation and the poorhouse; on the other the level which the multimillionaire has set for himself, a standard which requires for the satisfaction of those who live according to its dictates that no luxury, no pleasure, no power, and no dignity which money can buy shall be denied. Both are equally American, for both exist, and exist side by side, in our America of to-day. Where between the two extremes should the unions seek to establish themselves? They wanted the right to live with their families in decent, clean homes, to eat pure, nourishing food, wear neat and serviceable clothes, and to be able to give their children a reasonable education and bring them up as good citizens. Also, they wanted to be able to enjoy with their families a few of the amenities which make life fuller and more bearable. And yet they realized that they could not ask too much of the industry with which they were connected. They therefore decided that they would be content to live, for the time being, according to the standard laid down by the Government itself through the Bureau of Labor Statistics of the U. S. Department of Labor, and termed by it a "health and decency" level. In the June, 1920, issue of the MONTHLY LABOR REVIEW of the Bureau of Labor Statistics appears an article entitled "Minimum Quantity Budget Necessary to Maintain a Worker's Family of Five in Health and Decency." The budget given is what is known as a "commodity" budget as distinguished from a "cost" budget. In other words, it defines the cost of living in terms of goods and services and not in terms of price and money value. The budget here referred to describes each item required by a workman's family consisting of husband, wife, boy 12 years of age, girl 6 years of age, and boy 2 years of age, and gives the exact amount of each item required in the course of a year.

Previously, in the autumn of 1919, the Bureau of Labor Statistics had published a commodity budget and also a cost budget based thereon for a Government employee's family of five in Washington,

D. C. This was also a "health and decency" budget and it served as the model for the worker's budget which the unions were using to prove their case. The two are almost identical. In fact, the worker's budget is but a modification of the Washington budget, and the few slight differences approximately compensate each other. For example, a slightly more generous quantity of food is allowed the worker's family, whereas the Government employee's family is granted a larger allowance and a better quality of clothing.

By examining the Washington budget ("Tentative Quantity and Cost Budget," Washington, 1919) we can learn what the Department of Labor considers a health and decency level. On page 6 appears the following.

> Finally, after long consideration, it was decided to use as a working basis a budget level which can be best expressed perhaps by the phrase "a standard of health and decency." The phrase is not entirely precise in meaning. No phrase of the kind can very well be wholly satisfactory. The budget here suggested is intended to give to the average family, consisting of husband, wife, and three children below the age of 14 years:
>
> 1. A sufficiency of nourishing food for the maintenance of health, particularly the children's health;
>
> 2. Housing in low-rent neighborhoods and within the smallest possible number of rooms consistent with decency, but with sufficient light, heat, and toilet facilities for the maintenance of health and decency;
>
> 3. The upkeep of household equipment, such as kitchen utensils, bedding, and linen, necessary for health, but with no provision for the purchase of additional furniture;
>
> 4. Clothing sufficient for warmth, of a sufficiently good quality to be economical, but with no further regard for appearance and style than is necessary to permit the family members to appear in public and within their rather narrow social circle without slovenliness or loss of self-respect.
>
> 5. A surplus over the above expenditures which would permit of only a minimum outlay for such necessary demands as: (*a*) Street car fares to and from work and necessary rides to stores and markets; (*b*) The keeping up of a modest amount of insurance; (*c*) Medical and dental care; (*d*) Contributions to churches and labor or beneficial organizations; (*e*) Simple amusements, such as the moving pictures once in a while, occasional street car rides for pleasure, some Christmas gifts for the children, etc.; (*f*) Daily newspaper.

That this is by no means a luxurious level to strive for is self-evident. The Department itself criticizes it as follows:

> It needs to be emphasized that the budget level adopted in the present study is in no way intended as an ideal budget. It was intended to establish a bottom level of health and decency below which a family cannot go without danger of physical and moral deterioration. This budget does not include many comforts which should be included in a proper "American standard of living." Thus no provision is directly made for savings other than insurance, nor for vacations, nor for books and other educational purposes. On the other hand, a family with the items listed in this budget should be able to maintain itself in health and modest comfort. It would have a sufficiency of food, respectable clothing, sanitary housing, and a minimum of the essential "sundries."

Result of the New York Investigation.

THE unions, however, accepted this standard as satisfactory to themselves for the time being, and so it was decided to get prices on the "worker's family of five" budget published as before stated in the June, 1920, issue of the MONTHLY LABOR REVIEW. Investigators were, therefore, sent into the field and instructed to get prices for all the items—nearly 400—enumerated. As before explained, they were urged to reject the highest prices in each case,

and they were also told to get quotations in those stores only in which workers and their families actually dealt and only in those houses in which workers' families actually lived.

The district described above was subdivided into three sections and about an equal number of quotations obtained in each, though, of course, more were collected where there was a greater concentration of shops and less where shops were rather sparse. At least three quotations were obtained for every item of food and of furnishings; at least four for each article of clothing; thirty-two for rent, light, and heat; and from one to four for the miscellaneous items. The result, after the proper computations were made, shows that at the price prevailing at the time of the inquiry a worker's family could not hope to maintain itself in health and decency with a modicum of comfort, and under conditions which would tend to encourage self-respect and under which children could properly be brought up for less than $2,632.68 per year.

The following is a summary of the distribution of the $2,632.68:

Minimum Health and Decency Cost Budget, New York City, November, 1920.

Food:		
Meats	$151.18	
Fish	18.57	
Dairy products	221.07	
Fats	26.43	
Eggs	51.00	
Cereals and their products	132.12	
Sugars	37.39	
Fruits, fresh	69.50	
Fruits, dried	9.72	
Fruits, canned	18.34	
Vegetables, fresh	78.09	
Vegetables, dried	5.39	
Vegetables, canned	8.41	
Miscellaneous	44.59	
Total		$871.80
Clothing:		
Husband	142.71	
Wife	166.33	
Boy of 12	95.09	
Girl of 6	77.17	
Boy of 2	48.66	
Total		529.96
Rent		437.35
Light and heat		68.59
Household equipment ($988.98), annual cost (7 per cent)		69.23
Miscellaneous		655.75
Grand total		2,632.68

A careful study of the details of each price quotation obtained, shown in tables which are not here reproduced, should prove conclusively that a worker's family of five could not live in New York City on a health and decency level on the basis of November 1, 1920, prices for a sum less than $2,632 per year, and it should also prove that a health and decency level is a very moderate and conservative one and one below which it can not be expected that a family could live for any length of time without danger of serious moral and

physical deterioration. The budget has the sanction of impartial Government experts, and society at large should be educated to insist that no industry be allowed to exist that can not provide its workers with enough money to enable them to live at all times on a "health and decency" level.

Retail Prices of Food and Other Commodities in Denmark in July and August, 1920.[1]

THE following average retail prices for the whole country have been abstracted from reports received from the municipal authorities of Copenhagen, Frederiksberg, and Gentofte and about 100 country communities. For the sake of comparison the average prices for October and July, 1920, are both given.

The regulations of the new grain law of September 10, 1920, have caused rises in the prices of bread, flour, and cereals. Maximum prices of 109 øre per 4 kilograms [3.3 cents par, per pound] of rye bread and 37 øre per 600 grams [7.5 cents par, per pound] of "Sigtebrød" (sifted rye bread) have been fixed for Copenhagen. In the remainder of the country the maximum prices for the various counties are fixed by the county officials in cooperation with the various producing institutions. The following maximum prices have been fixed by the Ministry of Agriculture for wheat bread: Forty-six øre per 300 grams [18.7 cents par, per pound] in Copenhagen and 43 øre per 300 grams [17.4 cents par, per pound] in the balance of the country.

The following maximum prices have been established for fine flour and wheat cereals:

PRICE PER KILOGRAM OF FINE FLOUR AND WHEAT CEREALS.

[1 øre at par=0.268 cent: 1 kilogram=2.2 pounds.]

Quantity.	Standard wheat flour.	Wheat cereals.
	Øre.	*Øre.*
Under 1 kilogram	96	.....
Under 2½ kilograms	.....	102
2½ kilograms and over	.....	101
1 to 5 kilograms	95	.....
5 kilograms and over	94	.....

The increase in the price of rye bread and "Sigtebrød" is about 10 per cent; in the price of wheat bread and wheat flour about 35 per cent. The prices of other kinds of flour and cereals are practically unchanged, with the exception of a slight increase in the price of barley and a decrease in the price of oats and sago.

[1] Data furnished by the Department of State, being forwarded by the chargé d'affaires ad interim at Copenhagen under date of December 2, 1920.

AVERAGE RETAIL PRICES IN DENMARK IN JULY AND OCTOBER, 1920.

[1 øre at par=0.268 cent; 1 kilogram=2.2 pounds; 1 liter=1.06 quarts; 1 hectoliter=2.8 bushels.]

Article.	Unit.	Copenhagen.		Country towns.		100 country districts.		Average, whole country.	
		Oct., 1920.	July, 1920.	Oct., 1920.	July, 1920.	Oct., 1920.	July, 1920.	Oct., 1920.	July, 1920.
		Øre.	Øre.	Øre.	Øre.	Øre.	Øre.	Øre.	Øre.
Rye bread	4 kilograms	109	95	98	89	98	91	102	92
Sifted-rye bread	Kilogram	62	50	57	55	59	55	59	53
Wheat bread	do	153	113	140	104	139	105	144	107
Fine flour	do	95	71	96	70	94	70	95	70
Barley (Danish)	do	86	80	80	79	79	77	82	79
Oats (Danish)	do	156	156	145	154	139	151	147	154
Semolina	do	100	82	102	92	100	88	102	87
Potato flour	do	128	129	120	121	116	117	121	122
Rice	do	235	233	207	206	201	200	214	213
Sago	do	151	156	145	152	139	150	145	153
Yellow shelled peas	do	126	131	119	122	119	123	121	125
Loaf sugar No. 1	do	74	74	77	76	75	76	75	75
Brown sugar No. 1	do	63	62	66	64	64	64	64	63
Coffee	do	599	630	551	583	540	570	563	594
Tea (common Congo)	do	960	948	898	893	878	850	912	897
American dried apples	do	357	330	353	347	344	339	351	339
Dried apricots	do	463	453	461	458	446	438	457	450
Prunes with stones	do	369	355	334	330	316	314	340	333
Raisins (Valencia)	do	370	365	351	336	333	321	351	341
Fish balls (Faroe Islands)	½ kilogram	120	120	124	125	124	125	123	123
Canned peas (coarse)	Kilogram	112	112	113	120	120	122	115	118
Nonalcoholic beer	1 bottle	27	22	27	24	26	24	27	23
Regular beer	½ bottle	31	29	33	30	33	30	32	30
Butter	Kilogram	795	629	781	616	736	616	771	620
Margarine (animal)	do	382	376	348	345	356	341	362	354
Plant fats	do	352	358	365	360	362	362	360	360
Vegetable margarine	do	321	321	328	320	326	320	325	320
Skimmed-milk cheese	do	.....	296	276	188	262	214	269	233
Eggs (new-laid Danish)	Score	920	669	878	660	863	660	887	663
Eggs (storage)	do	689	.....	689	.....	711	.....	696	.....
Sweet milk	Liter	71	57	55	44	50	42	59	48
Skimmed milk	do	31	23	21	16	18	14	23	18
Buttermilk	do	42	34	23	17	20	16	28	22
Beef (fore quarter)	Kilogram	363	359	333	318	334	317	343	331
Beef (boneless)	do	552	564	461	443	462	441	492	483
Veal (fore quarter)	do	386	381	345	330	324	305	352	339
Fresh pork butts	do	433	376	475	385	468	385	459	386
Pork backs	do	.....	66	118	67	114	25	116	66
Tenderloin	do	806	772	745	639	707	604	753	672
Salt pork	do	573	491	521	426	511	422	535	446
Mutton (fore quarter, from Iceland)	do	.....	.....	337	325	344	358	341	342
Smoked boneless ham	do	690	633	778	695	746	654	738	661
Seasoned pork fat	do	507	469	452	426	454	428	471	441
Summer sausage	do	927	915	756	708	732	709	805	777
Fresh herring	do	123	169	119	98	127	114	123	127
Codfish	do	127	95	97	81	104	86	109	87
Flounders	do	299	295	219	183	200	183	239	220
Split cod	do	263	256	251	249	245	238	253	248
Cabbage	do	17	.....	21	.....	19	.....	19	.....
Carrots	do	33	.....	27	.....	23	.....	28	.....
Potatoes (large quantity)	.....	1,240	.....	846	.....	749	.....	945	.....
Potatoes (small quantity)	.....	29	.....	23	59	20	50	24	55
Kitchen salt	Kilogram	27	27	25	25	25	24	26	25
American washing powder	do	38	38	38	38	38	38	38	38
Brown soap (best)	do	235	235	228	231	226	228	230	231
Petroleum (water white)	Liter	72	64	72	61	74	61	73	62
Scotch nut coal	Hectoliter	1,897	1,633	1,959	1,794	1,885	1,700	1,914	1,709
Crushed coke (delivered)	do	1,502	1,331	1,488	1,309	1,516	1,331	1,502	1,324
Electricity	Kilowatt	71	60	94	89	95	88	87	79
Gas	Cubic meter	59	59	67	60	67	59	64	59
Wood shavings	Kilogram	18	18	16	14	14	13	16	15
Men's shoes (box calf, sewed)	Pair	4,300	4,200	4,407	4,292	4,483	4,298	4,397	4,263
Half-soling of above	do	1,200	1,166	1,159	1,125	1,111	1,071	1,157	1,121

Cost of Living in Turin, Italy.[1]

THE Bureau of Labor of the city of Turin, after careful investigation, has compiled the following figures, indicating the increased cost of living in the city of Turin for the months of September and October, 1920, presuming that a person is living on only bare necessities and with a small apartment without accommodations, such as bath, etc.:

COST OF LIVING IN TURIN, ITALY, IN SEPTEMBER AND OCTOBER, 1920, SHOWING PER CENT OF INCREASE OVER 1918.

[1 lira at par=19.3 cents.]

Item.	Minimum weekly expense for each person in—		Percentage of increase over 1918 in—	
	September, 1920.	October, 1920.	September, 1920.	October, 1920.
	Lire.	*Lire.*		
Food	93.60	97.36	122.56	127.40
Clothing	28.20	29.97	122.40	130.08
Lodging	4.75	4.75	100.00	100.00
Heat and lighting	15.30	15.59	148.54	151.36
Miscellaneous	22.91	22.91	130.84	130.84
Total	164.76	170.58	124.85	129.26

The principal items of food which have undergone an increase during the month of October are: Bread increased 9 centesimi per kilogram (0.79 cent, par, per pound); meat, 45 centesimi per kilogram (4 cents, par, per pound); cheese, 2.40 lire per kilogram (21 cents, par, per pound); tripe, 1 lira per kilogram (8.8 cents, par, per pound); ham, 13 centesimi per kilogram (1.1 cents, par, per pound); canned tomatoes, 1 lira (19.3 cents, par) a can; sugar, 18 centesimi per kilogram (1.6 cents, par, per pound). The price of gas and electricity was also increased, as well as the rent of all houses, in conformity with the permission granted by royal decree.

The cost of living for October, 1920, increased 58 per cent over that of 1919 and 390 per cent over that of 1912.

The rents for furnished apartments have also assumed exorbitant proportions, as this has also become a method of speculation. Furnished apartments of about 5 rooms, without bath, light, heat, etc., rent at 500 lire ($96.50, par) per month, which before the war rented at about 50 lire ($9.65, par) per month. One small furnished room alone can not be found at less than 150 lire ($28.95, par) per month, which before the war would be easily found at 10 lire ($1.93, par).

In view of the difficulties of finding lodgings in Turin, and to avoid speculation, a commission, specially appointed by the prefect, issued an order that all apartments and rooms to let, furnished or unfurnished, must be reported, and should not be rented without the permission of the commission, but evidently whenever possible the order is evaded, since premiums of even 10,000 lire ($1,930, par) are offered to whoever can provide an apartment, even though it be a small one.

[1] Data from the American consul at Turin.

Changes in Cost of Living in Tokyo, Japan.

SOMEWHAT modified to make it more clearly comparable to cost-of-living figures in the United States, as published on pages 52 to 61 of this issue of the REVIEW, the following table, forwarded to the bureau by the special commissioner of conciliation and industrial relations sent to Japan by the Department of Labor, shows changes in the cost of living in Tokyo in 1914 and 1919 as compared with 1909. It is explained that "reliable information has been secured from a number of large banks and bank clerks' families as representing clerical workers" and "as for physical laborers, coal men, wagon drivers, stevedores, sewer cleaners, and other unskilled laborers have been taken as representing them."

CHANGES IN THE COST OF LIVING IN TOKYO IN 1914 AND 1919 AS COMPARED WITH 1909.

Item.	Lower clerical workers.					Physical laborers.				
	Per cent of total expenditure, 1909.	Relative cost, on 1909 base, in—		Cost of living index.		Per cent of total expenditure, 1909.	Relative cost, on 1909 base, in—		Cost of living index.	
		1914	1919	1914	1919		1914	1919	1914	1919
Rent	12.5	110	165	13.75	20.63	16.0	110	165	17.60	26.40
Rice	11.0	107	455	11.77	50.05	18.7	107	455	20.01	85.09
Other food	15.5	108	307	16.74	47.59	18.5	108	307	19.98	56.80
Fuel	5.0	112	358	5.60	17.90	6.1	112	358	6.83	21.84
Clothes	14.0	112	417	15.68	58.38	7.3	112	417	8.18	30.44
Car fares	2.0	129	143	2.58	2.86	2.5	129	143	3.23	3.58
Sundries	40.0	112	308	44.80	123.20	30.9	112	308	34.61	95.17
Total	100.0	.....	.....	110.92	320.61	100.00	.....	.....	110.44	319.32

The changes in income in the two groups are set forth in the form of index numbers in the following table:

CHANGES IN INCOME OF CLERICAL WORKERS AND PHYSICAL LABORERS IN TOKYO.

Class of worker.	Income, on 1909 base, in—		Income, on 1914 base, in—	
	1914	1919	1909	1919
Lower clerical workers	120	227	83	90
Physical laborers	111	494	188	445

WAGES AND HOURS OF LABOR.[1]

Wages and Hours of Labor in Cotton-Goods Manufacturing, 1907 to 1920.

THE great increase in cotton-mill wages in the United States between 1907 and 1920 is shown in the following table. These figures are based on investigations made at different times by the United States Bureau of Labor Statistics. Since 1914 inquiries have been made only in alternate years. The last investigation was made in the late summer of 1920, nearly all of the data being for July, August, or September. The data for all years were taken directly from the pay rolls of representative establishments in the important cotton manufacturing States.

Until 1914 data were collected only for the large representative occupations. In and since 1914 all employees of the mills visited were covered. Since 1914 the list of selected occupations has been enlarged and the employees in such occupations withdrawn from the group of "other employees," hence the figures for the residue group of other employees are not strictly comparable from year to year. The wages of males and females are stated separately.

As a whole earnings per hour in 1920 in cotton goods manufacturing were more than three times as much as in 1913, and the increase between 1918 and 1920 was nearly 80 per cent. The 1920 figures represent the wage peak in this industry in the World-War period. Reductions have since been made in many mills. The most common figure reported is a reduction of 22½ per cent.

The table further shows the general trend of reduction in regular working hours per week. Because of the reduction in hours, full-time earnings per week have not increased to the same extent as earnings per hour. Other columns in the table show the number of establishments and the number of employees included in the averages for each year.

[1] Further wage data are included in articles on pp. 129 to 134 and 200 to 213.

AVERAGE FULL-TIME HOURS AND EARNINGS PER WEEK AND AVERAGE EARNINGS PER HOUR IN COTTON GOODS MANUFACTURING IN THE UNITED STATES BY YEARS, 1907 TO 1920.

Occupation, sex, and year.	Number of establishments.	Number of employees.	Average full-time hours per week.	Average full-time earnings per week.	Average earnings per hour.
Picker tenders.					
Male.....1920..	93	919	52.3	$22.80	$0.436
Card tenders and strippers.					
Male.....1920..	96	1,156	52.9	24.92	.471
Card grinders.					
Male.....1920..	92	355	52.5	30.98	.590
Drawing frame tenders.					
Male.....1907..	34	219	60.4	6.04	.100
1908..	34	234	59.7	5.85	.098
1909..	34	253	59.7	5.91	.099
1910..	56	436	59.5	5.70	.096
1911..	84	750	59.5	5.73	.097
1912..	82	727	57.9	6.20	.108
1913..	82	624	58.0	6.31	.109
1914..	76	660	57.9	6.66	.116
1916..	82	681	58.4	7.32	.126
1918..	84	515	57.3	11.37	.199
1920..	75	567	54.1	23.10	.427
Female.....1907..	19	234	60.2	5.60	.093
1908..	19	232	59.3	5.51	.093
1909..	19	249	59.4	5.41	.091
1910..	27	359	58.2	5.20	.090
1911..	45	502	57.8	5.46	.095
1912..	45	525	57.0	6.23	.110
1913..	32	594	56.7	6.50	.115
1914..	32	574	55.5	6.51	.118
1916..	43	660	55.6	7.53	.136
1918..	55	818	54.8	11.40	.209
1920..	52	693	50.5	18.74	.371
Slubber tenders.					
Male.....1916..	100	834	57.5	11.21	.192
1918..	103	766	56.7	17.22	.307
1920..	92	695	53.0	29.20	.551
Female.....1916..	13	60	54.2	10.18	.188
1918..	17	74	54.1	13.89	.257
1920..	11	52	49.0	24.45	.499
Speeder tenders.					
Male.....1907..	16	201	63.9	7.41	.116
1908..	16	224	61.1	7.52	.123
1909..	16	258	61.2	7.89	.129
1910..	32	426	61.4	8.03	.131
1911..	62	623	61.2	8.24	.135
1912..	61	680	59.7	8.52	.143
1913..	61	745	59.8	8.72	.145
1914..	58	799	59.3	9.04	.153
1916..	95	1,739	58.5	10.13	.174
1918..	98	1,478	58.2	15.28	.265
1920..	87	1,506	54.2	28.89	.533
Female.....1907..	35	721	59.3	8.24	.139
1908..	35	694	59.1	8.16	.138
1909..	35	714	59.1	7.98	.135
1910..	57	1,175	57.8	7.68	.133
1911..	82	1,753	57.9	7.86	.136
1912..	80	1,791	56.7	8.38	.148
1913..	79	1,946	56.5	8.61	.153
1914..	79	2,001	55.8	8.61	.155
1916..	95	2,986	55.6	10.38	.188
1918..	100	3,214	55.0	15.10	.277
1920..	82	2,476	50.2	24.40	.486
Spinners, mule.					
Male.....1907..	11	199	58.6	$13.71	$0.234
1908..	11	193	58.4	13.14	.225
1909..	11	156	58.5	12.93	.221
1910..	14	222	57.0	12.50	.219
1911..	16	288	56.8	14.44	.255
1912..	16	266	55.7	15.48	.279
1913..	16	258	55.6	15.58	.281
1914..	14	245	54.9	15.95	.291
1916..	17	334	54.7	18.85	.345
1918..	17	303	54.3	26.40	.487
1920..	14	253	48.9	40.39	.826
Spinners, frame.					
Male.....1907..	25	184	59.4	7.37	.124
1908..	25	214	58.8	7.00	.119
1909..	25	188	58.9	6.89	.117
1910..	36	261	57.2	6.83	.120
1911..	46	700	57.2	7.18	.126
1912..	46	679	56.2	8.30	.148
1913..	49	530	56.9	8.07	.143
1914..	38	483	54.7	8.18	.150
1916..	38	547	56.6	9.47	.169
1918..	53	383	54.3	13.48	.248
1920..	34	345	50.7	24.08	.475
Female.....1907..	36	2,317	61.0	6.71	.110
1908..	36	2,114	59.9	6.41	.107
1909..	36	2,408	59.8	6.34	.106
1910..	59	3,704	59.0	6.33	.108
1911..	88	5,981	59.1	6.51	.111
1912..	88	6,364	58.0	6.98	.124
1913..	90	6,762	57.8	7.33	.128
1914..	90	6,906	56.9	7.45	.132
1916..	104	7,706	57.2	8.42	.149
1918..	105	7,752	56.1	12.89	.233
1920..	95	6,330	51.8	22.12	.427
Doffers.					
Male.....1916..	99	3,206	57.9	8.15	.139
1918..	102	2,857	56.1	12.87	.231
1920..	89	2,717	53.1	24.05	.453
Female....1916..	19	537	55.0	8.92	.162
1918..	26	703	52.6	13.46	.255
1920..	21	543	49.8	19.37	.389
Spooler tenders.					
Female.....1916..	104	3,662	57.2	7.73	.137
1918..	105	3,759	56.2	11.46	.207
1920..	95	3,010	52.2	20.15	.386
Creelers.					
Male.....1920..	9	27	54.8	21.54	.393
Female....1920..	62	428	52.6	18.25	.347
Warper tenders.					
Male.....1916..	25	75	59.4	10.41	.176
1918..	31	82	59.6	14.71	.247
1920..	27	85	55.8	29.30	.525
Female....1916..	78	562	56.0	10.15	.182
1918..	82	595	55.4	14.20	.259
1920..	77	506	50.9	23.41	.460
Beamer tenders.					
Male.....1916..	22	328	56.0	15.01	.271
1918..	24	280	56.3	22.63	.404
1920..	21	246	50.9	36.19	.711

AVERAGE FULL-TIME HOURS AND EARNINGS PER WEEK AND AVERAGE EARNINGS PER HOUR IN COTTON GOODS MANUFACTURING IN THE UNITED STATES BY YEARS, 1907 TO 1920—Concluded.

Occupation, sex, and year.	Number of establishments.	Number of employees.	Average full-time hours per week.	Average full-time earnings per week.	Average earnings per hour.
Beamer tenders—Concluded.					
Female....1916..	5	91	54.8	$12.28	$0.224
1918..	7	113	54.1	17.06	.315
1920..	5	100	48.3	27.92	.578
Slasher tenders.					
Male.....1907..	35	159	60.3	11.03	.183
1908..	35	158	59.6	10.91	.183
1909..	35	167	59.4	10.69	.180
1910..	57	276	58.4	10.33	.178
1911..	85	455	58.5	11.26	.194
1912..	85	449	57.4	12.34	.216
1913..	87	485	57.5	12.09	.212
1914..	87	528	56.8	11.81	.211
1916..	96	581	56.8	13.48	.241
1918..	99	608	56.5	18.73	.340
1920..	89	504	52.1	30.17	.579
Drawers-in.					
Female....1916..	86	926	56.0	10.47	.191
1918..	91	834	55.3	15.00	.273
1920..	80	632	50.7	24.59	.485
Warp tying machine tenders.					
Male.....1920..	74	158	52.5	30.82	.587
Loom fixers.					
Male.....1907..	36	631	60.8	12.59	.207
1908..	36	619	59.7	12.06	.202
1909..	36	680	59.8	11.78	.197
1910..	59	1,267	58.7	11.64	.200
1911..	88	2,200	58.6	11.80	.203
1012..	88	2,290	57.7	12.84	.224
1913..	90	2,370	57.8	12.96	.227
1914..	90	2,491	56.6	13.09	.233
1916..	102	2,776	56.8	15.17	.270
1918..	103	2,709	56.4	21.79	.391
1920..	93	2,366	52.2	35.76	.685
Weavers.					
Male.....1907..	36	2,769	60.3	$9.71	$0.161
1908..	36	2,848	59.6	9.54	.160
1909..	36	3,123	59.8	9.03	.151
1910..	58	5,334	58.8	8.83	.151
1911..	88	8,855	58.6	9.08	.156
1912..	88	9,775	57.5	9.67	.169
1913..	89	9,485	57.6	9.73	.170
1914..	89	9,755	56.8	9.93	.176
1916..	100	10,279	56.7	11.54	.205
1918..	103	8,301	56.2	16.78	.301
1920..	93	6,077	51.8	29.68	.573
Female....1907..	36	3,724	59.5	8.98	.151
1908..	36	3,903	59.0	8.97	.152
1909..	36	3,930	59.1	8.51	.144
1910..	59	6,334	57.8	8.47	.147
1911..	88	10,792	57.9	8.54	.148
1912..	88	10,998	56.9	9.26	.163
1913..	89	11,236	56.7	9.30	.164
1914..	89	11,188	55.8	9.30	.167
1916..	101	11,546	55.7	11.12	.201
1918..	103	10,993	55.4	15.62	.285
1920..	92	7,681	50.3	26.56	.528
Trimmers or inspectors.					
Male.....1920..	22	76	53.4	22.75	.426
Female....1907..	30	251	60.4	6.16	.102
1908..	30	261	60.0	6.06	.101
1909..	30	285	59.6	5.90	.099
1910..	46	408	58.3	5.78	.099
1911..	75	712	58.7	6.02	.103
1912..	77	708	57.7	6.41	.112
1913..	74	698	57.8	6.41	.112
1914..	74	720	57.2	6.41	.113
1916..	83	971	56.7	7.25	.129
1918..	87	1,175	55.6	10.29	.186
1920..	76	1,028	51.6	17.29	.335
Other employees.					
Male.....1914..	88	29,861	57.5	8.59	.151
1916..	105	27,395	57.7	10.05	.176
1918..	106	25,740	56.8	15.18	.270
1920..	96	13,336	52.6	22.04	.419
Female....1914..	88	12,143	56.3	6.89	.123
1916..	101	5,913	55.7	7.82	.140
1918..	102	6,350	54.4	12.06	.224
1920..	94	4,681	51.2	16.49	.323

Union Wage Rates in the Stone Trades, October 31, 1920.

THE following table shows the union wage rates per hour for soft-stone cutters and machine men, so far as information is available to the Bureau of Labor Statistics. The figures are taken mainly from reports in the Stone Cutters Journal. The hours of work are 44 per week in all localities except one, as noted in the table.

UNION WAGE RATES PER HOUR IN THE STONE TRADES, OCT. 31, 1920.

[44 hours per week.]

City and State.	Stone cutters.	Machine men.	City and State.	Stone cutters.	Machine men.	City and State.	Stone cutters.	Machine men.
Akron, Ohio	$1.25	.....	Evansville, Ind	$1.00	$0.80	Painesville, Ohio	$1.00	.....
Albion, N. Y.	.90	.....	Flagstaff, Ariz	1.25	.....	Peoria, Ill	.90	$0.75
Alliance, Ohio	1.00	.....	Fort Wayne, Ind	1.00	.....	Philadelphia, Pa	1.20	.96
Amherst, Ohio	1.00	$0.80	Fort Worth, Tex	1.25	1.25	Phoenix, Ariz	1.00	.....
Atlanta, Ga	1.00	.75	Galesburg, Ill	.75	.62½	Pittsburgh, Pa	1.25	1.00
Austin, Tex	1.25	1.25	Gouverneur, N. Y.	1.00	.....	Portland, Oreg	1.00	1.00
Baltimore, Md	1.00	1.00	Grand Rapids, Mich	1.15	1.15	Providence, R. I	1.00	1.00
Bedford, Ind	1.12½	.82½	Great Falls, Mont	.87½	.....	Pueblo, Colo	1.12½	.....
Billings, Mont	1.00	.....	Greenville, S. C	1.25	.....	Quincy, Ill	.75	.....
Birmingham, Ala	1.00	.....	Hammond, Ind	1.12½	.....	Reading, Pa	.85	.....
Bloomington, Ind	1.12½	.....	Hartford, Conn	.87½	.78	Richmond, Va	1.00	.....
Boise, Idaho	1.00	1.00	Houston, Tex	1.25	1.25	Rochester, N. Y.	1.00	.....
Boston, Mass	1.00	.65	Hummelstown, Pa	1.00	.....	Rockford, Ill	1.00	.....
Bridgeport, Conn	1.00	.80	Huntington, W. Va	1.00	.....	Rock Glen, N. Y.	.75	.....
Buffalo, N. Y.	1.00	.....	Idaho Falls, Idaho	1.25	.....	Rock Island, Ill	.75	.....
Butler, Pa	1.25	.....	Indianapolis, Ind	1.00	.75	St. Louis, Mo	1.00	1.00
Canton, Ohio	1.25	.....	Iowa City, Iowa	.75	.....	St. Paul, Minn	1.12½	.82
Carthage, Mo	1.00	.66	Ithaca, N. Y.	1.00	.....	Salt Lake City, Utah	1.12½	.....
Cedar Rapids, Iowa	1.15	.75	Jamestown, N. Y.	1.00	.....	San Antonio, Tex	1.25	1.25
Champaign, Ill	1.00	.82½	Joliet, Ill	1.00	.75	Sandstone, Minn	1.12½	.....
Charleston, W. Va	1.00	.....	Kansas City, Mo	1.00	.80	San Francisco, Calif.	1.00	.....
Charlotte, N. C.	1.00	1.00	Kasota, Minn	.85	.....	Schenectady, N. Y.	1.00	.....
Chattanooga, Tenn.	.87½	.....	Kingwood, W. Va	1.00	.....	Scranton, Pa	.90	.90
Chicago, Idaho	1.00	.....	Lee, Mass	.62½	.....	Seattle, Wash	1.00	1.00
Chicago, Ill	1.25	1.05	Lexington, Ky	.90	.....	Sharon, Pa	.85	.....
Cincinnati, Ohio	1.15	.....	Lincoln, Nebr	.87½	.65	Sioux City, Iowa	1.00	.80
Cleveland, Ohio	1.25	.....	Little Rock, Ark	1.00	1.00	South Bend, Ind	1.00	.....
Colorado Springs, Colo	1.12½	.....	Louisville, Ky	1.00	.95	Springfield, Ill	1.00	.....
Columbus, Ohio	1.10	.....	Manhattan, Kans	1.00	.....	Springfield, Mass	1.00	.....
Columbus Station, Ohio	1.00	.....	Memphis, Tenn	1.00	1.00	Steubenville, Ohio	1.25	.....
Dallas, Tex	1.25	1.25	Miami, Fla	1.12½	.....	Stinesville, Ind	1.12½	.82½
Decatur, Ill	.75	.....	Milwaukee, Wis	1.00	.75	Superior, Wis	1.00	.90
Denver, Colo	1.12½	1.12½	Minneapolis, Minn	1.12½	.82	Syracuse, N. Y.	1.00	.....
Des Moines, Iowa	1.00	1.00	Muncie, Ind	1.12½	.....	Tacoma, Wash.[1]	1.00	1.06½
Detroit, Mich	1.25	1.21	Nashville, Tenn	.80	.50	Tenino, Wash	1.00	1.06½
Dubuque, Iowa	.87½	.87½	Newark, N. J.	1.12½	1.00	Terre Haute, Ind	1.00	.....
Duluth, Minn	1.00	.90	New Haven, Conn	1.12½	.....	Toledo, Ohio	1.10	.....
East Liverpool, Ohio	1.00	.....	New York, N. Y.	1.12½	1.00	Topeka, Kans	.87½	.....
El Dorado, Kans	1.00	.....	Niagara Falls, N. Y.	1.00	.....	Trenton, N. J.	1.00	.....
Ellettsville, Ind	1.12½	.82½	Oberlin, Ohio	1.00	.....	Tulsa, Okla	1.12½	1.12½
Emporia, Kans	1.00	.....	Oklahoma City, Okla	1.12½	1.12½	Washington, D. C.	1.00	1.00
Erie, Pa	1.00	.....	Omaha, Nebr	1.12½	.95	Wheeling, W. Va.	1.25	.....
			Ottawa, Kans	1.00	.....	Youngstown, Ohio	1.00	.....
						Zanesville, Ohio	1.00	.....

[1] Since June 15, 1920, the work week has been 5 days, or 40 hours.

Index Numbers of Wages Per Hour, 1840 to 1920.

MANY inquiries have been addressed to the Bureau of Labor Statistics asking for a general wage index that might be used for comparison with similar index numbers for changes in cost of living and in wholesale prices. These inquiries have generally related to changes in recent years but frequently they ask for an index that shall compare Civil War wage changes with those during and following the late World War.

The bureau has hesitated to attempt the preparation of such a wage index because of the incomplete and disconnected material available for its construction. However, an index number has been prepared by the bureau from all sources accessible and is here presented.

INDEX NUMBERS OF WAGES PER HOUR, 1840 TO 1920 (CURRENCY BASIS DURING CIVIL WAR PERIOD).

[1913=100]

Year.	Index number.	Year.	Index number.	Year.	Index number.	Year.	Index number.
1840..	33	1860...	39	1880...	60	1900...	73
1841..	34	1861...	40	1881...	62	1901...	74
1842..	33	1862...	41	1882...	63	1902...	77
1843..	33	1863...	44	1883...	64	1903...	80
1844..	32	1864...	50	1884...	64	1904...	80
1845..	33	1865...	58	1885...	64	1905...	82
1846..	34	1866...	61	1886...	64	1906...	85
1847..	34	1867...	63	1887...	67	1907...	89
1848..	35	1868...	65	1888...	67	1908...	89
1849..	36	1869...	66	1889...	68	1909...	90
1850..	35	1870...	67	1890...	69	1910...	93
1851..	34	1871...	68	1891...	69	1911...	95
1852..	35	1872...	69	1892...	69	1912...	97
1853..	35	1873...	69	1893...	69	1913...	100
1854..	37	1874...	67	1894...	67	1914...	102
1855..	38	1875...	67	1895...	68	1915...	103
1856..	39	1876...	64	1896...	69	1916...	111
1857..	40	1877...	61	1897...	69	1917...	128
1858..	39	1878...	60	1898...	69	1918...	162
1859..	39	1879...	59	1899...	70	1919[1]..	[1]184
						1920[2]..	[2]234

[1] This index number applies to the spring of 1919. Wage rates advanced during the year.
[2] This index number applies to the summer of 1920, and probably represents the wage peak of the year.

In illustration of the changes that have taken place in wage rates the following few typical figures are given:

[All occupations represent males except those marked F.]

Occupation.	State.	Year.	Wages per hour.	Year.	Wages per hour.	Year.	Wages per hour.
			Cents.		*Cents.*		*Cents.*
Compositors	Connecticut	1842...	15	1865...	30	1920...	72.9
Do	New York	1851...	15	1865...	25	1920...	122.2
Carpenters	Connecticut	1840...	16.2	1865...	27.5	1920...	100
Painters	Maryland	1840...	12.5	1865...	25	1920...	90
Carpenters	Massachusetts	1854...	13.3	1865...	22.5	1920...	100
Plumbers	New Jersey	1850...	15	1865...	25	1920...	112.5
Carpenters	New York	1843...	15	1865...	32.5	1920...	112.5
Bricklayers	do	1851...	17.5	1865...	30	1920...	125
Carpenters	Pennsylvania	1849...	12.5	1865...	25	1920...	112.5
Plasterers	do	1840...	15	1865...	25	1920...	125
Slasher tenders	Massachusetts	1855...	6.2	1865...	12.5	1920...	70.6
Speeders (F.)	do	1842...	3.8	1865...	5	1920...	51.4
Spinners, frame (F.)	do	1842...	3.5	1865...	5.2	1920...	50.6
Weavers (F.)	do	1842...	4.7	1865...	5.4	1920...	54.8
Spinners, frame (F.)	New York	1853...	3.5	1865...	4.2	1920...	47.4
Beamsters (leather)	Massachusetts	1857...	9.1	1865...	21.7	1919...	62.5
Machinists	Maryland	1855...	16.5	1865...	30	1920...	75
Molders	do	1855...	18.3	1865...	25.3	1920...	93.8
Machinists	Massachusetts	1849...	15.8	1865...	23.4	1920...	80
Molders	do	1849...	15.6	1865...	22.9	1920...	90
Blacksmiths	New York	1846...	12.5	1865...	27.5	1920...	80
Machinists	do	1846...	15	1865...	25	1920...	80
Blacksmiths	Pennsylvania	1855...	15	1865...	30	1920...	110
Machinists	do	1853...	16.7	1865...	27.6	1920...	80
Conductors, passenger		1840...	21.1	1865...	38.3	1919...	96.2
Engineers, locomotive		1840...	21.4	1865...	29.9	1919...	92.4

Prevailing Wage Scales in the Building Trades on Dec. 31, 1920.

IN THE October, 1920, issue of the MONTHLY LABOR REVIEW (pp. 120, 121) a table was published giving the prevailing hourly wage scales in the building trades on August 31, 1920, as compiled by the National Association of Builders' Exchanges and printed in the American Contractor (Chicago) for September 4, 1920. The following table is taken from the same source, issue of January 18, 1921 (p. 18) but does not show all the cities for which rates are given, the most important industrial centers being selected:

WAGE SCALES (IN CENTS) IN THE BUILDING TRADES COMPILED BY THE NATIONAL
SHOWING CHANGES AS

[A plus or minus sign before a rate denotes

City.	Carpenters.	Cement finishers.	Electricians.	Hod carriers.	Laborers.	Lathers.	Painters.	Plasterers.	Plasterer, tenders.	Bricklayers.	Elevator constructors.	Gas fitters.
Atlanta, Ga.											[2] 100.0	
	−60.0	−60.0	−75.0	−35.0	−30.0	−90.0	−60.0	−90.0	−40.0	−90.0		[2] 75.0
Buffalo, N. Y.	100.0	100.0	90.0	[2] 55.0	[2] 50.0	100.0	87.5	100.0	−55.0	100.0	−100.0	100.0
Boston, Mass.					67.5							
	100.0	100.0	100.0	70.0	70.0	100.0	100.0	100.0	80.0	100.0	100.0	100.0
Chicago, Ill.	125.0	125.0	125.0	[2]100.0	100.0	125.0	125.0	125.0	106.5	125.0	125.0	125.0
Cincinnati, Ohio.	100.0	90.0	100.0	85.0	75.0	100.0	87.5	125.0	85.0	125.0	100.0	100.0
Cleveland, Ohio.												
	125.0	−112.5	[2] 125.0	87.5	87.5	125.0	112.5	125.0	87.5	125.0		
Columbus, Ohio.			−75.0		[2] 60.0							
	90.0	+100.0	100.0	80.0	65.0	110.0	80.0	125.0	85.0	125.0	100.0	100.0
Dayton, Ohio.				75.0	50.0				75.0			
	100.0	100.0	110.0	85.0	60.0	115.0	85.0	125.0	85.0	125.0	−100.0	100.0
Detroit, Mich.	85.0	+100.0		75.0	−60.0							
	100.0	+125.0	125.0	−90.0	−75.0	125.0	100.0	125.0	−62.5	125.0	125.0	125.0
Erie, Pa.				55.0	45.0				45.0		−70.0	
	100.0	112.5	100.0	65.0	60.0	125.0	87.5	125.0	65.0	125.0	90.0	
Grand Rapids, Mich.	85.0	80.0			−45.0		85.0				90.0	
	100.0	90.0	100.0	75.0	−55.0	100.0	90.0	100.0	75.0	110.0	100.0	70.0
Indianapolis, Ind.												
	100.0	100.0	100.0	−72.5	50.0	100.0	100.0	112.5	75.0	125.0	90.0	125.0
Louisville, Ky.			75.0		+40.0	$7.90						
	80.0	90.0	100.0	80.0	+50.0	day	75.0	112.5	80.0	125.0	90.0	75.0
Memphis, Tenn.	−70.0	−70.0										
	100.0	100.0	100.0	75.0	−30.0	100.0	100.0	125.0	75.0	125.0	100.0	
Milwaukee, Wis.	100.0	−75.0	85.0	75.0	50.0	100.0	85.0	112.5	80.0	125.0	100.0	100.0
Newark, Ohio.					40.0							
	90.0	−75.0	−90.0	80.0	−50.0	100.0	100.0	+112.5	80.0	112.5		100.0
New York, N. Y.	112.5	112.5	112.5	87.5	81.3	112.5	112.5	118.8	87.5	125.0	112.5	112.5
Omaha, Nebr.					50.0							
	112.5	112.5	125.0	75.0	60.0	125.0	100.0	125.0	75.0	125.0	100.0	125.0
Philadelphia, Pa.			[2] 80.0	80.0	50.0							[2] 75.0
	112.5	100.0	125.0	110.0	60.0	125.0	100.0	125.0	110.0	130.0	125.0	100.0
Pittsburgh, Pa.												
	125.0	112.5	+125.0	100.0	80.0	+118.8	112.5	+125.0	100.0	150.0	+125.0	112.5
Reading, Pa.	75.0											
	+85.0	+80.0	90.0	+70.0	50.0	100.0	75.0	110.0	100.0	125.0	90.0	100.0
Savannah, Ga.	−50.0	$5–$6		$3.25		$5.25				$3.50		
	−80.0	day	100.0	day	+35.0	M.	$7 day		−87.5	day	−8.75	100.0	112.5
St. Joseph, Mo.					−40.0							
	87.5	−60.0	100.0	−60.0	−50.0	80.0	87.5	112.5	−60.0	112.5	80.0	+125.0
St. Louis, Mo.												
	125.0	125.0	125.0	85.0	67.5	125.0	125.0	137.5	+94.8	125.0	125.0	+100.0
Washington, D. C.				[2] 62.5	45.0				[2] 62.5			
	+105.0	100.0	100.0	75.0	50.0	100.0	+100.0	+125.0	75.0	125.0	125.0	100.0
Youngstown, Ohio.					70.0				75.0			
	115.0	115.0	115.0	87.5	80.0	125.0	112.5	125.0	−87.5	125.0		[2] 125.0

[1] Where two figures are shown they are the minimum and maximum wage, respectively.
[2] Rate not given in tabulation for Aug. 31, 1920, published in the October, 1920, MONTHLY LABOR REVIEW.

ASSOCIATION OF BUILDERS' EXCHANGES AND PREVAILING ON DEC. 31, 1920, COMPARED WITH AUG. 31, 1920.[1]

that the rate is higher or lower than that of Aug. 31.]

Hoisting engineers.	Marble cutters.	Marble setters.	Masons.	Ornamental iron workers.	Pipe coverers.	Plumbers.	Roofers.	Sheet metal workers.	Steam fitters.	Steam fitters' helpers.	Stone cutters.	Structural iron workers.	Tile setters.
90.0	.....	−100.0	.....	+95.0	.....	.....	.....	.....	100.0	.....	[2] 100.0	+95.0	−100.0
100.0	.....	.....	−90.0	+100.0	.....	−75.0	−50.0	−75.0	.....	50.0	.....	.....	.....
100.0	100.0	100.0	100.0	[2] 75.0	+100.0	100.0	100.0	90.0	100.0	.....	100.0	110.0	100.0
−100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	70.0	100.0	100.0	100.0
125.0	.....	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	100.0	125.0	125.0	125.0
100.0	100.0	90.0	90.0	100.0	.....	100.0	70.0	80.0	100.0	60.0	115.0	100.0	100.0
.....	125.0	125.0	125.0	125.0	.....	.....	100.0	.....	.....	.....	.....	.....	.....
125.0	.....	.....	.....	.....	[2] 112.5	[2] 137.5	125.0	125.0	+137.5	.....	−112.5	125.0	125.0
.....	.....	.....	.....	80.0	.....	.....	[2] 73.0	+90.0	.....	[3]$4–$6	.....	70.0	.....
100.0	100.0	100.0	−115.0	100.0	112.5	100.0	+80.0	+100.0	100.0	day.	110.0	90.0	100.0
100.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	100.0	115.0	50.0	100.0	100.0	100.0
−$65	.....	.....	.....	.....	.....	.....	80.0	80.0	.....	.....	.....	.....	.....
week.	125.0	125.0	125.0	100.0	+125.0	125.0	100.0	100.0	125.0	62.5	125.0	125.0	+125.0
$44	.....	.....	.....	80.0	.....	+$9	.....	.....	+$9	45.0	.....	.....	.....
week.	100.0	−80.0	125.0	90.0	+100.0	day.	90.0	90.0	day.	+65.0	100.0	110.0	100.0
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65.0	90.0
90.0	.....	110.0	110.0	80.0	100.0	100.0	75.0	85.0	100.0	65.0	115.0	125.0	100.0
100.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
125.0	65.0	100.0	125.0	125.0	90.0	125.0	60.0	100.0	125.0	65.0	100.0	125.0	100.0
50.0	100.0	100.0	125.0	100.0	65.0	100.0	80.0	80.0	112.5	45.0	100.0	90.0	100.0
.....	.....	.....	.....	.....	.....	.....	40.0	.....	100.0	[2] 50.0	.....	.....	.....
100.0	100.0	−100.0	125.0	100.0	100.0	125.0	−40.0	100.0	125.0	+62.5	100.0	100.0	−100.0
100.0	100.0	100.0	125.0	92.5	90.0	100.0	77.5	100.0	82.5	+56.3	100.0	92.5	100.0
[2]90.0	.....	100.0	110.0	.....	.....	100.0	90.0	90.0	100.0	[2] 60.0	110.0	.....	100.0
125.0	112.5	112.5	125.0	112.5	112.5	112.5	+112.5	112.5	112.5	87.5	112.5	112.5	112.5
.....	.....	.....	.....	.....	.....	.....	85.0	.....	.....	60.0	.....	.....	.....
125.0	100.0	100.0	125.0	125.0	+112.5	125.0	100.0	112.5	125.0	62.5	112.5	125.0	100.0
$48	100.0	100.0	.....	100.0	.....	.....	80.0	90.0	90.0	80.0	.....	.....	.....
week.	130.0	130.0	130.0	125.0	100.0	100.0	110.0	+125.0	125.0	+110.0	110.0	125.0	100.0
.....	.....	.....	.....	.....	.....	112.5	.....	.....	.....	.....	.....	.....	.....
112.5	100.0	100.0	125.0	125.0	.....	+125.0	125.0	112.5	+125.0	80.0	125.0	125.0	100.0
.....	.....	.....	.....	[2] 65.0	.....	.....	[2] 75.0	[2] 75.0	.....	[2] 55.0	.....	.....	.....
125.0	110.0	110.0	100.0	+75.0	100.0	100.0	+80.0	+80.0	100.0	+65.0	100.0	100.0	−100.0
60.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3]$3.20	.....	50.0	[3]$8–$10
70.0	100.0	100.0	100.0	100.0	112.5	112.5	80.0	90.0	112.5	day.	100.0	100.0	day.
100.0	+125.0	125.0	112.5	.....	85.0	+125.0	+100.0	100.0	+125.0	−60.0	.....	.....	125.0
+137.5	+72.5	100.0	100.0	125.0	100.0	125.0	100.0	+125.0	125.0	75.0	100.0	125.0	100.0
.....	.....	.....	.....	.....	.....	.....	60.0	.....	.....	.....	.....	.....	.....
100.0	100.0	+112.5	+112.5	125.0	100.0	100.0	+115.0	100.0	+106.3	65.0	100.0	125.0	100.0
100.0	.....	.....	[2] 125.0	.....	112.5	+125.0	+115.0	112.5	[2] 125.0	.....	100.0	125.0	100.0

[2] $4 to $5 a day on Aug. 31.

Changes in Cost of Living as Basis for Adjustment of Salaries of Bank Employees.

THE Federal Reserve Bulletin (Washington) for December, 1920 (pp. 1293-1295), contains an account of the result of an investigation conducted some time ago to ascertain the changes in the cost of living of bank employees in the various Federal reserve districts as a basis for salary adjustments. The questionnaire was prepared and distributed to all employees of Federal reserve banks receiving salaries of less than $5,000 a year, requesting certain information relative to expenditures for the calendar year 1919. One section of the questionnaire was to be filled in by married employees and heads of families, while another section was intended for those who were prepared to give only their individual expenditures. Replies were received from 1,901 heads of families and 3,219 individuals, 605 of the latter not living at home and 2,614 living at home. The salary groups which were employed are set forth in the accompanying tables.

Little dependency is to be placed on the information relative to individuals in the salary groups under $600, for the reason that the majority of these employees were of working age only a part of the calendar year 1919, and thus for the major part of the year they were not working, but usually attending school. The returns from those who gave family expenditures have been tabulated separately. The returns from those who gave their individual expenditures have been divided (1) on the basis of whether the individual was living with the immediate family or nearest relatives, (2) by sex. In the case of those who live with the family or nearest relatives it would have been impossible to separate food from rent cost, so that the individual was therefore asked to give the sum paid regularly each week to the family in lieu of board and lodging, and the amount spent for food outside of the home. In tabuating these returns these two items were added and the resulting figures entitled "food and rent."

This information relative to expenditures of employees of Federal reserve banks should be representative of the expenditures of bank employees in general. For any one of these cities then, were it desired by an individual institution to follow changes in the cost of living, it would be necessary to take the price changes furnished by the Bureau of Labor Statistics at six months intervals, and to weight these according to the percentage distribution of expenditures shown for the employees of the particular salary group under consideration. In this manner it would be possible to obtain changes for the entire employees of the institution receiving less than $5,000 per annum.

The following figures for the Federal Reserve Bank of New York show the general character of the data, and are given as being representative of the results obtained.

RETURNS OF THOSE WHO GAVE EXPENDITURES FOR THE FAMILY GROUP RATHER THAN FOR THEMSELVES INDIVIDUALLY.[1]

Salary group.	No.	Expenditures for—												Total expenditures, average am't.
		Rent.		Heat and light.		Food.		Clothing.		Furniture and house furnishing.		Miscellaneous.		
		Average amt.	Per cent of total.	Average amt.	Per cent of total.	Average amt.	Per cent of total.	Average amt.	Per cent of total.	Average amt.	Per cent of total.	Average amt.	Per cent of total.	
$600 and under $900	7	$291	26.5	$50	4.5	$419	38.1	$179	16.2	$4	0.4	$158	14.3	$1,101
$900 and under $1,200	26	349	22.2	60	3.8	677	43.0	212	13.4	31	1.9	248	15.7	1,577
$1,200 and under $1,500	68	339	18.6	73	4.0	821	45.0	236	13.0	111	6.1	244	13.4	1,824
$1,500 and under $1,800	95	334	17.3	73	3.8	878	45.4	276	14.3	92	4.8	283	14.7	1,936
$1,800 and under $2,100	166	379	17.4	77	3.6	924	42.3	294	13.5	147	6.7	362	16.6	2,183
$2,100 and under $2,400	182	436	17.9	84	3.4	960	39.4	369	15.1	135	5.5	453	18.6	2,437
$2,400 and under $2,700	99	463	17.9	84	3.2	1,035	40.1	398	15.4	141	5.5	463	17.9	2,584
$2,700 and under $3,000	57	476	15.8	95	3.2	1,206	39.9	516	17.1	184	6.1	544	18.0	3,021
$3,000 and under $3,300	49	491	15.6	127	4.0	1,177	37.4	534	16.9	264	8.4	557	17.7	3,150
$3,300 and under $3,600	20	641	19.4	126	3.8	1,076	32.5	552	16.7	159	4.8	757	22.9	3,311
$3,600 and under $3,900	18	543	15.4	123	3.5	1,297	36.7	549	15.6	129	3.7	891	25.2	3,532
$3,900 and over	32	633	14.6	118	2.7	1,557	35.9	722	16.7	215	5.0	1,091	25.2	4,336

[1]The majority for the whole or part of the year were living with husband or wife, or were the major support of the family group in which they lived.

RETURNS OF THOSE WHO GAVE THEIR EXPENDITURES AS INDIVIDUALS RATHER THAN FAMILY EXPENDITURES, CLASSIFIED BY SEX.

Returns of those who, for the major portion of the year, did not live with immediate family or nearest relatives.

Salary group.	Number.	Expenditures for—								Total expenditures, average amount.
		Rent.		Food.		Clothing.		Miscellaneous.		
		Average amount.	Per cent of total.	Average amount.	Per cent of total.	Average amount.	Per cent of total.	Average amount.	Per cent of total.	
MALES.										
Under $600	5	$317	19.7	$599	37.3	$257	16.0	$433	26.9	$1,606
$600 and under $900	3	182	23.7	304	39.4	133	17.3	151	19.6	770
$900 and under $1,200	7	171	14.6	540	46.0	194	16.6	268	22.9	1,173
$1,200 and under $1,500	10	255	17.3	613	41.5	198	13.4	412	27.8	1,478
$1,500 and under $1,800	7	348	22.2	632	40.4	238	15.3	346	27.1	1,564
$1,800 and under $2,100	5	358	19.4	615	33.3	229	12.4	644	34.9	1,846
$2,100 and under $2,400	6	341	17.8	743	38.7	296	14.4	559	29.2	1,919
$2,400 and over	8	524	18.3	929	32.4	316	11.0	1,097	38.3	2,866
FEMALES.										
Under $600	1	368	20.9	550	31.2	388	22.0	459	26.0	1,765
$600 and under $900	4	212	19.1	380	34.3	222	20.1	294	26.6	1,108
$900 and under $1,200	35	246	20.6	452	38.0	267	22.4	226	19.0	1,191
$1,200 and under $1,500	14	333	23.5	485	34.2	274	19.3	327	23.0	1,419
$1,500 and under $1,800	9	298	20.3	512	35.0	284	19.4	374	25.5	1,468
$1,800 and under $2,100	5	443	26.8	548	33.1	360	21.8	303	18.3	1,654
$2,100 and under $2,400	2	352	19.2	501	27.3	300	16.4	682	37.1	1,835
$2,400 and over	1	468	22.9	728	35.6	465	22.7	384	18.8	2,045

Returns of those who, for the major portion of the year, lived with immediate family or nearest relative.

Salary group.	Number.	Expenditures for—						Total expenditures, average amount.
		Food and rent.		Clothing.		Miscellaneous.		
		Average amount.	Per cent of total.	Average amount.	Per cent of total.	Average amount.	Per cent of total.	
MALES.								
Under $600	16	$612	58.1	$205	19.5	$236	22.4	$1,053
$600 and under $900	54	601	55.4	216	19.9	268	24.8	1,085
$900 and under $1,200	130	681	58.8	215	18.5	263	22.7	1,159
$1,200 and under $1,500	79	814	57.9	247	17.5	346	24.6	1,407
$1,500 and under $1,800	61	934	59.0	250	15.8	401	25.3	1,585
$1,800 and under $2,100	33	1,081	57.2	277	14.7	533	28.2	1,891
$2,100 and under $2,400	19	1,073	54.2	281	14.2	626	31.6	1,980
$2,400 and over	9	1,306	54.1	290	12.0	818	33.9	2,414
FEMALES.								
Under $600	19	454	50.9	268	30.1	170	19.1	892
$600 and under $900	94	520	51.0	306	30.0	193	19.0	1,019
$900 and under $1,200	477	606	51.7	339	29.0	226	19.3	1,171
$1,200 and under $1,500	170	722	52.8	369	27.0	277	20.2	1,368
$1,500 and under $1,800	34	804	50.8	406	25.7	374	23.6	1,584
$1,800 and under $2,100	7	849	50.0	427	25.2	422	24.8	1,694
$2,100 and under $2,400	3	862	48.0	460	25.6	472	26.3	1,794
$2,400 and over	2	781	42.6	358	19.5	697	38.0	1,836

Adjusting Salaries of St. Paul City Employees to Cost of Living.

THE council of the city of St. Paul, Minn., has recently adopted a set of ordinances applicable to the various city departments providing a standardization of salaries of municipal employees and including a plan for adjusting salaries from time to time in accordance with changes in the cost of living as determined from statistical data published in the MONTHLY LABOR REVIEW of this bureau. A letter from the chief examiner of the city civil service states that to January 6, 1921, eight of the departments had adopted the plan in its entirety. The following is the text of one of the ordinances. It applies to the department of public utilities in the bureau of water of the city of St. Paul, and is typical of all the others:

Text of Ordinance.

THE COUNCIL OF THE CITY OF ST. PAUL DOES ORDAIN:

SECTION 1. That the commissioner of public utilities be, and he is hereby, authorized to appoint and employ such number of officers and employees as may be necessary properly to carry on the work in the department of public utilities and the bureau of water of the city of St. Paul, such officers and employees to be those designated by title in the classification in section 7 of this ordinance.

SEC. 2. The compensation payable to such officers and employees shall be the compensation prescribed in section 7 hereof as defined, limited, and adjusted by virtue of sections 3, 4, and 5 of this ordinance.

Standardization of salaries.

SEC. 3. APPOINTMENTS.—Except as otherwise provided in section 1 of Rule X of the civil service rules, appointment to any position in section 7 shall be made at the basic entrance salary provided for the grade in which such position is placed, plus the adjusting percentage addition prescribed in section 6 hereof.

SEC. 4. WHOLE SALARY RATE.—The compensation payable in any position graded in section 7 hereof shall be determined by adding the several amounts payable under sections 3, 5, and 6 hereof.

SEC. 5. ADVANCEMENT.—Advancement in salary shall be made as follows:

(*a*) For each six months of service in a position the employee in such position shall receive an increase in salary not to exceed the equivalent of 5 per cent of the basic entrance salary prescribed for the grade in which said position is placed;

(*b*) Increases as provided in subdivision (*a*) of this section shall be allowed only up to and including two years of service, and not to exceed a total maximum for such two years' service of more than 20 per cent of the basic entrance rate: *Provided*, That any amount above the entrance rate which may be granted to an appointee by virtue of section 1 of Rule X shall be counted as part of this 20 per cent;

(*c*) For each full five years of service in a grade or in any individual position the employee in such position shall receive an additional increase in salary not to exceed the equivalent of 5 per cent of the said basic entrance salary prescribed for the grade in which said position is placed: *Provided, however*, That not more than three such five-year increases shall be allowed in any position;

(*d*) Increases provided for by subdivision (*c*) of this section shall not be applicable to any employee whose position or service in the city will entitle him, after the required seniority of service, to the benefits of any pension fund or law, nor shall they apply to any service rendered prior to the taking effect of the civil service law and the present charter, namely, June 1, 1914;

(*e*) If the 5 per cent increase provided for in subdivisions (*a*) and (*c*) amounts to less than $5, then the increase in such case shall be at the rate of $5 a month in lieu of the 5 per cent;

(*f*) Where maximum salary rates, however, are prescribed or fixed for any position, no advancement in salary shall be made in such position in excess of such maximum rate;

(*g*) Increases under this section shall become payable on the first day of the semi-monthly pay-roll period immediately following the day on which the required seniority of service is attained;

(*h*) If the salary and wage appropriations for any bureau or department are insufficient to provide for all the automatic increases as they become due in accordance with this section, then the increases as they come due shall be allowed according to priority of due date as far as the appropriations will permit, and any increases falling due thereafter shall be the first to be allowed in the next succeeding year, and such deferred increases shall be granted in the order of priority in which they became due. No employee, however, shall have any claim for back salary by reason of not having received the automatic increase when due, provided such increase was withheld because of lack of sufficient appropriation.

SEC. 6. (*a*) SALARIES ADJUSTABLE TO COST OF LIVING BASIS.—The salary limits as defined in section 7 hereof shall be deemed to be adequate standard salary rates for living conditions such as prevailed in the year 1916. For the purpose of this ordinance the year 1916 shall be used as a base, and the cost of living shall be deemed to have increased 60 per cent over the 1916 cost. To meet this increase in the cost of living the employees holding positions in section 7 shall, until changed in accordance with subdivision (*b*) of this section, receive as salaries the prescribed basic entrance rate provided for their positions, plus the following additional allowances, to wit:

For all positions having a basic entrance salary of $75 or under, an addition of 60 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $80 an addition of 55 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $90 an addition of 50 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $100 an addition of 45 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $125 an addition of 40 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $150 an addition of 35 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $175 an addition of 30 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $200 an addition of 25 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $250 an addition of 20 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $300 an addition of 10 per cent of the basic entrance rate for the grade.

For all positions having a basic entrance salary of $350 an addition of 5 per cent of the basic entrance rate for the grade.

(*b*) REVISION OF ADJUSTING PERCENTAGES.—The adjusted salary rates provided for in subdivision (*a*) of this section shall remain in force not longer than December 31, 1921, except as otherwise provided in this section. On January 1, 1922, and on January 1 of each year thereafter, there shall be a revision of the adjusting percentages prescribed in this section. For the purpose of determining the cost of living, reference shall be made on December 1 of each year to the statistical table of the retail prices of food in the United States (the 22 weighted articles), as given in the latest available issue of the MONTHLY LABOR REVIEW published by the Bureau of Labor Statistics of the United States Department of Labor. The rise or fall in the cost of living shall be determined by taking the year's average price index number for the year 1916 and the average of the 12 latest available (on Dec. 1) monthly price index numbers, and then computing the per cent of increase or decrease of this latest average index number over the 1916 index number. The resulting figure will be the increase or decrease in the cost of food, taking the year 1916 as a base. The index number showing the cost of living as a whole shall be determined by deducting 20 per cent from this increase in the cost of food index number, and the remainder will represent the increase in the cost of living as a whole. If this latter resulting increase is higher or lower than 60 per cent there shall be an addition or deduction made, as the case may be, in the adjusting percentages in subdivision (*a*) by either increasing or decreasing the 60 per cent adjusting percentage in grades 1 to 5, inclusive, to correspond with this new resulting increase, and by revising the adjusting percentages in grades 6 to 12 to correspond proportionately with the increase or decrease made in the percentage for grades 1 to 5. In revising the percentages, fractions of less than one-half per cent may, in the discretion of the commissioner, be dropped. In case of failure or delay in adopting any revision of adjusting percentages for a succeeding year, then the adjusting percentages as prescribed above shall remain in force until amended by the adoption of such revision.

Illustration and method of application of this rule: (See table on pages 52, 53, MONTHLY LABOR REVIEW for August, 1920).

	Points.
Average index number for 22 articles for year 1916	114
Average index number of 12 latest monthly index figures (July, 1919–June, 1920)	199½
Increase in latest 12-month average over 1916, average	85½

85½ points=75 per cent of 114 (1916 average);

Therefore, latest average 12-month period shows a cost-of-food increase of 75 per cent over 1916 average cost.

20 per cent of 75=15.

75 less 15=60 per cent, which is the increase in cost of living as a whole.

(*c*) SENIORITY INCREASES.—Salary increases on the basis of seniority, as provided for by section 5 of this ordinance, shall be computed on the basic entrance rates prescribed for section 7 and shall be allowed in addition to the adjusting percentage allowances provided for in subdivision (*a*) hereof.

Grades of service.

SEC. 7. Grade 1. Basic entrance salary: $40 a month. This grade includes the following positions: Messenger; telephone operator.

Grade 2. Basic entrance salary: $50 a month. This grade includes the following positions: Lamp lighter (part time); junior clerk; junior clerk-typist.

Grade 3. Basic entrance salary: $60 a month. This grade includes the following positions: Caretaker, general; cement tester; janitor; janitress; junior clerk-stenographer; keeper of reservoir; lamp washer; mechanic's helper; stationary fireman (Vadnais and Centerville); watchman; weigher.

Grade 4. Basic entrance salary: $70 a month. This grade includes the following positions: District utility inspector; general chauffeur; general repairman; meter inspector; pumping station engineer (Vadnais and Centerville); stationary fireman.

Grade 5. Basic entrance salary: $75 a month. This grade includes the following positions: Lighting inspector; senior clerk; senior clerk-typist; storekeeper; street car checker; subforeman; timekeeper.

Grade 6. Basic entrance salary: $80 a month. This grade includes the following positions: Fixture-rate inspector; market master; pumping station engineer (enters

at $85); repairman—lighting; senior bookkeeper; senior clerk-stenographer; smoke inspector; stationary engineer (enters at $85); street-car inspector; utility man—water bureau.

Grade 7. Basic entrance salary: $90 a month. This grade includes the following positions: Chief meter inspector; district meter superintendent; gas inspector; general bookkeeper; principal clerk.

Grade 8. Basic entrance salary: $100 a month. This grade includes the following positions: Asphalt chemist; assistant superintendent of mechanical equipment—water bureau; cashier—water bureau; head clerk (enters at $110); junior chemist; secretary-stenographer.

Grade 9. Basic entrance salary: $125 a month. This grade includes the following positions: Assistant testing engineer; chief clerk—water bureau; senior chemist.

Grade 10. Basic entrance salary: $150 a month. This grade includes the following positions: Chief chemist; testing engineer.

Grade 11. Basic entrance salary: $175 a month. This grade includes the following positions: Accountant—departmental; chemist and bacteriologist; registrar—water bureau; superintendent of lighting.

Grade 12. Basic entrance salary: $200 a month. This grade includes the following positions: Director of testing laboratory; superintendent of mechanical equipment—water bureau.

Grade 13. Basic entrance salary: $250 a month. This grade includes the following positions: (None).

Grade 14. Basic entrance salary: $300 a month. This grade includes the following position: General superintendent—water bureau.

SEC. 8. All salaries and wages of the officers and employees appointed and provided for in accordance with this ordinance shall be paid out of the funds appropriated for the various bureaus in said department.

SEC. 9. All ordinances, parts of ordinances, or resolutions inconsistent herewith are hereby repealed.

SEC. 10. This ordinance shall take effect and be in force immediately upon its passage, approval, and publication.

Wages in Arkansas.

THE Fourth Biennial Report of the Arkansas Bureau of Labor Statistics gives classified weekly earnings of employees in 54 industries of the State on June 30, 1920. The industries shown in the following table are reproduced from this report, the number of establishments included being given in parentheses following the name of the industry:

CLASSIFIED WEEKLY EARNINGS OF EMPLOYEES IN SPECIFIED INDUSTRIES IN ARKANSAS.

[W.=white; C.=colored.]

Average earnings per week.	Cotton compresses (9).							Cotton-oil mills (12).							
	Number of employees.	Men over 16 years.		Women over 16 years.		Children 16 years and under.		Number of employees.	Men over 16 years.		Women over 16 years.		Children 16 years and under.		
		W.	C.	W.	C.	W.	C.		W.	C.	W.	C.	W.	C.	
Under $10	.....	.....	.....	.....	.....	.....	.....	5	1	4	.....	.....	.....	.....	
$10 and under $12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
$12 and under $15	3	.....	3	.....	.....	.....	.....	9	3	6	.....	.....	.....	.....	
$15 and under $20	110	13	97	.....	.....	.....	.....	178	23	155	.....	.....	.....	.....	
$20 and under $25	35	7	25	3	.....	.....	.....	86	21	65	.....	.....	.....	.....	
$25 and under $30	7	7	.....	.....	.....	.....	.....	18	8	10	.....	.....	.....	.....	
$30 and under $35	1	.....	1	.....	.....	.....	.....	5	5	.....	.....	.....	.....	.....	
$35 and under $40	1	1	.....	.....	.....	.....	.....	10	8	2	.....	.....	.....	.....	
$40 and over	7	5	2	.....	.....	.....	.....	7	6	1	.....	.....	.....	.....	
Total	164	33	128	3	.....	.....	.....	318	75	243	.....	.....	.....	.....	

CLASSIFIED WEEKLY EARNINGS OF EMPLOYEES IN SPECIFIED INDUSTRIES IN ARKANSAS—Concluded.

[W.=white; C.=colored.]

Average earnings per week.	Department stores (9).							Laundry and cleaning establishments (16).						
	Number of employees.	Men over 16 years.		Women over 16 years.		Children 16 years and under.		Number of employees.	Men over 16 years.		Women over 16 years.		Children 16 years and under.	
		W.	C.	W.	C.	W.	C.		W.	C.	W.	C.	W.	C.
Under $10	61	.....	7	36	8	10	....	129	.....	.....	99	22	8	....
$10 and under $12	28	.....	3	23	1	1	....	127	.....	.....	61	66	....	....
$12 and under $15	62	23	4	32	3	....	....	27	.....	4	15	8	....	....
$15 and under $20	163	30	42	88	3	....	....	55	22	9	22	1	1	....
$20 and under $25	82	28	9	44	1	....	....	41	27	8	6	....	....	....
$25 and under $30	32	14	1	17	....	....	....	23	31	1	1	....	....	....
$30 and under $35	33	24	.....	9	....	....	....	7	7	.....	....	....	....	....
$35 and under $40	25	21	.....	4	....	....	....	4	4	.....	....	....	....	....
$40 and over	69	63	.....	6	....	....	....	9	9	.....	....	....	....	....
Total	555	203	66	259	16	11	....	422	90	22	204	97	9	....
	Printing and publishing (64).							Saw and planing mills (45).						
Under $10	16	3	.....	7	....	6	....	23	3	1	....	2	10	7
$10 and under $12	15	7	.....	6	....	2	....	12	1	1	3	5	1	1
$12 and under $15	24	12	.....	9	....	3	....	45	16	10	4	12	2	1
$15 and under $20	65	28	11	26	....	....	....	2,175	775	1,387	5	3	5	....
$20 and under $25	46	32	3	11	....	....	....	2,187	1,053	1,132	2	....	....	....
$25 and under $30	32	28	.....	4	....	....	....	481	342	137	2	....	....	....
$30 and under $35	55	53	....	2	....	....	....	345	290	54	1	....	....	....
$35 and under $40	37	37	.....	....	....	....	....	163	154	9	....	....	....	....
$40 and over	67	67	.....	....	....	....	....	375	370	5	....	....	....	....
Total	357	267	14	65	....	11	....	5,806	3,004	2,736	17	22	18	9
	Stave and heading manufacturers (24).							Wagon and spoke manufacturers (11).						
Under $10	15	5	3	....	4	....	3	5	1	1	....	2	....	1
$10 and under $12	8	2	3	....	3	....	....	5	1	1	....	....	3	....
$12 and under $15	21	2	11	1	3	1	3	11	5	3	....	....	3	....
$15 and under $20	423	204	216	1	....	1	1	201	122	78	....	....	1	....
$20 and under $25	367	186	181	....	....	....	....	175	147	28	....	....	....	....
$25 and under $30	123	74	49	....	....	....	....	48	48	.....	....	....	....	....
$30 and under $35	71	57	14	....	....	....	....	15	14	.....	1	....	....	....
$35 and under $40	70	62	8	....	....	....	....	11	11	.....	....	....	....	....
$40 and over	24	23	1	....	....	....	....	9	9	.....	....	....	....	....
Total	1,122	615	486	2	10	2	7	480	358	111	1	2	7	1

Wages in Ohio Manufacturing Industries in 1919.

AN UNPUBLISHED report by the Industrial Commission of Ohio contains statistics of wages of employees in all manufacturing industries of the State for the year ending December 31, 1919. The following preliminary table compiled from the report has been furnished this bureau by the commission:

NUMBERS AND CLASSES OF EMPLOYEES IN ALL MANUFACTURING INDUSTRIES IN OHIO, REPORTED TO DEPARTMENT OF STATISTICS, OHIO INDUSTRIAL COMMISSION, YEAR ENDING DEC. 31, 1919.

Class, sex, and age groups.	Number receiving each classified weekly wage.							
	Under $5.	$5 but under $6.	$6 but under $7.	$7 but under $8.	$8 but under $10.	$10 but under $12.	$12 but under $15.	$15 but under $18.
Wage earners:								
Males, 18 years of age or over	2,051	898	1,005	1,487	3,854	6,976	19,055	41,780
Females, 18 years of age or over	1,861	1,397	2,415	4,161	16,183	24,218	42,773	30,607
Males, under 18 years of age	1,225	378	631	693	1,532	1,562	2,528	1,804
Females, under 18 years of age	165	122	252	490	1,298	1,767	1,460	419
Total	5,302	2,795	4,303	6,831	22,867	34,523	65,816	74,610
Bookkeepers, stenographers, and office clerks:								
Males, 18 years of age or over	119	88	90	87	369	871	1,838	3,438
Females, 18 years of age or over	162	117	152	427	1,924	4,175	9,379	13,908
Males, under 18 years of age	56	42	53	69	319	471	427	220
Females, under 18 years of age	18	30	36	106	346	404	435	348
Total	355	277	331	689	2,958	5,921	12,079	17,914
Sales people (not traveling):								
Males, 18 years of age or over	149	56	62	106	234	375	768	1,589
Females, 18 years of age or over	171	129	494	985	3,505	4,596	6,316	4,297
Males, under 18 years of age	115	72	53	54	67	56	63	54
Females, under 18 years of age	59	22	51	100	224	119	139	64
Total	494	279	660	1,245	4,030	5,146	7,286	6,004
Grand total	6,151	3,351	5,294	8,765	29,855	45,590	85,181	98,528

Class, sex, and age groups.	Number receiving each classified weekly wage.							
	$18 but under $21.	$21 but under $25.	$25 but under $30.	$30 but under $35.	$35 but under $40.	$40 but under $50.	$50 and over.	Total.
Wage earners:								
Males, 18 years of age or over	88,620	165,720	187,603	148,184	112,535	107,635	45,405	932,808
Females, 18 years of age or over	16,655	10,243	4,725	1,740	505	183	102	157,768
Males, under 18 years of age	1,212	594	167	48	15	13	17	12,419
Females, under 18 years of age	168	83	29	12	6	4	3	6,278
Total	106,655	176,640	192,524	149,984	113,061	107,835	45,527	1,109,273
Bookkeepers, stenographers, and office clerks:								
Males, 18 years of age or over	4,999	6,900	10,554	10,256	7,514	8,338	8,058	63,519
Females, 18 years of age or over	11,837	8,105	5,072	1,717	656	381	155	58,167
Males, under 18 years of age	126	58	51	31	18	10	8	1,959
Females, under 18 years of age	154	65	62	22	10	8	8	2,052
Total	17,116	15,128	15,739	12,026	8,198	8,737	8,229	125,697
Sales people (not traveling):								
Males, 18 years of age or over	2,909	3,182	4,530	3,111	2,204	1,999	2,482	23,756
Females, 18 years of age or over	2,348	767	576	228	128	75	80	24,695
Males, under 18 years of age	50	27	24	12	7	8	6	668
Females, under 18 years of age	20	5	10	1	.....	.....	.....	814
Total	5,327	3,981	5,140	3,352	2,339	2,082	2,568	49,933
Grand total	129,098	195,749	213,403	165,362	123,598	118,654	56,324	1,284,903

Wages and Hours of Women Employed in Mercantile Establishments in Virginia.

THE following tables showing the classified weekly wages and the prevailing hours of labor of women employed in department stores and drygoods and millinery establishments in Virginia on April 1, 1920, are taken from the twenty-third annual report of the Bureau of Labor and Industrial Statistics of the State of Virginia (p. 108). The wage rates were reported by 206 establishments employing 3,720 workers.

NUMBER OF WOMEN EARNING EACH CLASSIFIED WEEKLY WAGE IN DEPARTMENT STORES AND DRYGOODS AND MILLINERY ESTABLISHMENTS IN VIRGINIA ON APRIL 1, 1920.

Weekly wage rate.	In service less than 6 months.	In service more than 6 months.	Total.
Under $3.00	17	6	23
$3.00 to $3.99	6	4	10
$4.00 to $4.99	4	10	14
$5.00 to $5.99	8	7	15
$6.00 to $6.99	11	5	16
$7.00 to $7.99	28	25	53
$8.00 to $8.99	63	98	161
$9.00 to $9.99	172	205	377
$10.00 to $10.99	204	256	460
$11.00 to $11.99	74	155	229
$12.00 to $12.99	132	424	556
$13.00 to $13.99	53	171	224
$14.00 to $14.99	4	28	32
$15.00 to $17.99	278	1,034	1,312
$18.00 to $19.99	23	56	79
$20.00 and over	40	119	159
Total employees	1,117	2,603	3,720

In the record of hours of labor shown in the following table no reports were received for 43 employees. The percentage figures have been computed; they do not appear in the original report.

NUMBER AND PER CENT OF WOMEN WORKING EACH CLASSIFIED NUMBER OF DAILY HOURS.

Daily hours.	Number of workers.	Per cent.
7 or less	146	4.0
7½	895	24.3
8	1,484	40.4
8⅓	33	.9
8½	451	12.3
8¾	73	2.0
9	571	15.5
9½	14	.4
10	10	.3
Total	3,677	100.0

The Three-Shift Day in the Paper and Pulp Industry.

CONSIDERABLE attention is being given by industrial engineers and plant managers to the feasibility of changing from the two-shift to the three-shift day in continuous process industries. It has been argued that the chief objections to the change are that lowered production and increased production cost would result, that the men would not be satisfied to change their hours of work because of possible reduction in pay, and that it would be necessary to employ a much larger force of workers to maintain production. Studies of certain plants in two large continuous process industries—the steel industry and the paper and pulp industry—seem to have set aside these objections and to have proved that the change from the two-shift to the three-shift system has in fact resulted in an increase in production and a lowered production cost per ton without a corresponding increase in the number of employees. The findings of the studies covering the steel industry were summarized in the MONTHLY LABOR REVIEW for January, 1921 (pp. 113 to 116). The experience of certain sulphite pulp mills is here summarized from a paper by Robert B. Wolf, consulting engineer, New York City, read at the regular meeting of the Engineers' Club of Philadelphia on October 19, 1920.[1]

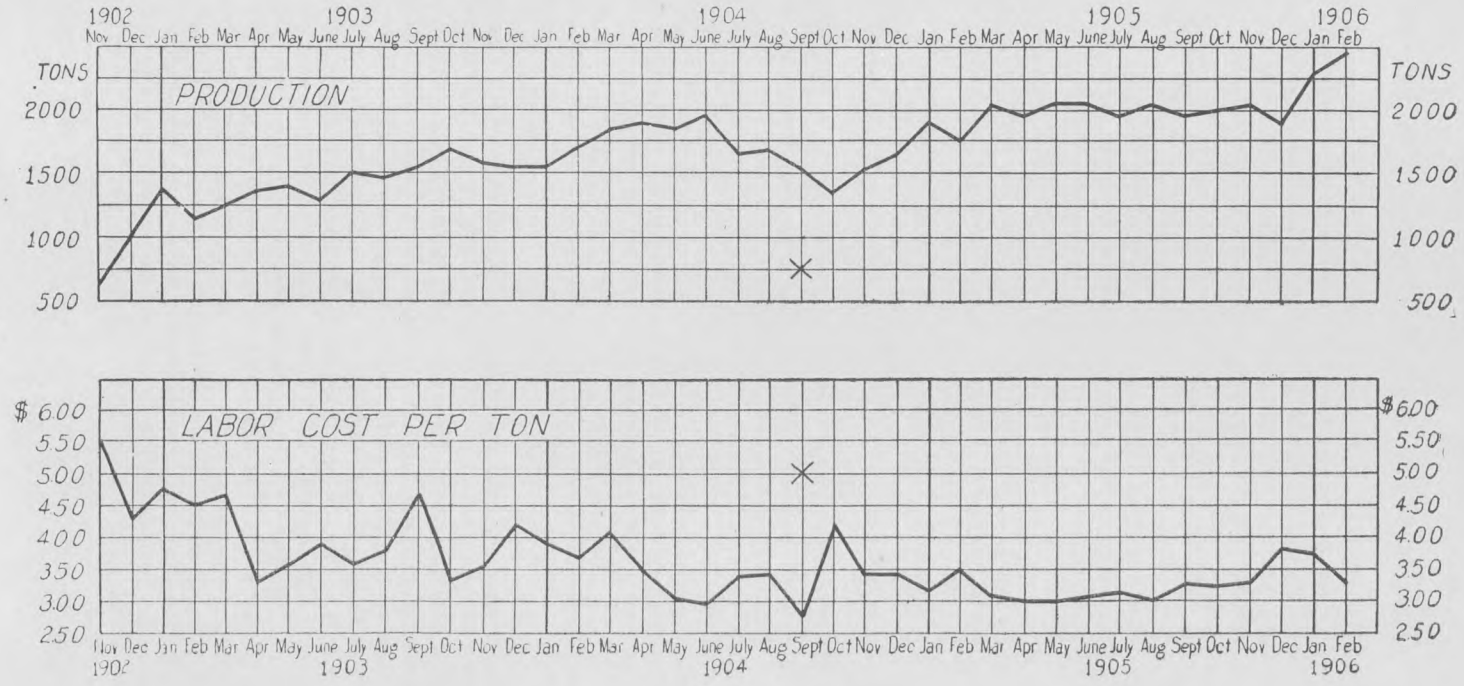
Mr. Wolf speaks from personal experience, since he was superintendent of one of the mills at the time the change of shifts was made. He shows that in that particular mill since the change, which took place during the late summer of 1904, the labor cost per ton remained practically unchanged down to 1906 (figures for later years not being given), while the production increased steadily, this increase being "because of the better spirit we obtained all through the plant when our men were not being overworked, as was the case with the long 11 and 13 hour shifts." The chart on page 88 was presented, graphically showing the results of the change in this plant from the two-shift to the three-shift basis.

Increase in Production Offsets Increase in Production Costs.

IN ANOTHER and much larger mill because of poor equipment it was necessary to increase the number of men when the change was made to the three-shift day, this increase being 119, or 35.4 per cent, considering tour men only, or 22.2 per cent including all workers. In this mill, as in the one illustrated by the chart, the actual amount of money paid per day of 8 hours was the same as was previously paid for 12 hours. "While the labor cost per ton increased at first about 22 per cent, this was soon offset by the increased production. Our experience indicates very clearly that the large production increase comes because of the fact that our men are wider awake and more 'on the job' and, consequently, have much better control of the processes." In this mill it is stated, the production was actually increased from 42,000 tons to 111,000 tons per year in seven years'.

[1] Published in the Journal of the Engineers' Club of Philadelphia and Affiliated Societies for December, 1920, pp. 463-469.

PRODUCTION IN TONS AND THE LABOR COST PER TON FOR EACH MONTH FROM NOVEMBER, 1902, TO FEBRUARY, 1906, UNDER THE TWO-SHIFT AND THREE-SHIFT SYSTEMS IN A SULPHITE PULP MILL.



[336]

time, without adding to equipment a single digester for cooking the pulp.

I am not claiming that this increase in production was due entirely to the change from two to three shifts, but I do know that we would not have been able to reach anywhere near this figure if we had continued to operate on the two-shift basis. Furthermore our quality changed during this period from the poorest pulp manufactured to the very best.

In the third plant, modern and up to date, the total increase in number of men occasioned by the change in shifts was 22.1 per cent considering tour workers only, the actual increase including all workers being 12.1 per cent. The actual increase in cost of production was 13.1 per cent, but to offset this the production increased in a few months from an average of 70 tons a day on the two-shift basis to an average of 100 tons a day on the three-shift basis, an increase of nearly 43 per cent. Mr. Wolf states, however, that to a considerable extent this increase in production has come from mechanical improvements made in the processes, "but from actual observation of what took place I know that great impetus was given to the betterment of the quantity and quality of output by the change to shorter hours."

In interpreting the experiences of these plants the following observations are made:

1. That there is a limit to the physical endurance of men and that there is a time beyond which nothing further is gained by prolonging the hours. Our experience has been that eight hours constitutes a proper day's work, that even in the case of our day workers more work was actually accomplished in eight hours than in a nine or ten hour day.
2. It is equally true that men are not mentally alert when physically fatigued. Mental alertness is absolutely essential to good quality of product and our experience has been that invariably when the obstacles to uniform quality are removed the obstructions to increased output are also removed.
3. As maximum quantity and quality can not be obtained when the workmen are tired out, so is it impossible to operate economically unless the hours are short enough to permit a proper amount of relaxation outside of the plant. It is so obviously true that good quantity and good quality make for economy of operation that it seems hardly necessary to make this final generalization. I am making it merely because we demonstrated to be a fact that it is more economical to operate a plant on a three-shift basis than on two.

A chart was presented showing three methods of rotation of shifts by which the men are all on different shifts each week, which is customary in the paper industry.

It is suggested that one of the difficulties encountered in any process that requires close attention is the great variations which tend to develop when a larger number of men are at work. It had been observed that the quality would vary more on three shifts than on two. Mr. Wolf states, however, that there was very little to this contention "as the greater alertness of the men because of the shorter hours offset the variations due to the increase in the number of persons controlling the operations." The men were assisted by records of performance enabling them at change of shift to visualize what had taken place before they came on and thus carry on the processes so as to produce the least amount of variations in the production. This point is illustrated by a chart. "I do not hesitate to say," he concludes, "that it has been demonstrated beyond any question of doubt that much greater uniformity is being obtained where the mills are working on a three-shift basis than where they are working on a two-shift basis."

Conclusions.

MR. WOLF pointed out in conclusion that the paper manufacturers' experience with three shifts has convinced them that it is unquestionably a much more economical operation from every point of view than the two-shift method. He drew from this experience a number of suggestions which he thought would be helpful to other continuous process industries in solving the problem of changing shifts. These suggestions are believed to be of sufficient importance to note in full:

First. We had heard that men would not want the three shifts, but preferred the long hours. The results, however, proved that our men almost invariably welcomed the change to three shifts. There were a few men, such as foremen, who prophesied difficulties, and there was occasionally some old man who had worked two shifts all of his life and gotten so in the habit of it that he preferred not to change; but I can say unqualifiedly that the change was enthusiastically welcomed by at least 99 per cent of our men, and the remaining 1 per cent were quickly convinced * * *.

Second. We argued ourselves into believing that the men would not know what to do with their time when off duty. We soon found, however, that by assisting in the creation of outside recreational facilities this was not a problem at all; in fact, it became a big asset to us in developing esprit de corps in the community as well as in the plant. I do not mean that we adopted what is familiarly known as welfare work. I do not believe in this because of its paternalistic nature. However, when the men are encouraged to make their wants known and the company recognizes its responsibilities to the community as well as to its employees, it will not be long before the men will be actually creating the necessary means of recreation.

Third. We thought, at first, before we analyzed the situation carefully, that it would add 50 per cent to our labor costs. The figures given previously, however, indicate that this was by no means the case. As a matter of fact the labor cost per ton of product invariably decreased.

Fourth. The problem of shortage of labor was one which we felt to be quite serious, but this was easily overcome by distributing our key men throughout the plant, and while there was a slight amount of confusion to start with this was soon over.

The advantages given to promote employees to better positions are obvious, and the better spirit which soon develops quickly offsets the small temporary losses occasioned by the change. I can not help making the observation right here that with the present curtailment in industry all over the country the time is ideal for putting all two-shift industries on a three-shift basis.

Fifth. Greater demand for housing facilities was an objection which seemed, at first sight, to be a very serious one, especially in one particular instance where the plant was located in a small community. This, however, did not prove to be serious, as the actual percentage increase in the number of men was really small and the temporary congestion was quickly relieved.

In this connection, it should always be borne in mind that the change from two shifts to three shifts never means an increase of 50 per cent in labor, but always a very much smaller percentage, owing to the fact that the number of men in each operation can be reduced because of the shorter hours and also from the fact that in all industries a large percentage of the men are on day work.

Sixth. I have heard the argument put up in the paper industry, when the three-shift movement first gained headway, that it would make it impossible for us to compete with foreign mills. This argument really no longer holds, because most foreign mills are on a three-shift basis at the present time, and I am informed that the English steel industry is entirely on three shifts.

Discussion of Mr. Wolf's Paper.

THE discussion following Mr. Wolf's paper brought out some interesting facts in the experience of other concerns that have changed to the three-shift system. One speaker suggested that the same daily pay should be given for the 8 hours as for the 12 hours, a plan which was followed out in a large chemical factory

employing 22,000 workers. The plan of rotation of shifts in this plant was outlined.

The chief of the bureau of water, city of Philadelphia, spoke of the general advantages that had followed a change from a 56-hour week to a 48-hour week in his department.

The practice of working 8 hours at one plant and then 8 hours at another plant, the actual 16 hours' work thus destroying the real purpose and benefits of the 8-hour day, was noted by one speaker as being negligible.

The results of an eight months' study of a large steel mill were briefly noted by another speaker, who stated that the conditions to be met were a proposed reduction of 33 per cent in hours, the demands of the men for the same pay for 8 hours' work as for 12, and the suggestion of the production men that production be maintained without any increase in cost. These conditions were all met, the outcome being that the plant officials succeeded in reducing the hours 33 per cent, the daily wages of the men were actually increased over 10 per cent, and production was increased more than 30 per cent, while cost of labor and overhead decreased more than 10 per cent.

In metal mining, it was pointed out by one speaker, certain work can best be done in a three-shift day, but in smelting operations, which must be carried on continuously, "it is still a mooted question as to the two-shift operations as against the three shift." The speaker stated that from his observation he was inclined to believe "that the three-shift day is receiving more favorable consideration in the smelters, more particularly for work which is laborious or for work which requires close attention, and it is considered that more efficient work is done."

Wages in the Building Trades in Saskatchewan, Canada, 1916 to 1919.

THE following table, showing hourly wages paid in the building trades in Saskatchewan, Canada, during the years 1916 to 1919, has been extracted from the Ninth Annual Report (p. 44) of the Bureau of Labor of the Department of Agriculture for the 12 months ended April 30, 1920.

HOURLY WAGES PAID IN THE BUILDING TRADES IN SASKATCHEWAN, 1916 TO 1919.

Trade.	1916	1917	1918	1919
Bricklayers	$0.75	$0.75	$0.85	$1.00
Carpenters	.55	.50	.65	.80
Electricians	.45	.50	.65	.70
Plumbers	62½	.65	.75	.80
Plasterers	.65	.65	.80	.90
Painters	.45	.45	.60	.70
Woodworkers	.40	.40	.45	.45-.70
Building laborers	.30-.35	30-.35	.40	.50
Common laborers	27½	30	35	40-.45

New Working Agreement Affecting Personnel of Italian Tugboats.

ON OCTOBER 26, 1920, representatives from the Italian shipowners and the Italian Seamen's Federation met at Genoa, Italy, for the purpose of completing an arrangement concerning wages, hours of labor, and working conditions on Italian tugboats.

From the articles of agreement, it appears that this agreement is based, first, upon the Italian law, second, upon awards made by the board of awards (*Commissione Arbitrale*) of June 30, 1920. It further appears that there was at the time an agreement between the Italian shipowners and the Italian Seamen's Federation with reference to wages, hours, and conditions in ordinary merchant vessels. The references which are found in the document indicate that the wages of ordinary merchant steamers have been made the basis of the wages to be paid on tugboats when they go a distance of more than 50 miles from their home port.

Article I deals with the time for which the men are engaged and provides that the engagement shall count from the time when the enrolled person delivers his "pass book"; that the seamen shall, if engaged at some other port than the home port of the vessel, be entitled to wages, sustenance, and fare from the port of shipment to the harbor in which the tug in question is at that time lying. It further provides that if the contract expires during a voyage to Italy, the seamen are to bring the tug back to the home port if it will not require more than 45 days so to do. If the contract expires during a voyage to a foreign country or while in a foreign port, the seaman must remain on board under the same conditions as above stated, if the tug makes a direct voyage to Italy. If, however, the tug makes a voyage to other foreign ports, the seaman has the option of being repatriated, with pay and sustenance up to the time of arrival in the port of enrollment or of remaining on the vessel, in which case he shall receive a 15 per cent addition to his pay for the period of time between the expiration of the contract and the vessel's arrival in the home port. If the port where the seaman is discharged is not the same as the port in which he was engaged, the seaman shall be entitled to return to the port of enrollment at the expense of the owner, and shall be further entitled to sustenance up to the day of arrival in said port. Such repatriation may, at the shipowner's choice, be either by steamer or by rail.

If there is a prohibition of commerce, or the vessel is seized, captured, injured, or wrecked, or the discharge of the seaman is caused by any other accident, the seamen shall be entitled to repatriation with pay and sustenance up to the date of arrival in the port of enrollment.

Premature annulment of the contract shall be dealt with according to the Commercial Code.

Hours.

THE agreement provides for the regulation of the hours of labor and determines that the normal work day shall be on the basis of eight hours for the entire crew, and that such hours shall be

between 8 a. m. and 12 o'clock noon, and between 1 p. m. and 5 p. m. If the exigencies of the service require that the seaman be occupied at some work between the time of noon and 1 p. m., the dinner hour may be altered to be either before 12 o'clock or after 1 o'clock, but must then be between the hours of 11 a. m. and 2 p. m. All work performed before or after the hours fixed shall be compensated to each individual person in accordance with the rates fixed for overtime in the agreement.

In navigation service outside the regular zone the hours for deck hand officers and engineers shall be 8 hours in each 24. The watch shall be divided into two turns for the deck crew, 4 hours of watch alternating with 4 hours of rest. Night hours are those between 6 p. m. and 6 a. m.

On Sundays, legal holidays, and certain church holidays, the men shall not be called upon to perform any labor unless it be needed, either because of accident or for the dispatch of the vessel, and in the latter case they shall have overtime compensation therefor.

The crew, without group distinction, shall, in addition to the compensation herein provided, be granted a workday off for each holiday worked. These days off may be cumulated and be enjoyed within the period of the contract whenever exigencies of the service permit it. The accumulated days off which have not been made use of by the fault of the shipowner shall be compensated and paid for as so many forfeited workdays, exclusive of maintenance and at the rate of wages fixed in the table for ports and zones.

Wherever the dock workers are granted a half holiday on Saturday, the crews on tugs shall enjoy the same privilege. Where there are no deck workers the crews of tugs shall enjoy the privilege of the Saturday half holiday only when the working forces of the industry in which the tug is engaged are granted the half holiday.

Wages.

WAGES, including sustenance, shall be, within the 50-mile zone, 720 lire ($138.96, par) for a sailor; if outside the 50-mile zone, 780 lire ($150.54, par); 750 lire ($144.75, par) for a fireman inside the 50-mile zone, and 810 lire ($156.33, par) outside the zone.

The overtime rate for seamen, firemen, and trimmers shall be 3 lire ($0.58, par) per hour for port and zone service; for apprentice seamen and boys, 1.50 lire ($0.29, par) per hour.

A distinction is made in the case of crews of tugs assigned to industrial service, in which the rate for overtime work during the day is fixed, for seamen, firemen, and trimmers, at 2 lire ($0.39, par) per hour; for apprentice seamen and boys, at 1 lira ($0.19, par) per hour. On demand of the owner, the crew may be called upon to work overtime after having performed the normal eight hours' work, but overtime work performed during the night shall be paid for at double the rate for daytime.

Overtime work performed outside of the 50-mile zone shall be compensated in accordance with the shipping articles for steamers. If the work is performed in port the hours of overtime shall be counted double, as provided for in the model contract adopted by the royal commission.

If a crew is required to stay on board the vessel in port or in a roadstead during the night, from 8 p. m. to 6 a. m., they shall be compensated therefor; deck officers and engineers shall be paid 15 lire ($2.90, par), seamen and firemen, 12 lire ($2.32, par), apprentice seamen and boys, 5 lire ($0.97, par). If tugs are assigned to industrial service, the deck officers and engineers shall, under like conditions, be paid 10 lire ($1.93, par); sailors and firemen, 7 lire ($1.35, par); ordinary seamen and boys, 4 lire ($0.77, par).

On request, and if the work is not performed by contract on land, the engine-room crew, as well as the deck crew, must render service in loading and stowing coal purchased, at an extra compensation of 4 lire ($0.77, par) per ton. If this work is being performed outside of the regular hours of labor, it entitles the crew to compensation for overtime, in addition to the compensation indicated above.

Insurance.

THE agreement further provides for war risk, accident and sickness insurance. In case of death from accident caused by events of war, survivors shall receive compensation equal to six years' earnings (pay and sustenance) and never less than 32,000 lire ($6,176, par) for deck officers or engineers, 25,000 lire ($4,825, par) for members of the crew, and 20,000 lire ($3,860, par) for seamen, apprentices, and cabin boys, and this shall be without deduction of the amounts that may be awarded by the "invalidity fund" for the merchant marine.

All members of the crew, inclusive of the captain, whatever their age and pay, must be insured against industrial accidents. For that part of the crew to which the law on industrial accident is applicable, provision shall be made according to law. For the remaining part of the crew the owner shall make provision by assuring five years' annual earnings (pay and sustenance) for cases of death, and six years' annual earnings (pay and sustenance) for cases of permanent total disability.

In the case of disembarkment from the vessel due to accident or sickness, members of the crew shall, during a maximum period of four months, be paid in cash their wages and sustenance in the daily amounts fixed by the present contract, except as relates to sustenance in cases where the enrolled person has been given medical care at the expense of the shipowner.

The agreement further provides for the insurance of the personal effects of seamen, and the amount of insurance is determined by this agreement. The indemnity for such loss by reason of war or other accident is, for deck officers and engineers, outside of the zone, 2,500 lire ($482.50, par); inside of the zone, 2,000 lire ($386, par); boatswains and boatswains' men, 2,000 lire ($386, par); sailors, 1,500 lire ($289.50, par); apprentice seamen and boys, 1,200 lire ($237.60, par). In port service exclusively this is reduced so as to be, for deck officers and engineers, 1,500 lire ($289.50, par); for sailors, 1,000 lire ($193, par), and for boys, 800 lire ($154.40, par).

In the contract signed, each person shall declare his readiness to relinquish 2 per cent of his pay, inclusive of supplements, to the shipowner, who shall be authorized to retain it. This deduction shall serve to the shipowner as a guaranty that the seaman will comply with his obligations. At the end of each quarter the said 2 per cent shall, after deductions for the satisfaction of those debts for which the guaranty is retained have been made, be turned over by the owner to the Federation of Seamen, and through the latter to its responsible secretary, and shall be deposited by him on account of such seaman, who may dispose of it as he thinks best, the shipowner being released from all responsibility.

The enrolled person declares that, without prejudice to his rights of recession, he authorizes the Cooperative Society Garibaldi to draw from the amount of pay coming to him the quota resulting from the schedule of wage rates in accordance with his rank. This seems to refer specially to an assessment which every member of the Italian Seamen's Federation pays from his wages into the Cooperative Society Garibaldi for the purpose of exhibiting model cooperation of vessels and for other reasons.

The new contract became applicable in all its parts November 16, 1920, but provision was made making portions of it retroactive to January 1, 1920.

Wages in Vigo, Spain.

A REPORT, dated November 1, 1920, recently received through the State Department, gives minimum and maximum wages for different classes of employment in Vigo, Spain, at the close of 1919, as shown in the table following. The conversions into United States equivalents were made at the source.

WAGES FOR SPECIFIED OCCUPATIONS IN VIGO, SPAIN, AT THE CLOSE OF 1919.

Occupation.	Daily wages.	
	Minimum.	Maximum.
Bakers [1]	$0.87	$1.06
Barbers	.39	.58
Boiler makers	.96	1.74
Carpenters and cabinetmakers	.87	1.35
Coopers	.96	1.45
Employees of gas works and electric-light plants	.77	1.35
Employees in sardine factories [2]	.35	1.16
Fishermen	.96	1.54
Gardeners	.48	1.16
Mechanics	.96	1.74
Miners and farm laborers	.39	.58
Motormen and conductors	.83	.96
Painters and masons	1.06	1.54
Pottery workers	.29	.96
Printers	.48	1.35
Sawmill workers	.77	1.06
Stonemasons	1.25	1.54
Ship carpenters	.96	2.32
Shoemakers	.77	1.16
Tailors and tailors' employees [2]	.58	1.16

[1] Also receive 1 kilogram (2.2 pounds) of bread daily. [2] Lower wages are for women and girls.

MINIMUM WAGE.[1]

Minimum Wage Law of Washington Held Constitutional.

DESPITE a prior decision sustaining the law, the constitutionality of the minimum wage law of Washington was recently attacked by the hotel proprietors of the State. The Industrial Welfare Commission had on April 3, 1920, issued a new order relative to the public housekeeping industry, fixing a weekly rate for females over 18 years of age of not less than $18 per week, or $3 per day, or 37½ cents per hour. Employment was limited to six days per week, and the maximum amounts deductible for board and room were specified. Other provisions of the order related to sanitation, etc.

A prior rate of $13.20 had been fixed by a "war emergency" order, in force until superseded by the present order. The contention was made that the new order had been issued without authority, that no public hearings had been held or notice given with regard thereto, and that the wage of $18 per week of six days is arbitrary, unreasonable, and confiscatory.

The case was dismissed in the court below, and was brought to the Supreme Court on appeal (Spokane Hotel Co. *v.* Younger, decided Dec. 11, 1920). The three points passed upon by the court were the claim that the statute violates the Constitution of the State and of the United States, that public hearings were not held, and that the commission was without authority to limit the time to six days per week or to fix a rate for room and board.

The first point was settled by reference to the prior decision of the court, Larson *v.* Rice, 100 Washington 642, 171 Pac. 1037, decided April 3, 1918, together with citations from Oregon and Minnesota cases relative to similar laws. The power of the legislature to act through a commission was also sustained by a number of references to State and Federal decisions. The claim that personal notice must be given to employers before a rate can be established was declared unreasonable and contrary to the rule of law as to the power of the legislature to enact legislation.

As to the claim that public hearings were not held as required by the act, "it is sufficient to say upon this question that the record shows that at least three public hearings were had before the order of the Industrial Welfare Commission was made. Counsel who now represent appellants were present at all these hearings."

The contention as to a six-day week was disposed of by referring to the provision of the law which authorizes the commission to specify "standard conditions of labor for women. This is clearly broad enough to justify the commission in fixing six days a week as a standard condition." As to the power of the commission to determine the amounts that might be deducted for board and room, the court pointed out that the matter was wholly discretionary. "The employer may or may not, as he chooses, furnish room and board at

[1] For further minimum wage data, see article on p. 213.

the price stated. If he does not so agree, the straight wage schedule shall prevail." The full bench concurred in this opinion, which sustained the commission and the law in all points upon which the attack was made.

This closes, in what would seem to be the only possible manner that could be expected, a revolt by a group of employers against the law and its enforcement in the State of Washington. The commission had been in existence and functioning continuously for a period of more than seven years when this attempt was made, the first order bearing date of April 28, 1914. Policies had been practically continuous until disorganizing influences of recent date led to an entire reorganization of the commission, with the exception of the commissioner of labor, who is ex officio a member. The present body is entirely new since June 1, 1920.

The right of appeal to the Supreme Court of the United States on the question of the conflict of the law with the Federal Constitution of course remained with the appellants in the case above noted, but it is reported that this appeal would not be taken and that the payment of back wages due under the order has begun. This involves the payment of the difference between amounts actually paid and the rate fixed by the order since the date of its inception, June 2, 1920. It is estimated that this will amount to $100,000 that the women employees in public housekeeping will receive in addition to current payments already made.

Minimum Wage Study in Ohio.

THOUGH the people of Ohio adopted in 1912 an amendment to their constitution authorizing the legislature to pass a law establishing a minimum wage, this power has not been exercised. The provision of the amendment is general, so that it would seem possible to establish minimum rates for adult males as well as for those workers usually covered by laws of this type, i. e., women and minors. The subject of a minimum wage law for women and minors has been considered from time to time, but, as indicated, without legislative result. A voluntary organization entitled "The Ohio Council on Women and Children in Industry" has recently published the results of its study of the situation in the State, looking toward efforts to secure the enactment of such a law. This report is in the form of separate quarto sheets, the first section being devoted to women's wages, using data from a recent survey by the department of statistics of the Ohio Industrial Commission. This survey related to wages paid all employees in 20 industrial counties of the State. The council selected for its consideration females 18 years of age or over.

"The survey shows first of all that wages have not advanced proportionately to the cost of living." A comparison is available for wages of 1917 and 1919, nearly every county showing some increase in that period. There is wide diversity between counties, Licking County showing in 1917 its largest wage group to be receiving between $6 and $7 per week; two other counties had their lowest

groups between $7 and $8; five others between $8 and $9; while Summit County showed its largest single group receiving from $12 to $15. In 1919 the lowest county had advanced its principal group to the same amount, i. e., $12 to $15, which was the maximum in the State, and was attained by all counties except two, where the principal groups received $8 to $10 and $10 to $12, respectively. Taking the 20 counties as a whole, 61.9 per cent received less than $15 in 1919; saleswomen (not traveling) were the most poorly paid, 72 per cent of their number receiving less than $15 per week. Of stenographers and office clerks but 33.9 per cent received less than $15.

Study of Cost of Living.

THE second section is devoted to a study of the cost of living, and like the foregoing is said to be an interim report, issued "in order to hold the interest of the members in spite of the inevitable delays in printing these two sections." The data on which this study was based were collected by 1,100 questionnaires sent out "to women in various occupations all over the State." They requested an estimate of the weekly expenditures necessary to keep oneself in health and decency. The preliminary report is based on 134 estimates. Few answered every item, but all material turned in was used with an idea that the average thus obtained would approximate the facts. The itemized expenditure made a total of $19.16, which is in decided excess of the average wage rate. The items are as follows:

Average of 134 Estimates of Itemized Average Weekly Expenditures.

Board and lodging	$7.17	Recreation	$0.58
Clothing	4.88	Savings	1.59
Laundry	.52	Incidentals	1.02
Car fare	.58	Organization dues	.17
Doctor and dentist	.64	Insurance	.24
Church	.89	Self-improvement	.45
Newspapers and magazines	.24		
Vacation	.69	Total	19.16

Even scaling this amount to $18 it appears that in the county having the best paid wageworkers, 52 per cent received less, while the next best county showed 65 per cent below the $18 standard; two others show 95 per cent of their adult female wage earners receiving under $18, and one 96 per cent. It is suggested that the small pay received by so many of these women is the explanation "why so many budgets have omitted various items from their complete estimates which are considered necessary for a decent standard of living."

Opinions on Minimum Wage Legislation.

THE third section is devoted to a summary of the opinions of persons or organizations who have had experience with minimum wage legislation in this country. This was compiled "because some members of the council felt that testimony of social experts and of persons who had had actual experience in the practical working out of the law would help them to make a decision as to the desirability of such a law in Ohio." Letters of inquiry were sent out to numerous

persons in "a very real effort to reach adverse and favorable opinion quite impartially." Four main questions were asked: (1) Has the minimum become the maximum? (2) Has organization suffered? (3) Have women been thrown out of work? (4) Are the women themselves in favor of the legislation or do they feel it is a restriction which has been forced upon them?

Answers are given from organized labor, those of women and of men being shown separately, the latter including the action of several State federations. Employers are represented by the Chamber of Commerce of the United States, the National Retail Drygoods Association, the Ohio Manufacturers' Association, and a list of individual employers favoring the law as published by the National Consumers' League. A third section gives the attitude of the wage commissioners in seven or eight jurisdictions, while the concluding portion gives individual opinions of economic and social students and workers.

The general expression of organized labor is favorable to the law, though there is some conflict of opinion. Perhaps the Oregon opinion, furnished by the secretary of the State Federation sums up the matter. "There are within the Federation of Labor conflicting views upon the question of wage legislation for women. I think, however, that it is sufficient to say that the State Federation of Labor regards minimum wage laws as being generally helpful to the great mass of women workers who have never seen the benefit of organization, and inasmuch as most of the women in our State are unorganized, laws that limit the hours and stipulate conditions are helpful." In other States the Federation has taken action in favor of such legislation for women. It is to be noted that the American Federation of Labor indorsed the minimum wage law of the District of Columbia before its passage, "and we have reason to be grateful for the results of its operation." "If there has been any displacement of women by men, it has been so slight as to be negligible in comparison with the thousands of women whose condition has been improved by the law." This statement is signed by the secretary of the Federation.

The opinions of employers as represented by their organizations are not very definite, one reporting that the organization had not taken a position on the subject other than to declare in favor of fair wages, reasonable hours of work and working conditions, a right to a decent home and the enjoyment of proper social conditions. California merchants indorsed the law in advance; while in Salt Lake City the situation was considered and a friendly attitude adopted toward the law. Others thought a wage arrived at by agreement was better than an inflexible standard prescribed by legislation. Individual merchants who had had experience under the laws of the different States expressed their appreciation of the law as developing efficiency, establishing a higher grade of help, enabling them to secure the services of more capable and efficient women, and stabilizing labor conditions. Some of the large employers reported that a fair minimum wage does not increase the percentage cost of doing business, while they serve the valuable purpose of protecting employers who pay living wages from unfair competition.

State wage commissions report definite data showing that "women were not thrown out of work," "no tendency noted of throwing women out of work," "no instance of women being thrown out of work by the enforcement of the law," etc. As to the minimum becoming the maximum, one report states that "Those who fear that the minimum will tend to become the maximum fail to distinguish between a standard wage, and a wage just above the margin." No such effect is reported in any State, the California commission saying that "this is practically the most exploded of all theories that have gathered around minimum wage legislation. In no instance—with the exception of certain unskilled industries—have we found that the minimum becomes the maximum or even the standard wage." In Utah it is said that the minimum has had a tendency to become the maximum in some branches of industry.

Foreign Minimum Wage Legislation.

THE fourth section is devoted to a study of foreign experience in minimum wage legislation and consists of a summary prepared for the council by Dr. Matthew B. Hammond, professor at the Ohio State University. This consists of an account of the operation of wage boards in Victoria, to which special attention is given because of the long experience of the State, with briefer notes as to experience elsewhere. Both methods and purposes differ, especially in Australia, from those in this country. The laws apply to workers without regard to age or sex, and are drawn with a view to the adjustment of labor disputes and the prevention of strikes. The summary is therefore more of interest by way of contrast than as suggestive for the guidance of legislators carrying out the principles in force in the 15 jurisdictions in this country where there are minimum wage laws.

General Award by Minnesota Minimum Wage Commission.

ON DECEMBER 1, 1920, the minimum wage commission of Minnesota issued a new order of general application, covering both workers of ordinary ability and learners and apprentices. This order supersedes orders bearing date of July 5, 1919, covering the same field. Like the earlier orders it makes a difference between cities of 5,000 population or more and localities of a smaller population. For the larger places, experienced workers are to receive a minimum of $12 weekly as against $11 fixed by the earlier order; while in smaller places the rate of $10.25 remains unchanged. Similar treatment is accorded apprentices, the rates in cities being advanced from $7.20 per week for those under 18 to $7.68 per week; while if over 18, they begin at $9.12 instead of $8.64. The rates in smaller places are not changed. Learners under 18 advance to $9.12 after three months, and to $10.56 after a second three months; if over 18, there is but one advance, a wage of $10.56 being payable after the first three months, and the full minimum on the expiration of the second three months.

Instead of merely fixing a standard week of 48 hours, with pay for overtime, the new order directs the payment of the minimum for a week of not less than 36 nor more than 48 hours, with 25 cents for overtime in excess of 48 hours for workers in cities. No hourly rate, as such, is fixed.

If meals are furnished, 22½ cents may be deducted, or $7 per week for room and board in cities; or 21 cents per meal or $6.25 per week for room and board in rural localities.

New Minimum Wages Fixed by New South Wales Board of Trade.[1]

THE New South Wales Board of Trade, after public inquiry as to the increase or decrease in the average cost of living, declared on October 8, 1920, that the basic or living wages to be paid to adult male employees in the area defined as the State of New South Wales, except certain areas for which the living wages were fixed in preceding orders (noted in the MONTHLY LABOR REVIEW for October, 1920, p. 152) should be £4 5s. ($20.68, par) a week, 14s. 2d. ($3.45, par) a day, and 1s. 9¼d. (43 cents, par) an hour. The decision does not apply to rural workers nor to woman labor. The president of the board of trade in making the announcement, stated:

> The board had to deal with a period characterized by substantial increases in prices of necessary commodities. The hope that the year would see at least a stabilization of prices has not been realized. Prices have increased about 18 per cent, and the purchasing power of money in this State is at least 15 per cent less than when the last living wage declaration was made. To an extent approximating that percentage, an increase in the living wage was, therefore, inevitable.
>
> The legislature clearly contemplated that the main element for consideration in future fixation was to be fluctuations in prices. It was quite clear that the intention of Parliament was to empower the new tribunal [board of trade] to declare a national minimum.
>
> It is necessary again to point out that the function of the board is the fixing of the basic wage, i. e., that lowest wage to be paid to an adult citizen carrying average responsibility. Appeals to sentiment and arguments as to the necessity for a more equitable distribution of wealth can not assist a tribunal which is discharging a duty carefully defined by Parliament. The board has not the power to say what wage it would like to see every citizen receive, or to set up an ideal standard of comfort.

[1] Data taken from New South Wales Industrial Gazette for October 30, 1920, p. 617. Sydney.

COOPERATION.

Cooperative Organization Among Farmers in the United States.

AN ARTICLE in a recent number [1] of the Outlook deals with the "agricultural revolution now going on in America," which, it is stated, "will be in its social, economic, and political significance second only to the great industrial revolution which began in England at the close of the eighteenth century and inaugurated our present economic life." According to this article the farmers, feeling that agriculture should be managed on a strictly modern, scientific basis that takes into consideration the cost of production and a reasonable profit, are organizing machinery through which to realize this end. Producers of cotton, fruit, grain, vegetables, sheep, cattle, poultry, butter, and cheese have, especially within the past year and a half, made great progress in organization, with the result that they now have hundreds of county farm bureaus and agents, as well as a national federation, the American Farm Bureau Federation. This federation, established about seven months ago, is reported to have a membership of over 1,000,000 farmers and funds of nearly $500,000. This body is said to be establishing bureaus of statistics and research, transportation, and education.

The farmers, the article states, now have more than 10,000 organizations in the United States. In Maine there are 16 fruit growers' associations, all members of the Maine Fruit Growers' Exchange, as well as organizations of growers of potatoes, sweet corn, and grain. Connecticut has at least eight county farm bureaus with a State federation, three milk-marketing associations, five vegetable growers' organizations, a dairymen's association, a pomological society, a beekeepers' association, a sheep breeders' association, and a State grange.

The dairymen are also organizing. The chief eastern farmers' agencies are the New England Milk Producers' Association and the New York Dairymen's League, the former representing over 20,500 producers controlling more than 80 per cent of the milk of New England, and the latter representing over 84,000 men. The New England association is reported to have recently purchased the Turner Center Association with its more than two dozen creameries, condenseries, and stores.

The farmers of the North Atlantic States are planning the establishment of a supply company which will "buy, build, own, and operate mills, factories, and other business enterprises."

The object of organization among the farmers is said to be to "rehabilitate farming by making it pay," a program which involves the elimination of the middleman through cooperative buying and selling, and the introduction of standardizing and grading systems, which by establishing a known and guaranteed quality will enable the farmer to obtain better prices for his product.

[1] "What's the matter with the eastern farmer?" by J. Madison Gathany. In The Outlook, New York, Sept. 29, 1920, pp. 196–199.

Condition of the Cooperative Movement Abroad.

Austria.

AN ARTICLE in the International Cooperative Bulletin for October-November, 1920, gives an account of the condition of the Union of Austrian Distributive Societies. This union, formerly called the Central Union of Austrian Distributive Societies, lost many of its member societies through the dismemberment of Austria, and is "still suffering from the detrimental effects of the after-war period." The present membership of the union is as follows: Consumers' societies, 112; building and housing societies, 17; productive societies, 15; credit societies, 4; poultry farms, 2. There are also in affiliation several large central organizations—the Cooperative Wholesale Society, 3 national purchase associations, and an insurance society.

The following statement gives figures for the consumers' societies affiliated with the union:

STATISTICS OF DISTRIBUTIVE SOCIETIES AFFILIATED WITH UNION OF AUSTRIAN DISTRIBUTIVE SOCIETIES.

Item.	1914	1919
Number of distributive societies affiliated	96	112
Number reporting	94	103
Number of stores operated	.....	458
Number of members	145,065	370,866
Share capital ..... crowns [1]	2,612,840	7,725,197
Reserve fund ..... do	1,703,065	10,593,250
Sales ..... do	43,068,851	572,771,278
Trade surplus ..... do	1,379,698	10,730,353

[1] Crown at par=20.3 cents.

The article points out, in part:

The growth of the gross profits, paid-up share capital, reserves, and savings deposits have not kept pace with the increase in the turnover of societies. The increase in turnover, which is conditioned partly by the increase in membership, but far more by the tremendous rise in prices, would under normal conditions lead one to expect an approximate percentage increase in gross profits. This is, however, considerably less than half of the percentage increase for 1914. The extent of the growth of the annual turnover and of the gross profits is clear evidence of the endeavors of the distributive societies throughout the war period to keep prices as low as possible. That these efforts were not entirely successful is no fault of the distributive societies, but was due to the superior strength of the private traders and to the fact that the cooperative distributive movement in Austria is not strongly developed, the societies being obliged to procure large quantities of goods from private producers.

The average turnover per member, which in 1914 was 296 crowns [$60.09, par] had increased to 1,544 crowns [$313.43, par] in 1919, representing an almost fivefold increase over that of prewar years. This shows unmistakably to what a tremendous extent prices have arisen. Another characteristic point is the fact that both the gross profits of societies and the surplus, calculated on the basis of 1,000 crowns [$203, par] of the turnover, have decreased by half the amount as compared with prewar years. The comparative figures for share capital, reserve fund, and savings deposits, also calculated on the basis of 1,000 crowns of the turnover, show a considerable decrease in the individual participation of members. In 1914 the paid-up share capital on every 1,000 crowns of the turnover was 66 crowns [$13.40, par], on the reserves 39 crowns [$7.92, par], and on the savings deposits 141 crowns [$28.62, par]. In 1919 the paid-up share capital on every 1,000 crowns of the turnover was only 13 crowns [$2.64, par], on the reserves 18 crowns [$3.65, par], and on the savings deposits 38 crowns [$7.71, par]. That means that the capital contributed per society as compared

with the increase in turnover has decreased four to five times, although taken absolutely the extent to which each member participated shows an increase. In 1914 the average paid-up share capital per member was 18 crowns [$3.65, par], reserve fund 11 crowns [$2.23, par], and savings deposits 42 crowns [$8.53, par], whereas in 1919 they totaled 20.8, 28, and 58 crowns [$4.22, $5.68, and $11.77, par], respectively.

The report points out the urgent necessity of the management committees of societies taking the necessary steps in order to strengthen the working capital. The value of the shares which before the war ranged from 30 to 50 crowns [$6.09 to $10.15, par] per member of a society is in the present circumstances entirely inadequate if the societies are to maintain their operations.

Australia (South Australia).

THE 1918–19 Statistical Register of South Australia gives (Part VI, p. 31) the following statistics for the registered cooperative societies in that State:

OPERATIONS OF REGISTERED COOPERATIVE SOCIETIES IN SOUTH AUSTRALIA, 1909 TO 1918.

[£ at par=$4.87.]

Year.	Number of societies.	Number of members.	Total income for year.	Working expenses for year.	Net profit.	Paid-up capital.	Reserve funds.
1909	7	7,502	£278,911	£33,328	£16,231	£91,664	£6,743
1910	7	8,852	310,982	39,683	18,847	111,461	8,960
1911	8	10,248	368,881	55,998	18,702	125,285	12,934
1912	7	10,706	372,578	60,967	19,412	130,484	7,819
1913	7	12,904	394,599	62,601	24,350	135,835	9,527
1914	7	13,001	396,659	68,758	19,848	137,883	14,102
1915	7	13,191	426,120	68,777	19,812	144,223	16,034
1916	7	13,270	454,729	75,499	26,316	159,967	12,935
1917	6	13,078	505,114	81,999	40,019	189,026	15,563
1918	6	14,276	568,764	93,473	43,333	226,240	17,768

Belgium.

THE SEVENTH congress of the socialist societies held at Charleroi, August 28, 1920, is noted in a recent publication of the International Labor Office.[1] The societies represented are affiliated with the Belgian Cooperative Office which until this congress was a part of the Federation of Belgian Cooperative Societies. Henceforth, as the result of action of the congress, the Belgian Cooperative Office will be a separate body with duties somewhat like those of the Manchester Cooperative Union.

The Federation of Belgian Cooperative Societies was organized in 1901 to carry on cooperative wholesaling. It was brought out at the congress that the business done by the wholesale in 1919 amounted to 15,869,276 francs ($3,062,770, par), and in the first three months of 1920, to 13,624,781 francs ($2,629,583, par). Recently it began production, by taking over a hosiery factory which had belonged to a cooperative productive society, and is considering taking over two others similarly owned, a chicory factory and a sirup factory.

Audit by the Belgian Cooperative Office disclosed the fact that many of the constituent societies are on a precarious financial footing, due to insufficient capital and reserves. A special report presented

[1] International Labor Office. Seventh congress of the Belgian Cooperative Office. Studies and Reports, series H, No. 2. Geneva, Sept. 25, 1920.

to the congress stated that the value of the share is in some societies as low as one or two francs (19.3 or 38.6 cents, par), and that the amount of share capital per member is very small. The report recommended that the price of shares be raised to 100 francs ($19.30, par).

The Belgian Cooperative Office has undertaken a census of these retail societies, the results of which, it is stated, will be known by the end of 1920.

With regard to relations of the societies with their employees, the congress passed a resolution urging societies to give preference to workers who were members of trade-unions, and placed itself on record as favoring the organization of a joint commission to prevent disputes between societies and their employees and to settle such disputes as arose.

Negotiations were entered into, under the auspices of the International Cooperative Alliance, with a view to establishing international trading between cooperative wholesale societies. A report submitted to the congress embodied the results of these negotiations. Under the plan suggested, "in every country there will be created as part of the central organization an export section which will enter into relations with a central office established in Manchester." It was stated that negotiations are being carried on between the Belgian wholesale and the wholesales of England and Scotland, with a view to exporting to the latter countries such articles as baskets, nails, glassware, cotton goods, matches, cigars, and grains for fodder. An attempt is also being made to make arrangements for the export of chicory to the wholesales of Switzerland and Holland.

Canada (Saskatchewan).

IN AN address made before the Farmers National Grain Dealers Association held at Chicago, December 2 and 3, 1920, Mr. J. F. Booth, cooperation and markets commissioner of the Province of Saskatchewan, Canada, told of the progress made along cooperative lines in that Province.[2] According to Mr. Booth the first cooperative organization for the purchase of farm supplies was established in 1914. The growth of this phase of cooperation in Saskatchewan is shown by the following:

DEVELOPMENT OF COOPERATION IN SASKATCHEWAN.

Item.	1914	1919
Number of associations	1	404
Number of shareholders	2,850	18,240
Paid-up capital	$12,000	$362,000
Assets	37,000	1,124,000
Liabilities	39,000	1,315,000
Value of supplies handled	239,000	4,215,000

These associations handle, usually in carload lots, fencing materials, coal, binder twine, flour, and other commodities that can be handled in bulk.

There are also about 100 cooperative retail stores in Saskatchewan.

[2] Published in American Cooperative Journal, Chicago, December, 1920, pp. 24, 26, and 46.

The development of the live-stock shipping associations is shown by the fact that while during 1914, the year when the first organization of this sort was formed, 9 associations handled 38 cars of live stock, in 1919 there were 52 such associations which handled 784 carloads of stock valued at $1,575,000. According to the speaker the next question to be taken up is that of federating the various live-stock associations into one organization. As a result of the recommendations of a commission appointed by the Saskatchewan Government to investigate live-stock marketing conditions in the Province, two cooperative stockyards were formed, one at Prince Albert and one at Moosejaw, both of which are doing a very active business.

In 1914–15 the cooperation and markets branch of the Saskatchewan Department of Agriculture acted as a wool-shipping agency for 179 farmers, handling in this manner 69,000 pounds of wool. In 1919, 553,000 pounds of wool were received from 1,105 farmers. The work has now been turned over to the Canadian Cooperative Wool Growers, formed in 1918, and it was stated that in three weeks this association handled over 1,000,000 pounds of wool, nearly double the quantity handled during the previous year. The reason for this was said to be that most of the small dealers in wool in that Province have gone out of business and "the farmers have fallen onto the cooperative method in a manner they never did before."

The Saskatchewan Cooperative Creameries which in 1917 had a paid-up capital of $233,000 and fixed assets of $450,000, in 1919 handled supplies whose value amounted to over $2,500,000. This company has more than 3,000 shareholders and 15,000 patrons, and operates 22 branch creameries, five large cold-storage plants, and two poultry-killing stations.

The Saskatchewan Cooperative Elevator Co., which the speaker stated he believed to be the largest cooperative elevator company in the world, has had the following development:

DEVELOPMENT OF SASKATCHEWAN COOPERATIVE ELEVATOR CO.

Item.	1912	1919	Item.	1912	1919
Capital	$1,500,000	$3,500,000	Local elevators, number	46	316
Reserve	$48,000	$1,069,000	Shareholders, do	2,565	21,000
Net profits	$52,000	$193,589	Grain handled, bushels	3,262,000	22,000,000

England.[3]

A COOPERATIVE fishing society has been established in England, under the name of the Minesweepers' Cooperative Trawling Society (Ltd.). The society is reported to have been formed at the request of the Government, and a fleet of about 200 steam trawlers will be acquired from the Admiralty. These trawlers were built for naval use during the war and none of them is more than four years old.

Membership is confined to (*a*) former service men who were fishermen at the time of enlistment; (*b*) former service men who have

[3] Data are from The Economist, London, Aug. 28, 1920, and the Christian Science Monitor, Boston, August, 1920.

joined the fishing industry since demobilization or who desire to join; (*c*) fishermen who carried on fishing during the war, under a special Admiralty agreement; (*d*) all fishermen or others at present engaged in the industry, or who subsequently engage in it; (*e*) all employees and members of committees of the society; and (*f*) all societies registered under the industrial and provident societies act. Shares are £1 ($4.87, par) each, and each member must hold at least five but may not invest more than £200 ($973, par). Voting is on the basis of one man, one vote. After provision is made for mortgages, reserves, depreciation, dividend (not exceeding 10 per cent), and bonus to crews and employees, the remainder of the profits will go to educational and social funds.

The society will pay the rates of wages and bonus which are current at the ports from which the vessels are fishing.

Two officers of the Cooperative Wholesale Society are members of the committee which was responsible for the organization of the new society.

Finland. [4]

IT IS reported that in 1919 there were in Finland 3,120 cooperative societies of all kinds. According to type these societies were distributed as follows:

	Number of societies.
Consumers' societies	737
Creameries	494
Credit societies	713
Threshing societies	303
Peat-moss societies	181
Egg-selling societies	71
Telephone societies	91
Electricity societies	45
Miscellaneous societies	485
Total	3,120

The membership, in 1918, of three types of societies—creameries, credit societies, and consumers' societies—and of three of the wholesale societies was as shown below:

MEMBERSHIP OF COOPERATIVE SOCIETIES IN FINLAND IN 1918, BY TYPE OF SOCIETY.

Type of society.	Number of societies reporting.	Number of members.
Creameries	328	41,584
Credit societies	606	28,854
Consumers' societies	549	234,526
Wholesale societies:		
"S. O. K."		[a] 494
"Hankkija"		[b] 1,240
"Labor"		[c] 1,005

[a] Societies.

[b] 302 individual members, 862 consumers' societies, 68 agricultural societies, and 8 societies of various kinds.

[c] 871 individual farmers and 134 societies.

[4] Data are from La Coopération Belge, Brussels, Sept. 15, 1920; International Review of Agricultural Economics, Rome, July, 1920, pp. 456-470; and International Cooperative Bulletin, London, September, 1920.

Details of operation for these societies for the year 1918 are given in the following table:

OPERATIONS OF CERTAIN TYPES OF COOPERATIVE SOCIETIES IN FINLAND, 1918.

[1 Finnish mark at par=19.3 cents.]

Type of society.	Number reporting.	Share capital.	Reserve.	Sales.	Net saving.
		Marks.	*Marks.*	*Marks.*	*Marks.*
Creameries	287	3,734,909	1,468,006	113,203,117	(1)
Credit societies	606	1,068,096	624,403	[2] 5,569,000	(1)
Consumers' societies	497	4,005,298	12,720,034	[3]360,871,561	18,051,694
Wholesale societies:					
"S. O. K."		429,125	10,000,000	107,715,834	3,615,574
"Hankkija"		229,400	3,000,000	78,318,021	2,120,765
"Labor"		57,900	430,000	25,847,570	605,186

[1] Not reported. [2] Loans. [3] 551 societies reporting.

Finland has two consumers' wholesale societies, the "S. O. K." and the "O. T. K." In 1919 there were 503 retail societies affiliated with the former of these, having a total membership of 201,615 and doing a business in that year of 548,000,000 Finnish marks ($105,764,000, par). The "O. T. K." had in membership in the same year 91 retail societies with 119,615 individual members and a volume of business of 275,000,000 Finnish marks ($53,075,000, par). Of the wholesales themselves the "S. O. K." had share capital and funds amounting to 16,000,000 Finnish marks ($3,088,000, par), its sales for the year 1919 reached 205,000,000 Finnish marks ($39,565,000, par), goods manufactured in its production departments amounted in value to 5,000,000 Finnish marks ($965,000, par), and its surplus to 4,700,000 Finnish marks ($907,100, par). The "O. T. K." had share capital and funds of 5,500,000 Finnish marks ($1,061,500, par), sales of 56,000,000 Finnish marks ($10,808,000, par), and a surplus of 1,800,000 Finnish marks ($347,400, par).

Germany.[5]

IN THE yearbook just issued by the Central Federation of German Consumers' Societies[6] statistics are given with respect to the development of all phases of the cooperative movement in that country. The following table shows the number of registered societies of each type on January 1, 1919, and the per cent of change as compared with January 1, 1918:

[5] For statistics of previous years see MONTHLY LABOR REVIEW, June, 1920, pp. 132-135.
[6] Jahrbuch des Zentralverbandes deutscher Konsumvereine, 1920. Hamburg, 1920.

NUMBER OF COOPERATIVE SOCIETIES OF EACH TYPE REGISTERED ON JANUARY 1, 1919.

Type of society.	Number of societies.	Per cent of increase over 1918.
Credit societies	20,199	2.1
Industrial societies dealing in raw materials	1,353	58.1
Agricultural societies dealing in raw materials	2,935	6.5
Societies for the purchase of merchandise	648	31.4
Establishment societies:		
Industrial	339	[1] 1.3
Agricultural	2,404	8.4
Societies for the purchase of machinery and tools	13	[2]
Storage societies:		
Industrial	637	4.8
Agricultural	128	[1] 1.5
Raw materials and storage societies:		
Industrial	233	24.6
Agricultural	40	25.0
Productive societies:		
Industrial	1,106	7.5
Agricultural	4,094	[3]
Stock breeding and grazing societies	588	5.0
Consumers' societies	2,313	1.6
Housing and building associations:		
Proper	1,485	6.8
Society houses	135	2.2
Other societies	406	9.4
Total	39,056	4.5

[1] Decrease. [2] No change. [3] Increase of less than one-half of 1 per cent.

The number, type, and membership of the societies affiliated with the five largest central organizations, representing the great majority of consumers' cooperative societies in Germany, for the year 1917 are shown in the table below:

NUMBER AND MEMBERSHIP OF REPORTING COOPERATIVE SOCIETIES AFFILIATED WITH THE FIVE LARGEST CENTRAL FEDERATIONS IN 1917, BY TYPE OF SOCIETY.

Type of society.	Societies affiliated with—					Total.
	General Federation of German Purchasing and Economic Cooperative Societies.	General Federation of German Raiffeisen Cooperative Societies.	National Federation of German Agricultural Cooperative Societies.	Central Federation of German Consumers' Societies.	Main Federation of German Industrial Cooperative Societies.	
	Number.					
Credit societies	917	4,119	11,320	.....	432	16,788
Purchasing, productive, and other societies	79	976	6,210	29	847	8,141
Consumers' societies	218	14	.....	1,072	.....	1,304
Building societies	202	5	28	1	.....	236
Total	1,416	5,114	17,558	1,102	1,279	26,469
	Membership.					
Credit societies	578,573	448,810	1,104,032	.....	108,723	2,240,138
Purchasing, productive, and other societies	9,772	76,273	605,119	9,181	57,340	757,685
Consumers' societies	330,816	2,201	.....	2,189,630	.....	2,522,647
Building societies	63,273	283	1,585	485	.....	65,626
Total	982,434	527,567	1,710,736	2,199,296	166,063	5,586,096

The next table shows certain details of operation for the 2,313 consumers' retail societies in Germany, and for the Cooperative Wholesale Society of the Central Federation of German Consumers' Societies:

OPERATIONS OF CONSUMERS' RETAIL SOCIETIES AND OF THE GERMAN WHOLESALE SOCIETY FOR THE YEARS 1918 TO 1920.

[1 mark at par=23.8 cents.]

Item.	1918	1919	1920
Retail societies:			
Number of societies	2,277	2,313	.....
Number of members	2,900,000	3,000,000	3,200,000
Amount of sales.....marks..	763,230,700	863,055,000	920,592,000
Share capital.....do....	147,610,000	213,603,000	227,843,200
Reserve.....do....	50,984,900	59,001,000	62,934,400
Wholesale society:			
Amount of sales.....do....	104,500,972	352,698,075	.....
Net profits.....do....	1,306,364	2,076,954	.....
Share capital.....do....	10,000,000	15,000,000	.....
Reserve.....do....	17,256,422	18,650,828	.....

Iceland.

IN THE September, 1920, issue of the International Cooperative Bulletin is given an article on cooperation in Iceland. According to this article cooperation has been in practice on the island since 1880, when the farmers formed a society for the purchase of needed articles. Shortly after 1900 several abattoirs were established.

At present, out of a population of 90,000, at least 50 per cent are members of cooperative societies. There are about 40 societies, with an average membership of 2,000 or 3,000 each, which supply all the general needs of the community. The movement has a federation which in the first years of its existence devoted itself mainly "to furthering the mutual interests of the societies and to spreading a knowledge of cooperative principles; later it undertook the sale of produce on behalf of the farmers, and also the main functions of a wholesale society." This wholesale society has separate departments, "effectively administered." Connected with the wholesale society is an educational and propagandist union. Twenty per cent of the surplus of the wholesale society is devoted to the propagandist wing of the movement.

The article points out that "the movement in Iceland is not a mere imitation of the Rochdale system. The instinct for cooperative effort, or 'the spirit of association,' seems to have arisen quite naturally out of the needs of the people and its direction to have taken shape from their native intelligence." For the first 20 years the movement was on the "cost-plus" plan. Toward the end of the nineteenth century the influence of the Danish movement began to be felt and gradually the societies have changed to the Rochdale plan.

The movement conducts a well-equipped school in which educational work along cooperative lines is carried on. Due to the climatic conditions of the country, this educational work is done chiefly during the winter months when outdoor occupations are more or less "dormant."

The progress of the movement, it is pointed out, is particularly remarkable when the mountainous character of the country, the

scattered centers of population, and the poor means of communication are taken into consideration.

The industry of the country is mainly fishing, and trade is carried on with Great Britain, Denmark, Sweden, Spain, and Italy. The State owns three or four ships, several others are run by private companies, and the cooperators own one vessel.

The prospects of the cooperative movement, it is said, are good. While work among the farmers has been fairly easy, there is still much to be done among the fishers.

India (Sind Province).

ACCORDING to a report by the American consul, under date of October 12, 1920, there was recently held at Poona, India, a cooperative conference at which the cooperative movement in the Bombay Presidency was discussed.

The registrar of cooperation placed his annual report before the conference and referring to Sind he said:

> The extension of the agricultural credit movement has nowhere been more noteworthy than in Sind. The illiteracy of the population, the backward conditions of administration, the prevalence of large land owners and the fact that the majority of the actual cultivators are mere tenants-at-will presented difficulties which many officials in Sind feared to be insuperable. But the zeal and energy of those concerned and especially of Mr. Azim Khan, the assistant registrar for Sind, has succeeded in facing these difficulties and the cooperative movement in that Province has now definitely turned the corner. In 1917-18 there were 65 societies in all, of which 63 were agricultural. There are now 198, of which 186 are agricultural. In the same period the membership of agricultural societies has risen from 2,877 to 6,688 and the working capital from 1½ lakhs ($48,000) to 4 lakhs ($128,000) excluding that of the central bank. In the whole movement in Sind during the same period societies increased by 205 per cent, membership by 164 per cent and working capital by 287 per cent. During the year under report work was carried on in the face of much opposition, originated by those who preferred medievalism to modernity, a Turkish Khalifat to their national prosperity, and noncooperation to cooperation. The progress made is remarkable in figures but in my short tour in Sind I was even more impressed by the zeal and understanding shown by the humblest members of each society and especially by the cultivators in the Jamrao tract. The peculiar problems of the Province have not yet all been solved and the question of dealing with tenants-at-will will require lengthy consideration. But the movement has already progressed so far that one has visions of almost indefinite extension and the cooperators of the Provinces are already able to take in hand the organization of agricultural noncredit societies as well as urban societies of various kinds.

Jugo-Slavia.[7]

THERE has been a great growth in the rural cooperative societies in Jugo-Slavia. At present there are 16 federations comprising 3,572 societies and 400,000 members; there are also 29 unaffiliated societies. The Association of Serbian Cooperative Societies alone has in affiliation 682 credit societies, 108 supply associations, 156 societies for the joint use of agricultural machinery, and 24 marketing associations.

Lithuania.

THE August 19, 1920, issue of the British Board of Trade Journal gives (p. 216) an account of the cooperative movement in Lithuania. According to this report there were before the war about 300 coopera-

[7] Data are from Politika, Mar. 23, 1920.

tive societies in Lithuania, but owing to war conditions these were all suspended. Though the Germans endeavored to keep the movement going by establishing similar societies these societies never won the popular confidence. Upon the establishment of the Lithuanian Government, societies began to spring up, aided by abnormal private trade conditions and a special law regulating the organization of cooperative societies, and now there are some 400 in existence. These are grouped into district leagues which are in turn members of a central purchasing office, the Bureau of Lithuanian Cooperative Leagues. The total membership of the cooperative societies is about 120,000; during 1919, the sales of these societies amounted to about 44,000,000 marks.

There are two kinds of cooperative societies—producers' and consumers', the latter serving chiefly the rural population.

The Jewish element in the population has its own movement, which has developed chiefly along lines of credit. According to the report, Jewish banks are destined to become the center of the entire cooperative movement of the country, since they simultaneously serve the demand for credit and facilitate the purchase of essential commodities. Jewish cooperation along other lines has not been particularly successful, though two experiments in agricultural cooperation now promise to yield favorable results. Workers' societies and consumers' societies have been obliged to close down one after the other.

Newfoundland.

ACCORDING to a consular report received by the Bureau of Labor Statistics, a cooperative building association has been formed in St. John's, Newfoundland, to construct houses to be rented at moderate prices or sold to tenants, payment being made in small installments. The ultimate objects of the association are the removal of tenants from houses unfit for habitation to those of health and comfort; the destruction of all the "hovels" in the city; the adoption of a town-planning scheme; the laying out of modern streets having a good system of sanitation; and the gradual rebuilding of certain sections of the city, in order that workingmen's families may live amid cheerful surroundings.

The association is capitalized at $2,000,000, divided into shares of $100 each. Subscription is open to the public and shares may be paid for at the rate of 10 per cent a year. Paid-up capital will bear interest at 5 per cent, the payment of which the Newfoundland Government guarantees.

The association plans to build 100 houses during 1921, which will be constructed in accordance with a town-planning scheme adopted by the municipal council of St. John's.

New Zealand.

AGRICULTURAL cooperation, according to an account contained in the October-November, 1920, issue of the International Cooperative Bulletin, has become firmly established in New Zealand. The dairy industry is stated to be carried on almost entirely coopera-

tively. Of 177 butter factories and 406 cheese factories, 159 and 388, respectively, were cooperative establishments.

Farmers sell their eggs through egg circles or cooperative distributing agencies. Groceries, furniture, and farm supplies are purchased by them through their own cooperative societies. The Farmers' Cooperative Wholesale Federation comprises 11 local associations and 62 branch associations whose aggregate paid-up capital, in September, 1920, was £1,490,662 ($7,254,307, par). The volume of trade of these societies in 12 months amounted to £13,900,000 ($67,644,350, par); this represented the sale of wool, stock, and all other farm produce.

Russia.

A MEMORANDUM presented to the central committee of the International Cooperative Alliance by its Russian members, and reproduced in the Russian Cooperator (London), for November, 1920, states that of the cooperative movement in Russia only the name is left. The whole movement has been taken over by the State, though many of the organizations bear the old names.

By the decree of March 20, 1919, consumers' communes were created to take the place of the consumers' societies, and each inhabitant was required to join his local commune. The word "commune" proved so unpopular, however, that the name was later changed again to the old name. The ministry of food, which has entire control over these societies, has a representative, with veto power, on the board of directors of each of them. All questions are decided according to the rules of the Soviet constitution by an open vote, certain classes of citizens being excluded. Members' shares have been abolished and trade is carried on with State funds.

The local societies must be members of the provincial unions (*Goobsoyus*), the boards of directors of which consist of two representatives of the ministry of food, three representatives of the local societies, and five persons elected at the general meeting of the Goobsoyus. These Goobsoyus in turn send delegates to the general meetings of the new central organization. This organization, while still bearing the name of the former cooperative organization, the All-Russian Central Union of Consumers' Societies (*Centrosoyus*), is said to be a purely State and bureaucratic organization. By the decree of March, 1919, the three members of the board of directors of the eight formally elected who were in Russia were made officials of the Soviet Government. Seven, and later 10, other directors were appointed by the Council of the People's Commissars. The Credit and Agricultural Cooperative Unions were later made members of the Centrosoyus, as were also in August, 1920, the producers', or Kustar, unions.

This new organization distributes to the consumers goods received from the ministry of food, and other departments of the Supreme Council of People's Economy, and from the ministry of agriculture. It attends to the collection and delivery of goods ordered by these Government bodies, and are obtained from the peasantry by compulsory requisition. It also purchases certain commodities on the open market.

At the end of April the three elected members of the board were arrested and the others removed from office on the ground that

they were working for the overthrow of the Government by economic means. The three members were sentenced to 15 years' imprisonment each; a number of the others were sentenced for varying periods.

It is the opinion of the writers of the memorandum that "within the borders of Soviet Russia the cooperators' public opinion has lost its ability to express itself in an organized form." They conclude, however, that although Russian cooperation is "temporarily quite destroyed on the territory of central Russia, and is now being destroyed in Siberia and southeast Russia, where it is being replaced by the Soviet officials, it can not be held that it lost its right of participation generally in the life of the cooperative movement, and in its international organization. In the south of Russia there still exists free cooperation, and all over Russia the cooperators live in the hope of the restoration of their movement."

RELATIONS BETWEEN EMPLOYERS AND EMPLOYED.

Dissolution of the Railway Boards of Adjustment.

THE three railway boards of adjustment established by former Director General McAdoo during the period of Federal control of railroads have, by order of Director General Payne, issued December 9, 1920, been formally dissolved.

Railway Board of Adjustment No. 1 was created March 22, 1918, by General Order No. 13. This order was a "memorandum of understanding" between the regional directors of railroads and the representatives of the Brotherhood of Locomotive Engineers, the Order of Railway Conductors, the Brotherhood of Railroad Trainmen, and the Brotherhood of Locomotive Enginemen and Firemen.

Railway Board of Adjustment No. 2 was created May 31, 1918, by General Order No. 29. This order was a "memorandum of understanding" reached between the regional directors and the representatives of the International Association of Machinists, International Brotherhood of Boilermakers, Iron Ship Builders and Helpers of America, International Brotherhood of Blacksmiths and Helpers, Brotherhood Railway Carmen of America, Amalgamated Sheet Metal Workers' International Alliance, and International Brotherhood of Electrical Workers.

Railway Board of Adjustment No. 3 was created November 13, 1918, by General Order No. 53. This order was the result of an agreement reached between the regional directors and the representatives of the Order of Railroad Telegraphers, Switchmen's Union of North America, the Brotherhood of Railway Clerks, and the United Brotherhood of Maintenance-of-Way Employees.

The purpose of these boards was the determination of controversies growing out of the interpretation or application of agreements which were not promptly adjusted by the officials and employees on any of the railroads under Federal control. The order creating the boards provided for the submission of all claims through the labor division of the railroad administration, before their assignment to the proper adjustment board. The labor division was dissolved on March 1, 1920 by Circular No. 97.

Director General Payne's order of December 9 provides for the abolition of Board No. 1 on February 15, 1921, of Board No. 2 and Board No. 3 on January 10, 1921.

This action, the order states, was based on representations of the Association of Railroad Executives to the effect that the procedure established by General Orders, Nos. 13, 29, and 53, establishing the boards for adjustment of controversies, had not been complied with; that after the order of May 29, 1920, and amendment (which fixed the time limit of July 15 within which claims growing out of the

subject matter of the orders creating the boards should be presented), claims were presented directly to the Director General, and in view of this fact, none of the claims are now properly before the adjustment boards. Concerning the contention Director General Payne says:[1]

> The point made by the representatives of the executives appears to me to be sound and there is nothing contained in the imitation order of May 29, 1920, changing the mode of procedure. But as I look upon the matter the railroads as such are not concerned in the pending claims, if the claims are limited, as in my judgment they must be limited, to the period of Federal control. That is, it is for the Director General to determine and to pass upon claims against the Government by persons who were the employees of the Government during the period of Federal control and to provide for the payment of all just claims arising during Federal control just as he must pass upon and provide for the payment of all other claims arising from Federal control. * * *
>
> Meantime, means will be provided to adequately, justly, and promptly dispose of all claims which said boards may leave undisposed of.

Participation by Workers in Control of Industry in Italy.

PERHAPS as an outgrowth of the recent disturbances in the Italian metal industry, noted in the MONTHLY LABOR REVIEW for December, 1920, pages 197-206, is the following decree recently issued by the Italian Government providing for the appointment of a commission to draft a bill embodying the principle of a measure of control of the industries by the workers:

Text of the Decree.

Considering that the General Confederation of Labor has formulated a request for the modification of the relations until now existing between employers and workers in such a way that the latter through their organizations may be endowed with the possibility of a *controllo* (supervision) over industry, basing this demand on the affirmation that with such control it intends to bring about an improvement in the disciplinary relations between employers and workers, and an increase in production upon which an active restoration of the economic life of the country is dependent, and further considering the fact that the General Confederation of Industry in its turn is not opposed to making the experiment of introducing a control according to the classes of industry for the object indicated above, the president of the council of ministers recognizes this agreement and decrees:

There is constituted a commission representing both groups, composed of six members nominated by the General Confederation of Industry, and six by the General Confederation of Labor, among whom two shall be technical men or office workers. This commission shall formulate proposals which may serve for the drafting of a law by the Government with a view to the organization of industry on the basis of the intervention of the workers in the technical and financial control, or the administration of the enterprise.

The above commission will propose the basis for the settlement of questions relative to the observance of the rules laid down and the employment and discharge of labor.

The workers will resume their posts. However, when the presence in the same department of plant of workers or managers become incompatible, a commission composed of two members designated by the manufacturer and two designated by the workers shall determine the action that must be taken.

[1] United States Railroad Aministration. Circular No. 121, Dec. 9, 1920.

A Norwegian Plan for Profit Sharing.

THE Council of the National Workingmen's Association, Norway, has recently issued a report on profit sharing made by a committee appointed to consider the matter, which contains a proposal for a division of profits on a basis differing from that usually adopted.

The committee begins with the premise that the only footing on which free men can work together justly is that of equality; that each must receive a share of the product exactly proportioned to the amount which he invests in the enterprise. It holds that if capital pays labor a wage and keeps all the profit of a business, the worker is reduced to the status of a serf or bondman who is entitled to only part of the proceeds of his effort; if capital pays labor a wage and in addition gives it some share of the profits, to that degree the position is improved, but the worker is still deprived of some part of what rightfully belongs to him, and to that extent his status is not that of a free man.

The trouble with most profit-sharing schemes, in the opinion of the committee, is that they have not been based upon this idea of justice and equality of right, but have been granted as concessions from capital to labor, generally in the hope of securing from labor such an increased application that the employer's share of the product may remain undiminished or may even be increased, in spite of the larger return to the worker. Labor has usually distrusted such plans, and has often either refused to accept them, or has been so little interested in their success that the employer, finding his hope of increased output disappointed, gives them up. In this attitude, the committee thinks, labor has made a mistake; it should accept such schemes as a beginning, from which to proceed to a juster method of sharing the profits of an enterprise.

Such a method, the committee thinks, can be devised by treating the worker's labor power as the employer's capital is treated. The returns to capital consist of various items, such as interest, insurance, a sinking fund to replace that part of the capital invested in machinery, plant, etc., as these wear out, and genuine profits. (Returns on managerial ability are not included, since this is only a form of labor power, and should receive its return without reference to whether or not it happens to be embodied in the man who puts in the capital.) Labor and capital are alike essential to any enterprise, and therefore neither has any right to preferential treatment. To a certain point, this is already recognized. The capitalist puts in his money, on which he expects to receive interest; the worker puts in his labor power, for which he expects to receive wages. The capitalist is entitled to insurance against the risk of losing his money; the worker should be entitled to insurance against the risk of losing life or health. To some extent this right of the worker to insurance against illness or injury is already recognized as a charge on industry which must be met before a profit can be paid. At this point, however, the similarity in the treatment of the two forms of investment ceases. The capitalist expects a yearly return which can be applied to the upkeep of the plant, so that his invested capital may be kept intact. The worker's capital, his power to labor, inevitably wears away

with the passage of the years, but no provision for an amortization fund for his benefit is made in apportioning the returns from the business. The capitalist expects a profit upon his investment of money, but no such claim is commonly recognized in behalf of the worker's investment of labor power; sinking funds and profits are the peculiar prerogative of the capitalist.

For this inequality of treatment, the committee holds, there exists no basis in reason or justice, and they propose that it should be remedied by treating the worker's labor power as capital with rights equal to those of an investment of money. The capital value of labor power may be found by treating wages as interest at a fixed rate upon this value. If the labor pay roll of an enterprise, for instance, is $4,500 a year, the capital value of the labor force at 6 per cent is $75,000, and the workers are entitled to share in the proceeds on the basis of an investment of this value. Money may be put into an enterprise in two ways: It may be borrowed by the management to use as working capital, in which case the managers must make provision both for interest and for a sinking fund for its final repayment; or it may be invested by its owners, in which case in addition to profits the owners usually receive a voice in the management. The labor investment may likewise be of two kinds, demanding different forms of treatment. The committee argues, therefore, that labor power should be considered as capital which rightfully demands:

1. Wages for its daily use. This corresponds to interest on money, and is labor's due in all cases.
2. An amount for amortization in cases where labor is in the nature of a loan to the industry. This amount should be a fixed charge, to be met before profits can be taken.
3. A share in profits and in management, where labor is to be considered as an investment.

Under the present system, according to the committee, the worker's labor power is apt to come under the second case, being in the nature of a loan which should be finally amortized, rather than an investment. As to the method of calculating its proper return, the report gives this illustration:

> This loan * * * is the capitalized value of the laborer's yearly income. Let this, for example, be 4,500 crowns; then the loan to the employer, as figured out on a basis of 6 per cent, is 75,000 crowns. If we figure that this loan is to be amortized in 50 years (the estimated length of the laborer's working life), then the employer should, in addition to wages, pay a yearly amount of 75,000 crowns divided by 50, which gives 1,500 crowns as the yearly payment to the sinking fund. If the laborers do not get this amount, then their capital is not treated in the regular way; it fails to receive a part of its dues.

In case an enterprise is not able to stand so heavy a charge as is involved in writing off the capital of the working force, then whatever returns are secured should be divided on equal terms between the money and the labor power which together make up its capital. In other words, any fund to be distributed should be paid out as dividends calculated at the same rate on the money invested and the capitalized value of the working force used. The share due the individual laborer is to be worked out according to the relation which the capitalized value of his work, calculated from his wages

and time worked, bears to the total capitalized value of the working force.

In the other case considered, in which the labor force is looked upon as an investment in an enterprise, the claims of the workers to a share in the management and the profits are worked out upon the same basis. In every enterprise a certain amount of money is needed as initial capital, and a certain working force is required to carry on the concern. The capital value of the latter should be calculated as above, and labor's share in the direction and the profits of the business should be proportioned to its share in the total capital invested. The share of the individual worker is calculated in the same way as the share of the individual owners of the money capital invested. The calculation is more complicated in the case of labor, since the value of the services contributed by different workers varies, but the principle is identical.

The committee admit that it might be necessary to call upon the State in order to induce reluctant employers to establish such a system. They feel, however, that compulsion would be justified by the greater returns and the harmony between employer and employee which the system would secure. For they hold that the adoption of such a system would not only do away with strikes and labor unrest but would enlist the worker's whole-hearted interest in the advancement of the business in which he might be employed. In a real and substantial sense it would be his business, and he would work for it as an owner works, not as a mere hireling whose chief concern is limited to drawing his wages.

EMPLOYMENT AND UNEMPLOYMENT.

Employment in Selected Industries in December, 1920.

THE Bureau of Labor Statistics received and tabulated reports concerning the volume of employment in December, 1920, from representative establishments in 13 manufacturing industries and in bituminous coal mining. The questionnaire sent out by the bureau asks that figures relating to employees and earnings be reported for the pay-roll period ending nearest the fifteenth of the month and requests a report of any changes in rates of wages which occur between November 15, 1920, and December 15, 1920.

Comparing the figures of December, 1920, with those for identical establishments for December, 1919, it appears that in 4 industries there was an increase in the number of persons employed, while in 10 there was a decrease. The largest increase, 41.2 per cent, is shown in coal mining. This figure is mainly due to strike conditions a year ago. Car building and repairing shows an increase of 13.8 per cent, and paper an increase of 0.9 per cent. The largest decreases, 52.4 per cent and 51.4 per cent, appear in woolen and in hosiery and underwear, respectively. The smallest decrease, 6.9 per cent, appears in cigar manufacturing.

Four of the 14 industries show increases in the total amount of the pay roll for December, 1920, as compared with December, 1919. The most important percentage increase, 220.3, is shown in coal mining, which is explained above. Respective increases of 34.6 per cent, 14 per cent, and 6.8 per cent appear in car building and repairing, iron and steel, and paper. Decreases of 55.6 per cent, 54.1 per cent, and 50.4 per cent are shown in woolen, hosiery and underwear, and men's ready-made clothing. A decrease of 10.8 per cent is reported in cigars.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN DECEMBER, 1919, AND DECEMBER, 1920.

Industry.	Establishments reporting for December, both years.	Period of pay roll.	Number on pay roll.			Amount of pay roll.		
			December, 1919.	December, 1920.	Percent of increase (+) or decrease (−).	December, 1919.	December, 1920.	Percent of increase (+) or decrease (−).
Iron and steel	97	½ month.	128,041	132,390	+ 3.4	$8,643,903	$9,850,831	+ 14.0
Automobile manufacturing	42	1 week	133,950	91,420	−31.8	4,074,515	2,561,220	− 37.1
Car building and repairing	53	½ month.	48,908	55,640	+13.8	3,088,160	4,156,206	+ 34.6
Cotton manufacturing	56	1 week	57,375	51,226	−10.7	1,151,123	874,382	− 24.0
Cotton finishing	16	do	13,295	9,830	−26.1	323,477	239,083	− 26.1
Hosiery and underwear	56	do	30,266	14,719	−51.4	567,811	260,452	− 54.1
Woolen	51	do	49,391	23,494	−52.4	1,269,780	563,728	− 55.6
Silk	37	2 weeks.	17,137	13,142	−23.3	758,511	569,487	− 24.9
Men's ready-made clothing	45	1 week	25,893	16,049	−38.0	907,749	449,971	− 50.4
Leather manufacturing	29	do	13,629	9,269	−32.0	337,873	242,521	− 28.2
Boots and shoes	75	do	61,232	42,042	−31.3	1,518,021	931,270	− 38.7
Paper making	50	do	28,613	28,883	+ .9	727,123	776,912	+ 6.8
Cigar manufacturing	56	do	18,288	17,020	− 6.9	399,070	355,965	− 10.8
Coal mining (bituminous)	66	½ month.	14,256	20,125	+41.2	579,513	1,855,989	+220.3

Comparative data for December, 1920, and November, 1920, appear in the following table. The figures show that in 2 industries there was an increase in the number of persons on the pay roll in December as compared with November, and in 12 a decrease. The increases are 2.1 per cent in boots and shoes and 0.6 per cent in coal mining. The largest decrease, 22.2 per cent, occurs in hosiery and underwear, while both woolen and men's ready-made clothing show a decrease of 18.8 per cent. A decrease of 0.3 per cent is reported in cigars.

In comparing December with November of this year, 4 industries show an increase in the amount of money paid to employees and 10 a decrease. The most important increase is 12 per cent in cotton finishing. In coal mining an increase of 5.3 per cent appears. The smallest increase, 1.4 per cent, is shown in the boot and shoe industry. Percentage decreases of 18.7, 17.8, and 16.6 appear in hosiery and underwear, men's ready-made clothing, and woolen, respectively. A decrease of 1 per cent appears in car building and repairing.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS REPORTING FOR NOVEMBER AND DECEMBER, 1920.

Industry.	Establishments reporting for November and December.	Period of pay roll.	Number on pay roll.			Amount of pay roll.		
			November, 1920.	December, 1920.	Per cent of increase (+) or decrease (−).	November, 1920.	December, 1920.	Per cent of increase (+) or decrease (−).
Iron and steel	98	½ month.	145,565	132,616	− 8.9	$11,274,346	$9,879,643	−12.4
Automobile manufacturing	40	1 week..	95,550	89,836	− 5.1	2,760,686	2,500,442	− 9.4
Car building and repairing	54	½ month.	61,156	58,681	− 4.0	4,437,994	4,393,173	− 1.0
Cotton manufacturing	56	1 week..	54,021	52,115	− 3.5	1,046,225	918,394	−12.2
Cotton finishing	16	...do.....	9,954	9,830	− 1.3	213,379	239,083	+12.0
Hosiery and underwear	62	...do.....	20,576	16,011	−22.2	347,892	282,668	−18.7
Woolen	51	...do.....	28,920	23,494	−18.8	675,566	563,728	−16.6
Silk	35	2 weeks.	13,578	12,604	− 7.2	536,916	553,804	+ 3.1
Men's ready-made clothing	49	1 week..	20,039	16,279	−18.8	555,875	456,791	−17.8
Leather manufacturing	31	...do.....	10,644	9,939	− 6.6	274,605	256,680	− 6.5
Boots and shoes	72	...do.....	40,498	41,336	+ 2.1	903,437	916,263	+ 1.4
Paper making	50	...do.....	29,905	28,883	− 3.4	880,361	776,912	−11.8
Cigar manufacturing	58	...do.....	17,332	17,279	− .3	369,828	359,332	− 2.8
Coal mining (bituminous)	79	½ month.	23,255	23,384	+ .6	2,021,968	2,129,962	+ 5.3

In addition to the data presented in the above tables as to the number of employees on the pay roll, 82 plants in the iron and steel industry reported 106,020 employees as actually working on the last full day of the pay period reported for December, 1920, as against 105,922 for the reported pay-roll period in December, 1919, an increase of less than one-tenth of 1 per cent. Figures given by 80 establishments in the iron and steel industry show that 102,703 employees were actually working on the last full day of the pay period reported for December, 1920, as against 112,702 for the period in November, 1920, a decrease of 8.9 per cent.

Changes in Wage Rates and Per Capita Earnings.

IN 10 of the 14 industries there were establishments reporting wage rate changes during the period, November 15 to December 15, 1920.

Iron and steel.—One-half of the force in one establishment was granted an increase of 12 per cent. Another establishment gave a 4 per cent increase to 8.6 per cent of the force. Following a period of idleness, the puddlers in 6 mills resumed work at an increase of 4.8 per cent. In one plant, time and one-half was eliminated, resulting in a decrease of 13.7 per cent in earnings. A decrease of 15 per cent, to 95 per cent of the employees, was reported by one concern, while another concern made a 10 per cent decrease, but the percentage of employees affected was not stated. The per capita earnings reported for this pay-roll period, as compared with the pay-roll period for November, 1920, show a decrease of 3.8 per cent, owing to general lack of work.

Automobiles.—The entire force in one plant had a wage decrease of 25 per cent. One establishment reported decreases ranging from 12 to 15 per cent, which affected 10 per cent of the employees. Seventy per cent of the men in another establishment received a decrease of 10 per cent. General business depression was reported throughout the industry, there being little demand for their product. Comparing the per capita earnings of employees for this month over last month, a decrease of 3.7 per cent is shown.

Car building and repairing.—Reductions ranging from 10 to 15 per cent in the number of men employed were reported in many instances. The per capita earnings were 3.2 per cent higher than during the previous month.

Cotton manufacturing.—One concern reported a 25 per cent decrease and two other concerns a decrease of 20 per cent, affecting all employees. The entire force in one plant received a decrease of 18½ per cent. Seven establishments reported a wage rate decrease of 15 per cent, affecting all the employees. In one establishment, 95 per cent of the employees had a decrease of 15 per cent, while all of the employees in another establishment received a decrease of 10 per cent. The per capita earnings of the workers decreased 9 per cent during this month as compared with last month. Many establishments were working part time and curtailment of production was reported.

Hosiery and underwear.—Owing to lack of orders, many mills were partially closed down. All the employees in one establishment received a wage decrease of 33⅓ per cent. A decrease of 18⅔ per cent was reported by one plant, affecting the entire force, while another plant reported a decrease of 15 per cent, affecting 20 per cent of the force. Decreases ranging from 5 to 30 per cent were made to all employees in one concern. Another concern made a 10 per cent decrease to all workers. While fewer persons were employed during this period, due to slack business, the per capita earnings increased 4.4 per cent.

Silk.—About one-half of the plants were partially closed down due to the prevailing dull season. A wage decrease of 18 per cent, affecting 75 per cent of the force, was reported by one mill. Two plants made respective decreases of 15 per cent and 10 per cent to all em-

ployees. In one establishment a bonus of 10 per cent and a dividend of 5 per cent was discontinued. An increase of 11.1 per cent in per capita earnings is shown in comparing December with November figures.

Men's ready-made clothing.—Due to lack of orders, a majority of the plants did not work full time, and general business depression was reported. About 15 per cent of the force in one establishment received an increase but the amount was not stated. An increase of 1.2 per cent in per capita earnings was shown for this pay-roll period over that of the previous month.

Leather.—One tannery granted a bonus for full time service. A decrease in output was reported by several plants, while one made a decrease of 10 per cent in wage rates but did not state the number of employees affected. An increase of less than 1 per cent was shown in per capita earnings during this month as compared with November.

Boots and shoes.—One concern reported a 5 per cent increase affecting 8 per cent of the employees. On account of lack of orders, the production of the factories was smaller and the per capita earnings were 0.6 per cent less in the month of December than for the corresponding pay-roll period in November.

Paper.—A decrease of 20 per cent was reported by one plant, affecting the entire force. The per capita earnings decreased 8.6 per cent since the November pay-roll period.

Cigars.—In two establishments the granting of a 10 per cent bonus was discontinued. One plant granted an increase of 7.7 per cent to workers returning after a period of strikes. In some plants the number of days worked per week was reduced, causing the per capita earnings to be lessened 2.5 per cent.

Bituminous coal.—Many coal mines resumed full operations and are employing a larger force of men. Comparing the figures for this month with the previous month, the per capita earnings show an increase of 4.8 per cent.

Activities of United States Employment Service, 1918 to June 30, 1920.

THE annual report of the United States Employment Service for the fiscal year ending June 30, 1920, gives the following summary of the activities of the service since its organization in January, 1918, to June 30, 1920. The percentages given in the table do not appear in the original report.

ACTIVITIES OF THE UNITED STATES EMPLOYMENT SERVICE AND COOPERATING PUBLIC EMPLOYMENT OFFICES, JANUARY, 1918, TO JUNE, 1920, INCLUSIVE.

Year.	Registrations.	Help wanted.	Referred to positions.	Placements.	
				Number.	Percent of registrations.
1918	4,225,451	8,929,005	3,969,579	3,091,821	73.2
1919	4,367,190	4,857,264	3,807,448	2,920,839	66.9
1920 (6 months)	1,338,773	1,496,819	1,152,162	833,368	73.1
Total	9,731,414	15,283,088	8,929,189	6,846,028	70.3

Employment in New York State Factories in December, 1920.

A PRESS release issued January 15, 1921, by the Bureau of Statistics of the New York State Industrial Commission states in part as follows:

The reduction in employment in New York State factories is steadily assuming larger proportions. The number of workers employed in all manufacturing industries in the State in December was 8 per cent less than in November. In the nine months from March to December the decrease in employment totals 20 per cent. This means that during the last three quarters of 1920 one-fifth of the factory employees of the State were laid off.

Employment in factories in December, 1920, was considerably lower than in the same month of previous years with the exception of 1914, when industrial activity was near the climax of a growing depression that followed the interruption of trade caused by the outbreak of the war. The volume of employment in New York State factories in December, 1920, compared with the same month of preceding years was 18 per cent less than in 1919, 16 per cent less than in 1918, 18 per cent less than in 1917, 18 per cent less than in 1916, and 7 per cent less than in 1915. Compared with December, 1914, however, the number of workers employed in December, 1920, was 9 per cent greater. The amount of factory employment at present is nearly the same as in June, 1914. This indicates that manufacturing activity in general has not yet receded to the level of the period of depression in the winter of 1914–1915.

The extent to which the present depression in business has affected manufacturing activity is shown by the fact that from November to December decreases in employment appear in every branch of manufacturing with the exception of three minor industries. In most industries the reduction in employment since last March has reached considerable proportions. The decreases in employment in December are nearly all due to the depression in business, but seasonal inactivity and labor trouble contributed greatly to the reductions in a few industries. Large decreases in working forces were reported by numerous plants, and many plants, notably in the knit goods, men's clothing, and men's furnishings industries, reported complete shutdowns.

The more important industries of the State, which have been greatly affected by the depression so far, are brass and copper, steel, sheet-metal work and hardware, automobiles and accessories, wool manufactures, cotton and woolen knit goods, and men's clothing and furnishings. Nearly all of these industries show heavy reductions in employment during December. The decrease in the steel industry in December amounts to 33 per cent, following a reduction of 5 per cent reported in November. The drop in employment in the men's clothing industry from November to December, due to labor trouble and lack of orders, is 29 per cent, and the reduction in this industry since last April amounts to 53 per cent. The brass and copper industry employed 20 per cent less workers in December than in November and shows a reduction of 32 per cent since last March. The amount of employment in the knit goods industry decreased 17 per cent from November to December and 66 per cent since last April. A decrease of 14 per cent in number of workers appears in the men's furnishings industry, and reductions of 10 per cent in wool manufactures and 9 per cent in sheet-metal work and hardware were reported in December. The decrease in employment in these industries since last spring varies from 28 per cent to 32 per cent. The automobile industry shows a reduction of only 4 per cent in December, but the decline in employment in this industry since last March now amounts to 50 per cent.

Unemployment in Massachusetts on September 30, 1920.

IN THE October issue of the Massachusetts Industrial Review, published by the State Department of Labor and Industries, there is a report on unemployment among wage earners at the end of September, 1920, as reported by 1,103 labor unions covering a membership of 254,836. This report shows a percentage of unemployment of 19.3 and a percentage of unemployment due to lack of

work or material of 16.1. These figures compare with 18.8 per cent and 14.2 per cent, respectively, for the quarter ending June 30, 1920, and with 5.4 per cent and 2.5 per cent, respectively, for the quarter ending September 30, 1919. By industries and trades the extent of unemployment is shown in the following table:

UNEMPLOYMENT IN THE PRINCIPAL INDUSTRIES AND TRADES IN MASSACHUSETTS ON SEPT. 30, 1920, AS REPORTED BY 1,103 LABOR UNIONS.

Industries and trades.	Sept. 30, 1920.				Percentages reported as unemployed.			
	Number reporting.		Unemployed.		June 30, 1920.	Mar. 31, 1920.	Dec. 31, 1919.	Sept. 30, 1919.
	Unions.	Membership.	Members.	Per cent.				
Building trades	290	40,687	2,162	5.3	7.9	11.7	6.3	4.8
Boots and shoes	99	53,057	21,683	40.9	43.9	3.6	3.5	3.0
Textiles	77	34,615	9,092	26.3	19.8	11.9	3.0	2.8
Transportation	147	26,110	1,418	5.4	3.6	3.4	3.5	3.9
Iron and steel	83	18,061	1,623	9.0	14.4	17.2	6.6	10.9
Printing and allied trades	42	6,748	172	2.5	2.8	3.0	4.8	2.9
All other	365	75,558	12,913	17.1	15.6	9.6	8.5	6.4
Total	1,103	254,836	49,063	19.3	18.8	8.7	6.0	5.4

Operations of the Arkansas Federal-State Employment office.

THE Fourth Biennial Report of the Arkansas Bureau of Labor Statistics contains a report of the Federal-State Employment Office in Little Rock for the 18 months ending September 30, 1920, by months. The totals for this period are as follows:

OPERATIONS OF THE FEDERAL-STATE EMPLOYMENT OFFICE IN LITTLE ROCK, ARK., FOR 18 MONTHS ENDING SEPT. 30, 1920.

	Males.				Females.			
	Unskilled.	Skilled.	Clerical and professional.	Total.	Domestic.	Industrial.	Clerical and professional.	Total.
Applications for work	3,806	1,386	830	6,022	487	76	241	804
Help wanted	8,419	947	560	9,926	417	61	161	639
Referred to positions	3,481	1,094	681	5,256	469	71	204	744
Positions secured	2,944	793	503	4,240	386	53	162	601

Unemployment in Certain Foreign Countries.

England.

UNEMPLOYMENT and under employment in the Bradford consular district is indicated by a dispatch (Oct. 26, 1920) from the United States consul at that place, who states that "in view of the carters' strike, six mills, employing some 2,000 operatives, have been closed," the employers announcing that they would pay only one-third of the average wages to all their work-

people. It appears that altogether 12 large mills in that consular district had up to October 26, 1920, been closed.

The combined effects of the coal and transport strikes and of the slackness in trade as well as the 50 per cent coal restriction order [1] have combined to place the mills on part time. The majority of the mills will run 24 hours a week. From 45,000 to 50,000 operatives are said to be affected.

A union official in speaking of the firms trying to give their workpeople 24 hours a week is quoted as saying "but the carters' strike is affecting even this; indeed, the effect of the carters' strike on our members is even worse than that of the coal strike."

Italy.

UNEMPLOYMENT is steadily increasing in the Piedmont district of Italy according to a report dated December 13, 1920, from the American consul at Turin. In November there were 11,268 requests for work, this being over 1,000 more than the number registered during October. By principal industries the numbers out of work in November, 1920, were as follows: Metallurgical, 3,457; construction and woodworking, 2,534; tailoring and dressmaking, 1,667; miscellaneous, 1,390.

It is stated that the industries which have discharged most men and which suffer most from the critical economic conditions are the metallurgical and the construction industries, due principally to lack of raw material, the high foreign exchange, and unstable economic and working conditions. The economic crisis is also caused in part by conditions of other industries abroad.

Japan.

IN THE Trans-Pacific (Tokyo and New York) for September, 1920 (p. 107), there is a brief article on unemployment in Japan which states that a recent report by officials of the Ro-Shi Kyocho Kai (Capital and Labor Harmonization Society) shows that most of the workers dismissed from factories during the summer of 1920 were reabsorbed into the ranks of farm workers.

The records of the Osaka prefectural government show that 18,000 workers were discharged during the period from June 1 to 20, of which number only about 2 per cent failed of reemployment. The greatest number discharged from any one industry was 9,000 in the weaving factories.

In the Hyogo prefecture most of those losing their jobs are reported to have returned to their former occupation of farming.

In Kyoto, the center of the weaving of brocaded silk used in expensive "obi," where the work is considerably specialized, about 12,000 were released from work and of this number, the article under review states, 760 were reemployed in the same occupation, 2,300 found other means of employment, 980 returned to farm work, 6,700 had not at the time of the report found work, while the remainder (1,260) had shifted to other localities.

[1] This order provides that "the consumption of coal in all factories, workshops, and other business premises is to be restricted so that not more than 50 per cent of the weekly average quantity of coal consumed in the four weeks ending Oct. 16, 1920, may be consumed in any week after that date." The provisions of the order may be modified under certain conditions. Contravention of the provisions of the order is subject to fine and imprisonment in accordance with the Defense of the Realm Regulations.

In Aichi prefecture about 90 per cent of those dismissed from industrial establishments have taken up farm work.

The total number of dismissals, continues the article, of industrial labors since the beginning of the depression is authoritatively placed at over 200,000. It is further stated that during the war down through the first quarter of 1920 the number of factory workers in Japan increased by about 450,000, of whom 175,000 were former farm laborers.

Norway.[2]

THAT Norway has entered into a period of economic depression is a fact which has been established for some time. On the labor market, unemployment is on the increase. For several months past unemployment has increased rapidly, and has now reached the stage where statistics published by the municipalities show that the cases of unemployment at present are twice the number of those of a year ago. On November 25, 1919, there were in all the employment bureaus throughout the country 3,320 unemployed persons registered and 526 vacancies. This makes an average of 6.3 applicants for each vacancy. On the same date in 1920, the corresponding figures were 5,103 and 438, or an average of 11.7 applicants for each vacancy.

Poland.[3]

THE Rzeczpospolita in its issue of November 25, 1920, published a statement of the ministry of labor and public protection concerning the number of people out of work in Poland, of which the following is a translation:

According to information gathered by the State labor employment offices the total number of unemployed people during the first part of November, 1920, in the territories of Former Congress Poland and Western Galicia was about 40,500. The Bialystok district was not included in these figures owing to military activities which necessitated the suspension of Government offices in that district. Similar data is missing from the city of Warsaw.

The following districts and their respective figures contributed to the above mentioned total:

	Approximate number of unemployed.
Warsaw	8,200
Lodz	18,200
Kielce	8,400
Lublin	3,660
Galicia (parts)	2,400

The Lodz and Kielce districts evidently have the largest number of unemployed. In these districts the Kielce-Ostrów County alone has about 2,750 unemployed and the city of Zawiercie about 2,500 unemployed.

Labor conditions have improved somewhat since the census taken by the State labor employment offices during the first part of September, 1920, which showed a total of 60,000 unemployed in the same area described in the November census.

The Ministry of Labor and Public Protection expresses apprehension that this betterment of the labor situation will be of short duration because the demobilization of the Polish Army will considerably increase the number of unemployed in Poland.

[2] Data from the American consul general at Christiania, Dec. 15, 1920.
[3] Data from the American consul general at Warsaw ,Nov. 30, 1920.

Employment in Uruguay.

TABLES concerning the demand for labor in Uruguay and the available supply as shown by the reports of the employment section of the National Labor Office and the special employment agencies in Montevideo, are included in the 1917 issue of the Statistical Yearbook[1] of Uruguay. In the following table the figures in the two tables are combined for the four years, 1914 to 1917. The figures for 1919 are from a more recent publication of the same office.[2]

EMPLOYMENT IN URUGUAY, 1914 TO 1917.

Year.	Demand.					Placements.				
	Sex.		Age.		Total.	Sex.		Age.		Total.
	Males.	Females.	15 years.	16 years and over.		Males.	Females.	15 years.	16 years and over.	
1914	15,728	5,025	804	19,949	20,753	4,678	2,329	419	6,588	7,007
1915	12,474	3,811	841	15,442	16,285	3,358	1,917	343	4,932	5,275
1916	9,081	1,774	154	10,701	10,855	1,922	1,541	100	3,363	3,463
1917	9,881	1,985	202	11,664	11,866	1,931	1,437	83	3,285	3,368
1919	4,297	993	75	[a]5,215	5,290	1,305	352	19	[b]1,638	1,657

[a] Including 3 whose age was not reported. [b] Including 2 whose age was not reported.

[1] Uruguay. Anuario Estadístico, 1917. Montevideo, 1919. p. 521.
[2] Uruguay. Oficina Nacional del Trabajo. Estadística del trabajo y de las subsistencias. Anuario correspondiente a 1919. Montevideo, 1920.

WOMEN IN INDUSTRY.

Woman Labor in the Prussian-Hessian Railroad Service.

A STUDY on woman labor in the service of the Prussian-Hessian State railroads and its development during the war has recently been submitted by Miss Else Buss to the University of Göttingen as a dissertation for obtaining the degree of doctor of political science.[1] The material for the study was furnished to her by Miss Saustl, president of the Federation of Woman Railroad Employees, and by Dr. H. Oppenheimer who lately under the auspices of the Federation of German Women's Societies and of the Permanent Committee for the Promotion of Woman Wage Workers' Interests has published a volume covering the entire field of woman labor during the period of transition from a war to a peace régime (*Die Probleme der Frauenarbeit in der Übergangswirtschaft*). The principal data and facts contained in Dr. Buss's study are summarized below:

Prewar Conditions of Employment.

WOMAN labor in the German railroad service was for the first time given official recognition in a decree of the Prussian administration of December 21, 1846, providing that women should only exeptionally be employed at railroad labor subject to the approval of the local police authorities, and under the condition that they be kept segregated from male workers. The Prussian railroad administration steadfastly adhered to this standpoint for decades. Subsequently, on December 22, 1872, there were issued "General regulations for the employment of women in the State railroad service," [2] which permitted the employment of women on the basis of individual terminable contracts (*freies Lohnverhältnis*) and without giving them the status of officials. In pursuance of this order, the administration employed women in several districts as ticket sellers, telegraphers, baggage clerks, and in other positions in the station service. Beginning with 1881, women were also employed with the status of auxiliary officials (*Hilfsbeamtinnen*). Decrees issued on June 12, 1878, and January 29, 1895, deal with the employment of women as gatekeepers, an occupation which since then has been largely exercised by women. After a decree of January 21, 1901,[3] had pointed out that women should be employed in the largest possible number,

[1] Buss, Else. Die Frauenarbeit im Dienst der preussisch-hessichen Staatseisenbahnen und ihre Entwicklung während des Krieges. Göttingen. 1919. 105 pp.
[2] Ministerialblatt der inneren Verwaltung, 1873, p. 17.
[3] Eisenbahnverordnungsblatt, 1901, p. 34.

in order to save in wages, many of them were employed as nonstatutory employees at clerical work in railroad offices and stations, as car cleaners, etc.

It signified considerable progress for the admission of women to railroad employment when on April 1, 1898, on motion of the minister of public works, statutory positions were created for women under the designation "ticket sellers." In 1904 the number of statutory positions open to women was considerably increased, and women so employed were given the official title of assistant clerks (*Eisenbahngehilfinnen*). A decree of February 17, 1912, has permitted the employment of women at technical drafting.

The occupational censuses of 1882, 1895, and 1907 show that in these three years the female workers formed 0.73, 0.66, and 1.72 per cent, respectively, of the total working force of the German railroads. Woman workers were more strongly represented in the postal service, in which they formed 1.06 per cent of the total working force in 1882 and 9.74 per cent in 1907. The number of women in the employment of the Prussian-Hessian State railroads in 1913 were 10,618 nonstatutory, including permanent assistants, and 1,476 having the status of officials, or an increase over 1907 of 1,053 in the former class and of 257 in the latter. These figures are interesting when compared with the employment of women on the railroads during the war, as shown in the statement on page 131.

Employment Policy of the Railroads During the War.

THROUGH a decree issued in 1915, the minister of railroads has permitted soldier's widows to be employed in the railroad service with the status of officials, provided they possess the required educational training. The age limit of 30 years which has been set for all other applicants may be waived in their case and even widows with children may be admitted if they have some relative to look after their children. Another ministerial decree of October, 1916, provides for the admission of women clerks to higher office positions if they qualify for them by passing an examination, the so-called "volle Kalkulaturprüfung," which presumes full knowledge of railroad accounting.

During the war women were also employed as substitutes for higher-salaried men ticket clerks at the ticket windows of large stations. In baggage and freight offices women were also employed in increased numbers and in more responsible positions than in prewar times.

Up to the end of 1915 women were employed as telegraphers but were barred from the train dispatching service. However, extensive conscription of men dispatchers for the army made it necessary to employ women in their place, an experiment which proved satisfactory, leading to the appointment of women to other responsible positions in the operating departments. All the women employed in the occupations so far mentioned had the status of officials and their number was relatively small.

Beginning with 1915, the number of women employed by the railroad administration on the basis of terminable contracts (*freies Lohnverhältnis*) increased rapidly. By March, 1915, between 80,000 and 90,000 male railroad officials and workmen had been conscripted;

within the succeeding year 150,000 had been called to the colors, and by March, 1917, the number of railroad employees called into military service had reached 200,000. Substitutes for these employees had to be found and women were therefore employed in considerable numbers in nearly every branch of the railroad service, as indicated in the following list:

Office work.—Messengers, ticket-sellers, general clerical work, telephone operators, telegraphers, information clerks, lost-property clerks, baggage clerks.

Freight houses.—Filing, examining, and stamping of waybills, oeeping of registers, pasting of shipping directions on and sealing kf cars, cleaning of the platforms and of the roads leading to them, trucking, receiving, and delivering of freight.

Shops.—All kinds of unskilled labor in machine and car shops.

Maintenance of rolling stock.—Cleaning of cars, maintenance of lighting and heating apparatus, repairing of upholstered car seats, curtains, etc., cleaning of locomotives, starting and banking the fire of locomotives, coaling of tenders, attendance of electric cranes.

Maintenance of way.—All kinds of work for maintenance of tracks and roadbed.

Station service.—Platform guards, baggage porters, operation of baggage elevators, etc.

Operating service.—Firing of switching locomotives (since 1917), assistant conductors on passenger trains, braking on freight trains, switching, etc.

According to statistics submitted to the Prussian Diet and to the budget committee of the Diet the total number of women employed by the Prussian-Hessian railroads during the war (inclusive of women employees with the status of officials) was in round numbers:

July, 1914	10,000	October, 1917	94,000
End of 1915	25,000	January, 1918	100,000
June, 1916	36,000	March, 1918	107,000
March, 1917	85,000		

As the Prussian-Hessian railroads employ about 600,000 to 700,000 persons, 15 per cent of the personnel were women in March, 1918. Accurate data as to the number of women employed as statutory minor officials and of those employed on the basis of terminable contracts are available for the years 1914–1916.

NUMBER OF PERSONS EMPLOYED BY THE PRUSSIAN-HESSIAN RAILROADS WITH THE STATUS OF MINOR OFFICIALS AND ON THE BASIS OF TERMINABLE CONTRACTS, BY SEX, 1914-1916.

Year.	Number of persons employed—			
	With the status of minor officials.		On the basis of terminable contracts.	
	Men.	Women.	Men.	Women.
1914	141,951	1,551	328,443	7,717
1915	141,755	1,544	304,194	21,322
1916	141,795	1,514	283,004	54,033

According to the preceding table, in 1916 women formed 1.03 per cent of the minor officials and 16 per cent of the workers employed on the basis of terminable contracts.

Wages of Women Railroad Employees.

WOMEN holding statutory positions with the status of minor officials receive a minimum annual salary of 1,200 marks ($285.60, par) which through automatic increases after each three years' service rises to a maximum of 1,700 marks ($404.60, par). In addition they receive an annual rent allowance which rises from 150 to 480 marks ($35.70 to $114.20, par). Since April 1, 1918, unmarried woman officials have been allowed a monthly cost-of-living bonus varying between 35 and 52 marks ($8.33 and $12.38, par) and in expensive localities a further addition of 20 per cent to those bonuses. Those living in common household with and supporting their parents or minor brothers and sisters receive the same bonus as married male employees with the status of minor officials. Widowed or divorced woman employees who have to support children under 15 years receive a small additional cost-of-living bonus for each child.

Women employed as substitute minor officials (*Aushelferinnen*) are paid by the day. According to the locality in which they reside they receive a minimum daily wage of 4.40, 4.70, or 5.10 marks ($1.05, $1.12, or $1.21, par) which gradually rises to a maximum of 5.60, 5.90, or 6.30 marks ($1.33, $1.40, or $1.50, par), respectively, after 12 years of service. Since October 1, 1917, they have received the same cost-of-living bonus as male workmen. The maximum bonus is fixed at 62 marks ($14.76, par) per month, i. e., 10 marks higher than that of statutory woman employees.

The above rates of pay show the anomaly that substitute employees receive in most instances higher pay than the statutory employees.

The wages and bonuses of statutory woman railroad employees also compare unfavorably with those of the same class of employees in the postal and telegraph service.

In determining the remuneration of woman workers employed on the basis of terminable contracts the administration of the Prussian-Hessian State railroads has always been guided by the principle that woman labor is a mere substitute for male labor and as a rule not equivalent to the latter and that, therefore, woman should be compensated at a lower wage rate for the same kind of work than men. The great majority of these women workers are employed on the basis of time rates, only those working in large shops, loading coal, doing maintenance work on tracks, sewing, etc., receive piecework wages.

Up to the beginning of the war wages of women employed on the basis of terminable contracts were very low. During the war their wages were, however, gradually increased and since April 1, 1918, the rates set forth in the following table have been in force:

BASIC WAGE RATES OF WOMAN WORKERS EMPLOYED ON THE BASIS OF TERMINABLE CONTRACTS BY THE PRUSSIAN-HESSIAN STATE RAILROADS, APR. 1, 1918.

[1 mark at par=23.8 cents.]

Class of service and locality group.	Wage rates of women of the age of—				
	17 years.	18 years.	19 years.	20 years.	21 years or over.
	Daily rates.				
BUREAU AND STATION SERVICE.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
Localities of group 1	.....	5.50	5.70	5.90	6.10
Localities of group 2	.....	5.10	5.30	5.50	5.70
Localities of groups 3 and 4	.....	4.70	4.90	5.10	5.30
Localities of group 5	.....	4.40	4.60	4.80	5.00
OTHER SERVICES.					
Localities of group 1	4.80	4.90	5.10	5.30	5.50
Localities of group 2	4.40	4.50	4.70	4.90	5.10
Localities of group 3	4.00	4.10	4.30	4.50	4.70
Localities of group 4	3.70	3.80	4.00	4.20	4.40
Localities of group 5	3.30	3.40	3.60	3.80	4.00
SHOP WORKERS.	*Hourly rates.*				
Localities of group 1:					
Wage scale B1	.....	0.57	0.58	0.59	0.60
Wage scale B2	.....	.68	.70	.71	.72
Wage scale C1	0.51	.53	.54	.55	.56
Wage scale C2	.61	.63	.65	.66	.67
Localities of group 2:					
Wage scale B1	.....	.48	.49	.50	.51
Wage scale B2	.....	.57	.59	.60	.61
Wage scale C1	.43	.45	.46	.47	.48
Wage scale C2	.52	.54	.55	.56	.58

A small special allowance is granted to freighthouse and track workers, office messengers, baggage porters, platform guards, conductors, etc., under the name "Stellenzulage." This allowance varies between 0.10 and 0.50 mark (2.4 and 11.9 cents, par) per day. Woman conductors in addition receive 1.35 marks (32 cents, par) mileage money per day and another small allowance for oiling.

Beginning with December 1, 1916, woman workers employed on the basis of terminable contracts have been granted cost-of-living bonuses. These were increased on June 1, 1917, and again on July 1 of the same year. In the case of single women they vary between 24 and 32 marks ($5.71 and $7.62, par) per month, in that of married women without children under 14 years of age, between 26 and 36 marks ($6.19 and $8.57, par). Woman workers with small children receive an additional bonus of from 2 to 4 marks ($0.48 to $0.95, par) for each child under 14 years of age.

Hours of Labor and Efficiency of Woman Workers.

THE hours of labor of statutory minor officials vary according to their occupation, women employed at drafting have the shortest workday—7 to 8 hours—while ticket sellers work between 8 and 10 hours per day and every fourth day they are on night duty. In all other service branches the hours of labor of minor officials vary between 7 and 10 hours. All minor officials are granted 9 days'

leave with pay, and those over 35 years of age are granted 12 days. If the leave is taken during the winter months (October to March) the period of leave is increased by 8 days. Longer periods of leave (4 to 6 weeks) are only granted in case of sickness on submission of a medical certificate.

The hours of labor of women employed on the basis of terminable contracts were the same during the first years of the war as those of the male employees for whom they acted as substitute, viz., 11 to 12 hours per day. Later on the hours of labor were somewhat shortened. In offices their working time was the same as that of woman employees with the status of officials. In shops the hours of labor are 9 to 10 hours. At maintenance-of-way work the hours of labor vary according to the season (in the summer from 6 a. m. to 6 p. m., in the winter from 8 a. m. to 4 p. m.). In the train service the 12-hour day is the rule, with a maximum of 14 hours permissible on main lines, and of 16 hours on branch lines. However, during the war these hours of labor had often to be exceeded, owing to frequent train delays. All women are obligated to perform night and Sunday service periodically. They are off duty every third Sunday. Since 1918 all male and female railroad workers have been allowed two days of uninterrupted rest each month. After two years' service woman workers employed on the basis of terminable contracts receive every year four days' leave with pay.

The efficiency of woman labor varies greatly in the individual branches of the service according to the author of the study. In a number of occupations women have shown astonishing capacity for adapting themselves to the requirements of these occupations; they were quick to learn, liked their work, and performed their duties to the fullest satisfaction of their superiors. On the other hand there are numerous occupations in which the employment of women was resorted to during the war as a mere expedient. In addition to having a gainful occupation they must perform household duties. This combined with poor nutrition, loss of sleep, and family cares undermines their power of endurance and resistance when employed at fatiguing occupations. In shops, in the operating service, and in maintenance-of-way work woman workers, even when they did their very best, reached as a rule only 50 to 75 per cent of the efficiency of men.

In spite of all this the efficiency of woman workers compares favorably with that of the male personnel at the disposal of the railroads during the war. The women surpassed the very young men in quicker power of perception and better conduct, and the old men in unspent strength.

As to the postwar employment of woman at railroad work, the author comes to the conclusion that women should be dismissed from all positions for which they are essentially unfitted, that returned soldiers should be reinstated in positions in which they were temporarily substituted by women and that war invalids should be given preference for all positions for which they are fitted and which are held by women. Employment of women should, moreover, not be resorted to for the purpose of depressing the wages of male workers. Whenever women are employed they should receive equal pay for equal work.

INDUSTRIAL ACCIDENTS AND HYGIENE.

Occupational Lead Poisoning.

By W. H. Rand, M. D.

LEAD is the most generally used and the most dangerous of industrial poisons. To control, or even limit, its toxic ravages, a coordination of endeavor is requisite on the part of all concerned; and it would appear to be easy for the three most concerned—employer, workman, and sanitary officer—to combine their forces and work in harmony together. For, naturally, the employer seeks to remove the stigma of occupational hazard which attaches to all lead-working pursuits. Motives of humane intelligence and of business sagacity equally prompt him to eliminate from his establishment every condition that restricts production or cripples the efficiency of his employees. The worker in lead also derives a direct, personal, and pecuniary advantage from the maintenance of preventive measures which interpose a shield against the toxic agent and safeguard his health. Furthermore, it is the specific function of the shop sanitarian (in default of this function there is no reason for his existence) to devise means and propose methods of prophylaxis against plumbism and all other industrial diseases, toxic agents, and infections.

Since it would "promote the general welfare" and serve the interests of all concerned to be rid of this danger, why is it suffered still to vex and terrorize its victims? The question is pertinent, and deserves candid consideration; for, though it may not be possible to make full answer, some significant facts suggest an explanation of the failure to attain all the objectives originally included in the plan of the sanitary campaign.

Portal of Entrance Into the Body.

WHEN the presence of lead in human tissues is demonstrable, pathologists are often puzzled to ascertain by what route it effected a lodgment in the system, just as worms and hairs embalmed in amber led Pope to wonder how they got there. Nearly all observers appear to have been dominated hitherto by the traditional fallacy that the poison can not be absorbed through the unbroken skin. Hence it has been thought unnecessary to protect the presumably impermeable skin of the lead worker against a remote or mythical danger. The easy credulity with which this unverified opinion is accepted has for its basis the results of animal experiments which appear to demonstrate that lead salts can not penetrate the canine skin.

Monnereau's contention that percutaneous lead poisoning does not occur is founded on the outcome of his experiments with dogs.[1] Shaving off the hair over a considerable area of the animal's body, he smeared the surface with lead ointment, covering the inunction with a protective bandage to prevent the animal from licking and swallowing some of it and in this way vitiating the test. No toxic effects ensued and the opinion that lead poisoning by the epidermal route was not possible seemed to be justified. But the inference rests on a false analogy.

As to dogs, the demonstration may be deemed incontrovertible. But any comparison of dogs with men in reference to this matter is absurd. There is skin covering the bodies of both dogs and men; but every student of comparative physiology is aware that the canine skin does not function like that of man. It is obviously illogical to infer that, because the hide of the nonperspiring dog does not absorb lead, therefore the skin of man with its two and a half millions of pores is likewise impervious to lead inunctions. In the human subject, cutaneous absorption is facilitated by the fatty acids secreted by the skin; for these, combining with lead dust or lead fumes, form lead oleates which readily penetrate the tissues.

The remarks of Legge and Goadby on the point are worth quoting in this connection:

> A considerable amount of controversy has centered on the question of the absorption of lead through the unbroken skin. It has been shown that such drugs as belladonna applied to the skin alone may produce dilatation of the pupil; an ointment containing salicylic acid spread upon the skin and thoroughly rubbed in is followed by the appearance of derivatives of salicylic acid in the urine; mercury may be applied to the skin and rubbed in in sufficient quantities to produce salivation; and a very large number of other drugs may be cited, all of which when applied to the unbroken epidermis with friction produce the physiological action of the drug. There is no reason to exclude lead from the category of drugs which may be absorbed through the medium of the skin.[2]

M. Boulin says "it is no longer possible to doubt that lead may invade the system by passing through the cutaneous tissue."[3] He instances the case of a workman who was in the habit of carrying pigs of lead on one shoulder; he was attacked by paralysis of the muscles of that shoulder. Boulin also speaks of a boat-crew cook who developed paralysis of the feet after having walked for some time barefooted over a sheet of lead covering the floor where he worked.

It can hardly be regarded as a fortuitous coincidence that the paralysis in such cases is localized in the parts directly exposed to the penetration of the lead and is limited to those parts.

Eichhorst reports[4] two cases of unilateral radial paralysis in left-handed workmen. One of the men was a dyer who always dipped the material to be colored into a lead solution with his left hand; the other was an armorer who had the habit of immersing saber scabbards in solutions containing lead, holding and agitating them with his left hand.

A rather unusual case of plumbism occurred in my own practice many years ago. A laborer on a trout farm was obliged to stand for

[1] Thèse de Paris, 1883.
[2] Legge, Thomas M. and Goadby, Kenneth W. Lead poisoning and lead absorption, p. 25. London, 1912. 308 pp.
[3] Boulin, Pierre. Les fonderies de plomb, p. 4. Paris, 1907. 107 pp.
[4] Eichhorst: Ueber Bleilähmung.

hours every day knee-deep in water in the tanks, to a series of which the young fry were transferred at intervals during the successive stages of their development. Paralysis gradually developed in both legs of this man, affecting especially the shin muscles and making it difficult for him to lift his toes from the ground in walking, the feet hanging limply downward. The patient was a robust French Canadian, about 35 years old, married and the father of sturdy children. His antecedents and sanitary surroundings were good. The water in which he worked was piped from a spring several rods distant, and when a sufficient quantity had been drawn into a reservoir the flow was shut off by closing a faucet at the distal end of the conduit. The water then stagnated in the lead pipe until some one reopened the tap. With nothing more definite for clues than the suspicious symptoms and circumstances just cited, a conjectural diagnosis of lead poisoning was made and potassium iodide prescribed in 10-grain doses. This quantity proved excessive. Within three days after the institution of this eliminative treatment the man had a violent attack of colic. The dose was then reduced to 2 grains and continued for weeks. In the meanwhile, the blue line appeared on the gums, though the palsy had somewhat abated. Normal motility was finally restored, and rubber hip boots prevented any recurrence of toxic absorption.

It is conceded that the history of this case does not afford conclusive evidence of the percutaneous absorption of lead through the uninjured skin. There may have been abrasions or excoriations through which, as by an open door, lead entered the body of this laborer; or it is possible that the mere maceration of the epidermis in water may have rendered the tissues pervious to the poison. However, we must not assume the existence of abrasion or maceration of the skin as a necessary antecedent condition of plumbic penetration.

Sir Thomas Oliver gives an account of a woman who suffered from paralysis of the eyeballs.[a] "She had beautiful black hair," he writes, "the result of the application of a lead dye." Sir Thomas attributes the paralysis to the use of this hair dye. This testimony tends to corroborate the evidence previously adduced as to the percutaneous absorption of lead—in this case probably through the scalp.

"Absorption through the skin is admitted, with some reservations, by the majority of authors," writes Jose Ubeda y Correal in his prize essay entitled "Peligros del Manejo del Plomo," page 22 (Madrid, 1908).

Clinical Signs and Symptoms.

THROUGH whatever avenue lead enters the body, however—by the mouth, the respiratory tract, or the skin—it combines with the red blood cells in the form of an albuminate, and, when distributed to the tissues through the circulation, its special, selective action is to cause contraction of the smooth muscular fibers of the arteries. This contraction narrows the caliber of the blood vessels, lessening the blood supply, and ultimately causing thickening of the arterial walls. Hence come inflammation and hardening of the inner coats of the arteries, organic changes, and all the phenomena of chronic

[a] Transactions, 15th International Congress on Hygiene and Demography, vol. 3, part 2, p. 823.

plumbism. Headache and muscular pain follow as results of vasomotor spasms produced by the lead. This action explains the occurrence of kidney and liver troubles as well as blindness.

"This theory," says Pieraccini, "seductive by its very simplicity, and which clearly accounts for all the phenomena evolving in the diverse phases of lead poisoning, has been confirmed by minute histological research." [5]

Very acute occupational poisoning sometimes occurs from the rapid absorption of large quantities of lead salts. In the manufacture of white lead and minium, which are among the most dangerous of lead preparations, and in the trades where the workmen are exposed to lead fumes (type foundries, e. g.) it is possible that lead colic may develop within the first week of work at the trade, and symptoms of paralysis may supervene equally as early. It is said that when even a small quantity of lead has been ingested, the administration of acetic acid will precipitate an attack of lead colic within 24 hours.

Extreme retraction of the abdominal walls is one of the signs that accompany lead colic. This phenomenon is regarded as characteristic. Pieraccini recites the typical history of a hospital patient named Puliti, a compositor for 10 years, who exhibited this peculiarity in a marked degree. In bed in the supine position, a line extending horizontally from the cartilage of the ribs to the pubes was 8 centimeters above the level of the navel. The spaces between the lower ribs were depressed, and there were three concavities on the abdomen, one in the central region about the navel and two smaller lateral ones just beyond the outer borders of the central abdominal muscles. Liquid poured over the ventral surface ran into these hollow spaces and remained there. This boat-shaped abdomen is characteristic of lead colic.

Chronic plumbism also has symptoms by which it may be recognized. Such is the discoloration of the skin, producing a pale, muddy, sallow complexion. Besides, there appear slate-colored spots on the mucous membrane of the mouth; the gums are of a reddish blue color; and lead is intermittently present in the urine and in the feces.

Burton's sign (the "blue line") is the most constant of the symptoms of plumbism. It is easily identified. Its usual seat is the margin of the gums of the lower incisor and canine teeth. It is of slate color, and from 1 to 3 millimeters in width.

But this sign is not always found in cases of lead poisoning, and when found, it is not characteristic. Oliver has observed a similar blue line in coal miners, in subjects of poisoning by the tetrachloride of gold, and from the internal use of bismuth and copper salts.

But apart from the visible physical signs, the symptoms of lead colic are quite uniform. The attack is ushered in by severe abdominal pains of a spasmodic character, radiating from the navel, and often provoking reflex spasms of the bladder and suppression of the kidneys' functions. There is obstinate constipation. The discovery of lead in the excretions confirms and verifies the diagnosis. The administration of opium controls the pain.

[5] Pieraccini, G: Patologia del Lavoro e Terapia Sociale, p. 221. Milan, 1906.

Partial paralysis of the forearm is common in lead poisoning. In the early stages of plumbism this sign is most readily detected when the patient raises his hand and extends it horizontally with the fingers spread widely apart. In this position the muscular tremor is greatly intensified. It somewhat resembles the tremors of alcoholism and mercurialism, but it is different from either.

Almost without exception this palsy affects the extensor muscles of the forearm which are activated by the radial nerve. Paralysis of this group of muscles causes the familiar "wrist-drop," often more or less conspicuous in painters, varnishers, and other workers in lead.

But phenomena of graver import than tremors and superficial paralyses result from lead poisoning. One of the sequels is hardening of the arteries, which deranges the entire circulatory system of the body, causing lesions of the heart, liver, kidneys, brain, and spinal cord.

Paralysis is probably the initial manifestation of the toxic effects of lead absorption. But functional nerve disorders soon pass into organic lesions which betray their presence by symptoms of brain inflammation and other grave affections of the central nervous system.

It is devoutly to be wished, of course, that there were some positive and authentic test for detecting the presence of lead in the system prior to the appearance of the symptoms of plumbism. Waiting for the outward and visible signs of lead poisoning wastes time and postpones effective intervention until it is too late. The folly of it is like delaying the diagnosis of tuberculosis until tubercle bacilli are demonstrable in the sputum. This phenomenon is not an early but a late symptom. It denotes an advanced stage of the disease. In like manner, lead poisoning is for a long period latent; it literally *lies hidden.*

When colic, the blue line, discoloration of the skin, tremor, paralysis, and other symptoms appear, the tissues are already "leaded." Is it possible to forestall this condition and prevent its occurrence? Many observers believe it is. Schmidt,[6] for example, holds that a microscopical examination of the blood reveals the initial damage wrought by the toxic action of lead in season to enable the physician to eliminate the poison before serious mischief is done. The effect of lead in causing the so-called "basophile granulations" of the red blood cells is useful as an aid to diagnosis when the usual clinical symptoms are absent.

This sign is not infallible, however, and its diagnostic value should not be overrated. The same condition exists in some cases of malaria, cancer, and pernicious anemia. While it is necessary to observe caution in interpreting microscopic findings, therefore, the chances of error are fewer than in the case of inferences based exclusively on clinical histories.

Accordingly, though it is true that Teleky shares with Oliver the opinion that the presence of granular cells in the blood is not positive proof of lead poisoning, due weight should be accorded to the presumptive evidence of plumbism afforded by the occurrence of this

[6] Schmidt, P.: Ueber die Bedeutung der Blutunterversicherungen fuer die Diagnose der Bleivergiftung, p. 11.

sign. It must not be forgotten that many observers (Grawitz among them) regard this blood modification as an early manifestation of lead absorption. Frequent examinations of the lead worker's blood should, therefore, be made.

For detecting the presence of lead in the bodily tissues at an early period Du Moulin of Gand has recourse to the expedient of dampening a small area of the suspect's skin with a 5 per cent solution of the monosulphide of sodium. When positive this test is trustworthy.

Hayhurst utilizes the hand dynamometer as an instrument of precision for measuring lead paresis of the arm muscles.[7] Without its aid incipient stages of the affection are inappreciable.

Sir Thomas Oliver recommends the double electric bath as a means of demonstrating both the deposition of lead in the tissues and the elimination of the poison by electrolysis. Fourteen leaded workmen were treated by him by this method.[8]

Lead is eliminated chiefly through the intestines. A chemical examination of the feces is required to determine its presence.

Excretion of lead in the urine is proof, of course, that it has been previously absorbed in some way. Yet it must be borne in mind that the elimination of lead by the kidneys is not constant but intermittent. Hence, when urinary analysis gives negative results, the immunity of the subject is not to be hastily inferred. A series of consecutive negative findings must be worked out in order to establish the fact of the patient's freedom from plumbism.

In doubtful cases the writer has recourse to the tentative administration of potassium iodide in small doses for a few days, supplementing the medication by warm potassium sulphide baths. The dose of this salt should never exceed 5 grains, lest the amount of lead dissolved out of the tissues by this agent be so great as to cause acute toxic symptoms, gastric or intestinal, as in the trout-farm case already cited.

Liability to plumbism exists wherever lead is mined, smelted, wrought, handled, or used, either as raw material, alloy, compound, or ingredient. In at least 130 trades the danger is constantly imminent. Painters, plumbers, potters, and printers are among those who incur the greatest risk. But in recent years some progress in the prophylaxis of lead poisoning has been achieved. Direct governmental intervention has contributed somewhat to this success.

Prevention of Plumbism.

1. By the Use of Substitutes for Lead.

PURSUING an enlightened policy of domestic sanitation, Austria had for several years prior to the World War prohibited the use of white lead for indoor work; and to this circumstance Teleky attributes the rapid decline in the incidence of lead poisoning in Vienna. House painters (outside) and bridge painters, however, were not benefited by the decree.

Teleky further shows that Austria has taken a sane and sanitary interest in testing the relative cost and durability of leadless and lead

[7] American Journal of the Medical Sciences, June, 1914, pp. 788-803. The author analyzes 100 cases of lead poisoning in painters.
[8] Lancet, Aug. 21, 1913.

colors. But the experiments are too recent to be conclusive. Whether zinc, iron, or other metallic components of paint are resistant to the influences of light, air, rain, etc., in a degree equal, superior, or inferior to lead is a question that can not yet be answered. But this is a part of the problem which Austria proposed to herself.

And it must be admitted that some measure of success has been attained. For example, a paint called "aminium" (made in Vienna) promises good results, but its lasting properties are not yet determined, and years must elapse before its economic value on the score of durability will be positively known. At least, however, it contains no lead. Altogether, 35 varieties of leadless paint have been put upon the market in Austria within a few years, most of them containing iron, but some are compounded with zinc, aluminum, or manganese.

This substitution of innocuous substances for lead and its compounds is, whenever possible, the surest means of preventing plumbism; and to the attainment of this ideal prophylaxis manufacturers and hygienists have devoted themselves with tireless zeal. As a consequence, in many processes of production, lead may now be dispensed with, as in cutting precious stones, file cutting, etc.

Messrs. Boulin and Leclerc de Pulligny declare that zinc white should replace ceruse, though it costs more; that zinc chromate may take the place of lead chromate for dyeing thread; and that a non-poisonous green for artificial flowers is obtainable by mixing zinc chromate and Prussian blue.[9]

Incidentally it may be worthy of notice that in dyeing and weaving silk in the United States "tin instead of lead is used for weighting or giving body to the silk, and no lead dyes are used."[10]

Lazana recognizes the necessity of securing certain requisite properties in any paint that is offered as a substitute for lead colors. The substance employed must mix well with oil; it must not alter the color tone, etc. He adds, "It has been evident for a long time that these essentials are combined in zinc white and lithopone."[11]

Apparently Lazana indorses the opinion expressed by Senor Storni, inspector of the Argentina Labor Department, that the manufacture and use of white lead and ceruse paints should be prohibited.[12]

Teleky reports that formerly painters of the interior of houses were always sufferers from lead poisoning. At the beginning of the twentieth century it was the fashion to have furniture painted white; and, since lead colors were used for this work, the number afflicted with plumbism increased rapidly. In 1906 the acme was reached, when 10.68 per cent of the painters were affected, but in 1911 the rate fell to 3.68 per cent.

This reduction is accounted for, according to Teleky, by the decree issued April 15, 1909, prohibiting the employment of white lead and lead colors for interior decoration.[13]

The testimony on this point is cumulative. Carozzi observes that while proper regulations may do much to lessen the morbidity from

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[9] Hygiene Industrielle, p. 443.
[10] Rogers and Vogt's Report, 1913.
[11] Boletin del Departamento Nacional del Trabajo. Buenos Aires, 1913.
[12] Idem., p. 1171.
[13] Zentralblatt fuer Gewerbehygiene, Sept., 1915, p. 226.

occupational plumbism, the only successful means of safeguarding the physical integrity of the workman is to abolish lead preparations.[14]

About six years ago there originated in the United States a new process of manufacturing zinc white, called the Witherill method. The cost of production is greatly reduced by this process. Contrary to the current belief, the use of substitutes for white lead is now quite general.

A summary of the results of an investigation made by the Dutch Government as to the possibility of replacing white-lead paints by zinc-white paints is presented in Legge and Goadby's "Lead Poisoning and lead absorption," page 295. The conclusion is a clear-cut affirmative of that proposition.

It is true beyond doubt that in many manufacturing processes lead can be replaced to the advantage of all concerned. Bunge affirms that a mixture of borax and barium salts is a perfect substitute for lead for enameling porcelain, etc.[15]

Sommerfeld says that the majority of manufacturers oppose the use of tin as a bedplate for cutting fine files on the ground that it is too hard and too brittle. But the factories which produce the finest files use tin exclusively as a bedplate, turning out faultless work, in no way inferior to that wrought on lead bedplates. He suggests that the manufacturers do not object to the employment of tin on the score of technical defect, but because of the higher cost of tin.[16]

It goes without saying that,wherever the danger of plumbism can be avoided by substituting equally effective but innocuous compounds for lead in any manufacturing process, the employment of the poison should not be tolerated.

Now, as the weight of evidence proves, it is possible in many industries to discard the use of lead altogether. Those who are best qualified by expert knowledge to testify on the subject give assurance that other substances are available which meet all technical requirements in the trades and yet possess the important advantage of being nonpoisonous.

2. By the Use of the Less Soluble Compounds.

In the pottery industry it has often been urged that other lead compounds should be employed in the composition of the glaze commonly made with the oxide or carbonate of lead; and many potters believe that by the incorporation of silicates in the fritted glaze a process has been discovered which precludes the dangers incident to the use of soluble (and hence absorbable) lead salts. At least, it reduces to a minimum the risk of plumbic absorption. This fritted or vitrified glaze is obtained by the fusion of litharge or minium with quartz and other ingredients. It is essentially lead glass.

In May, 1908, the British secretary of state for the Home Office appointed a committee to inquire what conditions existed in the processes of pottery manufacturers which they might deem prejudicial to health and due to the effects of lead and in what way these conditions might be improved.

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[14] Il Lavoro nell'Igiene, etc., p. 27.
[15] Las Conquistas de la Higiene Social, 1910, p. 276.
[16] Cited in the report of the committee of the German Metal Workers Union, entitled "Die Bleigefahr in Feilenhauer-Gewerbe," p. 50.

This committee heard representatives of 20 potteries or porcelain factories, but only two of them testified that they had obtained satisfactory results from the employment of leadless glaze. On April 26, 1899, the manufacturers had agreed to subject all lead compounds employed in glazing their wares to the fritting process. But since all lead silicates are not equally harmless, the ministry on August 2, 1900, by a special order decreed that, for specified wares, the solubility of the glaze should not exceed 2 per cent of the dry weight, according to Dr. Thorpe's test of solubility. But the agents of the manufacturers would not adopt this standard, and a decision by the court of arbitration fixed the limit of solubility at 5 per cent.

The employment of glaze of this low solubility has proved extraordinarily successful. In the 29 factories which have adopted the 5 per cent standard there occurred, during the years 1906 to 1909, only one case of illness that could be legitimately traced to working with lead glaze.

It is generally recognized that soluble lead salts are dangerous to handle while the less soluble compounds are relatively safe. In his dissertation on the conquest of lead poisoning in potteries, Industrial Inspector Hauck takes occasion clearly to indicate some of the specific differences in the nature and extent of the risks to which house painters and glass or porcelain painters are respectively exposed. "The painter of ceramics," says Hauck, "does not use in a year so much lead color as a house painter may use in a day." His colors are fritted, and so they are nearly or quite insoluble, while those of the house painter consist, for the most part, of readily soluble compounds.

House and bridge painters often have to work where the most primitive means of personal hygiene are altogether wanting, whereas the painter of ceramics is employed in a shop where all facilities for hygienic safety are provided, such as lavatories, dressing and dining rooms, etc.

On the other hand, the danger of poisoning is in some ways much greater for the pottery decorators. "These painters, like artists, often use several brushes interchangeably, holding one or two by their long, slender handles in the mouth. The handles, smirched with paint, may occasion absorption of the lead compounds."[17]

American workmen engaged in the pottery industry encounter similar conditions and should scrupulously observe all sanitary precautions. In a report of their survey of the industries in New York State (outside of New York City) Medical Inspector Rogers and Factory Inspector Vogt describe various manufacturing processes in which lead and arsenic are used, often to the deteriment of the worker's health. Definite hazards are pointed out in this report, and the necessary measures of prophylaxis receive attention. To minimize the risk of lead poisoning in the potteries the authors recommend that fritted lead glazes should always be employed.[18]

It is often difficult to secure the prompt adoption of improved industrial methods, even after their superiority has been fully demonstrated. Carozzi says that in Italy the efforts made to exclude lead from the composition of varnishes and glazes has not met with great

[17] Die Bekämpfung der Bleivergiftungen in der keramischen Industries. p. 9. Vienna, 1913.
[18] An investigation as to the danger of poisoning from lead and arsenic, 1913, p. 1112.

success. He explains that the question is very complex, involving such important factors as the quality of the clay, the "biscuit," the temperature of the oven, etc.[19]

The determining motive of the Italian manufacturers seems to have been business expediency. But in the long run business interests will be found to coincide with hygienic policy.

3. By Shop Sanitation.

Under this designation are included all mechanical and engineering devices, and every apparatus or appliance that is designed to protect the workman from whatever injurious conditions may be incidental to his occupation.

Proper ventilation is of prime importance in the lead-working industries. Without it the air becomes quickly surcharged with lead powder. Natural ventilation has proved inadequate; and hoods, exhaust fans, etc., are in use to secure by forced drafts the removal of the impalpable lead dust that escapes into the atmosphere of the workroom. The installation of suction and air-blast machines may serve provisionally to lessen the risks incurred, but it does not wholly eliminate them.

The adoption of wet processes in manipulating lead compounds has proved a salutary measure. Landis claims that American potters escape lead poisoning by the expedient of providing two rooms for drying the freshly glazed ware. Before a room in which dipped ware has been dried is again used, it is flushed out with a hose, to remove the débris of glaze on the floor.[20]

Occupational lead poisoning has become rare in Massachusetts in recent years, according to a report of the State Board of Health. In the manufacture of lead pipe, solder, pottery, etc., few cases of plumbism occur; and it is claimed that, in the Bay State ceramic industry, the hygienic conditions are far superior to those in French and English potteries, where lead poisoning is common, while "in the six establishments visited it is almost unknown.[21]

But something less vague and more specific than these general statements is requisite to enable one to visualize and to measure the extent of the benefits due to sanitary precautions. Here is a concrete example taken from a German source. In the royal lead foundry at Tarnovitz, Upper Silesia, there has been a definite and demonstrable decline in the incidence of plumbism, as Soeger's figures, cited by Sommerfeld, show: [22]

DECLINE IN INCIDENCE OF PLUMBISM IN A LEAD FOUNDRY IN UPPER SILESIA IN 1891-92 COMPARED WITH 1887-88.

Year.	Number of workmen.	Cases of lead poisoning.	
		Number.	Per 100 workmen.
1887-88	614	252	41.0
1891-92	570	36	6.3

[19] Il Lavoro nell'Igiene, etc., 1914, p. 34.
[20] American Journal of Public Health, Sept., 1914.
[21] Sanitary conditions of factories, foundries, and workshops, p. 101.
[22] Hygiéne Industrielle. Paris, 1908.

Here we have exact dates and precise data: The total number of workmen employed, the number of cases of plumbism among them at each of the two contrasted periods, together with the computed percentage of lead poisoning in 1887–88 and 1891–92. The result compares favorably with the much-exploited decrease in industrial accidents. The improvement is doubtless due, however, to the cooperation of *all* the agencies of sanitation, and is not attributable to the installation of mechanical safeguards alone, nor to any other single factor.

Similar melioration in the hygienic conditions of lead workers is reported from every quarter. For example, the number of lead poisonings in the lead works at Newcastle-on-Tyne fell from 36 to 14 in three years as a result of the adoption of measures recommended by a British commission.

In France like improvement obtains, and it is claimed that the risk of plumbism has been virtually eliminated from textile manufacturing processes by a better technique, as in Jacquard weaving, by weighting silk fabrics with iron instead of lead salts.[23]

A German factory inspector reports that, in the Cologne district, in a white-lead works where machines have been installed to execute the hazardous processes formerly done by hand most favorable results are manifest. Since the adoption of the new equipment no case of plumbism has occurred for six months, while, in the half-year preceding the change, 33 days of illness from lead colic were registered, and in the entire year 117 days.[24]

It is true beyond doubt that the introduction of machinery as a substitute for hand labor in the dangerous trades is a measure of great sanitary and economic value. At present, however, its benefits, so far as they appertain to the conservation of the workman's health, can be only estimated. The available records relating to this matter are lamentably defective and inexplicit, even when full and essential information might easily have been supplied.

It would serve the interests of the public and contribute to the sum of sanitary knowledge if full clinical histories were kept of all persons employed in lead-handling processes. Such records would show the whole number of employees in the plant, their age, sex, occupation, length of service, the actual percentage of saturnism, the mortality rate from plumbism, etc. Of course, the schedule should be adaptable to the different industries and the questionnaire would vary accordingly.

One of the most valuable devices for the abatement of the dust nuisance in general, and of lead dust in particular, is the Cottrell electrical precipitator, the invention of Dr. E. G. Cottrell, who, in recognition of his service to science and of his achievements in the control of sulphur fumes, cement dust, smoke, etc., has recently been appointed director of the United States Bureau of Mines. Wherever his apparatus is installed it works and "makes good."

In removing the smoke of foundries and metal furnaces the Cottrell system clears the air without appreciable cooling of the gases, thereby conserving useful by-products contained in the fumes. In the treatment of dust produced by the electrolytic refining of copper in a New

[23] Internationale Uebersicht ueber Gewerbekrankheiten, No. 3, 1912, p. 42.
[24] Idem., No. 4, 1913, p. 9.

York plant the Cottrell apparatus recovers quantities of gold and silver of so much value that their escape would entail a loss of $1 a minute, it is said.

Cement furnace dust contains potash salts, formerly a waste product. By the use of the Cottrell precipitator in the cement industry it has been possible to recover 7,200 tons of potash from this dust, an amount equal to one-third of the former importation from Germany.[25]

4. By Means of Personal Hygiene.

Though immunity from plumbism is potentially attainable through recourse to the expedient of substituting nonpoisonous ingredients for lead in mixing paints and in the manufacture of dyes, the fact remains that lead continues to be employed for both of these purposes. In such branches of production, therefore, it is impossible absolutely to eliminate the lead hazard.

Furthermore, though the danger of manipulating lead compounds in the potteries may be reduced to the infinitesimal fraction of risk by using a properly fritted glaze, we know that misbranding is common and that the "guaranteed leadless glaze" of the ceramic factories often contains soluble lead. Under these circumstances lead poisoning is liable to occur among those who handle such glaze. The camouflaged poison is a menace also to the health of all such as use the ware for culinary purposes.

One should beware of the glazed casserole, therefore, since weak solutions of acetic or malic acid (vinegar or apple juice) are capable of dissolving out of an enameled stewpan toxic quantities of lead. Only a few weeks ago there came under my observation three cases of lead colic for which apple sauce that had been cooked in a glazed kettle was responsible. A definite quantity of lead was demonstrable by testing the contents of this vessel by means of Miller's method of analysis (acetic acid in a saturated solution of sulphureted hydrogen, with a standard solution of lead salt).

Then, too, though the chances of saturnism when lead is employed in the arts and trades generally may be minimized by displacing hand labor and introducing mechanical devices in its stead, as well as by the installation of sanitary engineering appliances, yet none of these means of prophylaxis, nor all of them combined, can avail much without the practice of strict personal hygiene on the part of the worker.

Hence it behooves him to maintain a rigorous regimen of prophylaxis. To this end he must realize the nature of the peril which confronts him and take the pains to avoid unnecessary risks. It is, of course, incumbent upon him to make the most of the protective agencies with which the establishment where he works is equipped, but his obligations are not circumscribed within the narrow circle of the shop regulations.

In order effectively to safeguard himself against plumbism the worker in lead must observe the specific rules of personal hygiene which experience has shown to be of practical utility in the respective trades. These rules must be flexible, however, and adaptable to the exigencies of the case in hand. General instructions are not sufficient.

[25] Bulletin de L'Association des Industriels de France, 1919, p. 64.

They are too vague or too complex to be understood and reduced to practice. General principles are an encumbrance to the workman. Simple, definite injunctions and prohibitions seem to avail most, but these may be modified and adapted to meet the requirements of different occupations.

Concise but sufficiently explicit are the 12 practical rules formulated by Dr. Patterson, of Philadelphia, for the prevention of lead poisoning. Remarking that "Industrial plumbism is just as much a preventable as it is an occupational disease," he sums up the requisites for securing immunity substantially as follows: [26]

1. Dust-free processes.
2. Clean gauze respirators daily.
3. Before meals and at close of day nasal douche, antiseptic gargle, and mouth wash.
4. Separate room for meals.
5. Free milk to workmen.
6. Clean overalls supplied every week.
7. Bathing and time for baths without loss of wage.
8. Prohibition of tobacco while at work.
9. Medical examination before employment.
10. Weekly reexamination.
11. Free medical treatment.
12. Notice in every room urging observance of precautions.

In accumulator factories a special regimen of prophylaxis is required, supplementing, but not superseding or rendering unnecessary, the observance of general sanitary regulations. An anonymous compiler, writing in the Sozial-Technik of January 15, 1914, on the health of accumulator makers, recommends the use of a potassium permanganate solution as a mouth wash for these workers, to be followed by a sulphuric acid solution. He recommends also warm potassium sulphide baths and the free ingestion of milk.

There is a general agreement of opinion respecting the value of milk in the treatment of lead poisoning and as a preventive of plumbism. In Weyl's Handbuch der Hygiene, part 2, page 716, et seq., it is recorded that workmen employed in a red-lead factory who had often suffered from lead colic were at once freed from the malady when they drank 1 liter of milk daily.

Another safe, sensible, scientific, sanitary suggestion is offered in Weyl's Handbuch, part 2, page 925. Dr. Sonne writes that in potteries and faïence factories the workmen find rubber respirators useless and annoying. Hence they refuse to wear the suffocating masks. Instead, they wear before their faces cloths saturated with ammonium sulphide. When lead dust and fumes touch these cloth veils they are transformed into the insoluble sulphide of lead, an innocuous plumbic salt.

Since the same objections are current in the United States, our lead workers should be permitted to discard masks and adopt like means of protection.

Prof. Rambousek urges as a preventive measure of primary importance:

> Regular and continual observation of lead workers by experienced factory physicians, familiar with the processes of manufacture, and who know the men. This is far better than the periodical visitations of medical inspectors unacquainted with the workmen or with the conditions of the employment.[27]

[26] Transactions, 15th International Congress on Hygiene and Demography, Sec. IV, p. 827.
[27] Zentralblatt für Gewerbehygiene, March, 1914, p. 90.

In the typographical industry there exist peculiar conditions which necessitate the adoption of appropriate means of defense against lead fumes and dust. Inspector Bulfoni, of the Manufacturers' Association of Italy, emphasized the importance which attaches to the enforcement of hygienic precautions in this industry. He urges, for example, that in rooms where stereotype plates are made or types are cast the air space should be sufficient to afford 15 cubic meters per person.[28]

He advocates the installation of portable apparatus for aspirating the lead dust from furniture and from the type cases in the composing rooms of printing offices. Forms should be sponged with petroleum or benzine, he says, to remove ink adhering to the types. Then a jet of water will wash away any residue of the ink.

Blouse and trousers should be the only outer garments worn by machine compositors; these should be kept clean and should be periodically disinfected.[29]

Recognizing the imperative necessity of observing every detail of personal hygiene as the surest protection against plumbism, this author insists that compositors must thoroughly wash hands and face with soap and water before meals.

None but robust boys should be accepted as apprentices to the typographical trades, and Bulfoni demands that those from tuberculous families should be rejected.[30]

Work Accidents to Women.[1]

THE chief of the New York Bureau of Women in Industry, in a paper read December 7, 1920, before the Fifth Industrial Safety Congress, held at Syracuse, stated that "the number of known work accidents among women compared with those of men are comparatively few," adding that "the most recent figures show a very much larger proportion of men employed than women—70 per cent against 30 per cent." There are, however, 19 times as many known work accidents among men as there are among women—a proportion of 95 per cent as against 5 per cent.

Realizing how next to nothing was known about work accidents to women as distinguished from those to men, the New York Bureau of Women in Industry, for the purpose of throwing some light on this subject, studied 1,000 compensated accident cases for women in New York, covering the year June 1, 1917, to June 1, 1918.

The thousand work accidents were chosen within certain industries, based on the percentage of women's accidents occurring in the different industries as shown by the accident statistics of previous years. Six industries were chosen: Metal, textile, clothing, paper products, and printing. The various other industries, classed in one group, were chosen to the extent of 12 per cent to round out the one thousand. almost one-half of these fall in the metal and textile industries.

In the 1,000 accidents studied nearly one-tenth of the victims were unable to speak English. The New York City clothing industry

[28] L'Industria Tipo-Litografica nei Rapporti della Sicurezza e dell' Igiene, p. 88.
[29] Idem, p. 93.
[30] Idem, p. 94.
[1] Source: The Bulletin, published by the New York State Industrial Commission, Albany, N. Y., December, 1920, pp. 56 and 57.

showed a greater proportion of foreign-speaking women workers injured than any other.

The woman worker's length of service is a factor in causing accidents. Eighteen per cent of the 1,000 women had been with their employers less than a month; about 50 per cent, less than 6 months; and approximately 63 per cent less than a year. Nearly one-half of the women who were injured were under 21 years and 60 per cent were not more than 25 years of age.

Only about 2 per cent of the accidents were traced directly to clothing. In three cases, the hair of the women caught. In two other instances, the hands of the workers were drawn in because of the gloves worn. High heels worn by women are no doubt a contributing factor toward the number of stumbling and falling accidents among women, these ranking second to machine accidents in cause of injury.

Twenty-eight per cent of the accidents were among married women, although such women formed only 10 per cent of those included in the investigation, leading to the conclusion that "fatigue plays an important part, where the woman becomes the bread winner as well as the home maker." Nearly 90 per cent of the women who were injured were receiving less than $15 a week; less than 1 per cent were receiving $25 or more weekly, and over one-half received less than $10 a week.

About 10 per cent of the women were not, strictly speaking, at work at the time of the accidents.

They were going to or from their benches or machines to the dressing room, or to and from their work for the day, along the staircases or halls. In studying the source of accidents, the most striking fact that stands out is that the greatest number occurred in connection with machinery. * * * The metal industries lead in the larger proportion of machine accidents with the astonishing peril of presses. The accident rate among women press operators is considerably higher than among men, according to a comparatively recent Federal report. Upon the sewing machine must be placed the responsibility for machine accidents in the clothing industry * * * the factory power machine setting about 4,000 stitches a minute. * * * The machine that stands out prominently in the paper industry is the corner stayer. The machines that reap the heaviest toll in the textile industry are the loom, the knitting machine, and the draw frame.

Less than 1 per cent of the injuries are attributable to the lifting of heavy burdens. According to physicians, however, injuries of this kind are frequently slow in developing, and accident statistics in this connection are not to be depended upon too much. Although most employers have provided pulleys, and tackle for heavy lifting, the lifting of large piles of finished goods in department stores and factories is a frequent hazard.

Most of the disabilities sustained by the injured women were merely temporary. * * * The time element is also a means of indicating the seriousness of the injury. On the whole, the disability was low, but it may be understated. About half the disabilities were of less than six weeks' duration.

One hundred of the girls themselves were interviewed, one-half of whom stated that they were not able to return to work at the close of their compensation period.

In brief, the perfection of machine guards, the elimination of unnecessary fatigue, and proper industrial training are the constructive suggestions made for reducing work accidents among women to a minimum.

Industrial Accidents in Certain Foreign Countries.

Mexico.

THE October, 1920, issue of Gaceta Mensual, published by the Department of Labor of Mexico, contains data (p. 73) concerning the industrial accidents registered with that office during May, June, July, and August, 1920. These data are summarized in the table following:

INDUSTRIAL ACCIDENTS IN MEXICO IN MAY, JUNE, JULY, AND AUGUST, 1920.

[1 peso at par = $0.498.]

Month.	States.	Number of establishments reporting.	Number of employees.	Number of accidents.				Relief.	Compensation.
				Fatal.	Nonfatal.				
					Slight.	Severe.	Total.		
								Pesos.	*Pesos.*
May	[1] 14	30	35,380	17	551	48	599	20,547.57	14,906.80
June	14	34	34,946	15	590	48	638	22,992.63	18,220.20
July	[1] 16	38	44,233	31	440	145	585	22,155.93	16,688.45
August	12	32	47,419	21	616	95	711	24,679.60	15,674.05

[1] Including the Federal district.

According to another Mexican publication [1] the compensation is paid for death and permanent disability. It is further stated that for want of proper regulations concerning compensation for industrial accidents in most of the States workmen and their dependents are very inadequately compensated for injury or death.

Uruguay.

SEVERAL tables giving data as to industrial accidents in Uruguay, from 1909 to 1917, inclusive, by age, sex, nationality, days of disability, industry, number of fatalities, and nature of injury are included in the report of the National Labor Office which is found in the 1917 issue of the Statistical Yearbook of Uruguay,[2] just received by this bureau. The figures for 1918 and 1919 are taken from later publications of the National Labor Office.[3]

The data concerning the number of fatal and nonfatal accidents for the years 1909 to 1919 are summarized in the two tables immediately following:

[1] Boletín de la Confederación de Cámaras Industriales. Mexico, November, 1920.
[2] Uruguay. Anuario Estadístico, 1917. Montevideo, 1919. Pp. 517–520.
[3] Uruguay. Boletín de la Oficina Nacional del Trabajo. May, June, July, and August, 1919. Montevideo, 1920. Oficina Nacional del Trabajo. Estadística del trabajo y de las subsistencias. Anuario correspondiente a 1919. Montevideo, 1920.

NUMBER OF FATAL AND NONFATAL INDUSTRIAL ACCIDENTS IN URUGUAY, 1909 TO 1919, BY SEX AND PERIOD OF INCAPACITY.

Department of Montevideo.

Year.	Number of accidents.		Accidents in which days of disability were—							Fatal accidents.	Total.
	Men.	Women.	1 to 5	6 to 10	11 to 15	16 to 30	31 to 60	Over 60	Not reported.		
1909	2,471	13	152	1,174	521	344	59	5	201	28	2,484
1910	3,043	17	295	1,385	590	377	52	8	328	25	3,060
1911	3,174	33	495	1,454	630	254	41	3	320	10	3,207
1912	4,215	44	304	2,053	934	507	64	5	382	10	4,259
1913	4,653	45	421	2,160	901	525	76	23	569	23	4,698
1914	3,624	27	120	2,369	591	242	39	5	273	11	3,651
1915	4,237	73	71	3,100	645	234	35	1	219	5	4,310
1916	4,831	112	29	2,830	1,630	148	29	.....	275	2	4,943
1917	5,175	96	152	3,480	1,292	103	35	5	197	7	5,271
1918	7,276	86	723	3,727	870	156	23	.....	1,860	3	7,362
1919	4,867	98	.....	.....	.....	.....	.....	.....	4,964	1	4,965

Other departments.

1909	200	2	9	60	36	41	7	3	29	17	202
1910	275	.....	17	84	66	52	13	2	37	4	275
1911	311	1	31	120	51	34	7	3	59	7	312
1912	382	.....	19	175	72	65	7	.....	38	6	382
1913	530	.....	76	239	77	52	4	2	76	4	530
1914	466	3	24	267	66	31	9	.....	62	10	469
1915	224	2	4	154	31	16	2	.....	18	1	226
1916	473	.....	4	268	157	17	2	23	1	1	473
1917	804	5	13	494	235	19	.....	.....	47	1	809
1918	209	1	15	109	37	10	.....	.....	36	2	210
1919	248	1	12	26	14	16	7	1	170	3	249

NUMBER OF INDUSTRIAL ACCIDENTS IN URUGUAY, 1909 TO 1919, BY AGE GROUP.

Department of Montevideo.

Year.	15 years.	16 to 20 years.	21 to 25 years.	26 to 30 years.	31 to 40 years.	41 to 50 years.	51 to 60 years.	Over 60 years.	Not reported.
1909	136	398	516	447	543	276	123	31	14
1910	169	531	640	541	685	324	119	12	39
1911	180	590	713	585	639	294	136	37	33
1912	197	749	893	777	826	406	136	29	246
1913	211	900	960	876	925	469	157	28	172
1914	121	638	792	706	751	405	157	24	56
1915	146	748	988	791	874	418	167	29	149
1916	165	810	1,041	897	1,085	531	203	48	163
1917	188	748	1,129	998	1,152	698	203	26	129
1918	335	1,138	1,539	1,231	1,584	751	265	62	457
1919	221	672	952	899	919	488	139	60	615

Other departments.

1909	5	31	48	37	45	17	9	4	6
1910	9	42	66	53	56	28	16	2	3
1911	12	56	78	61	66	25	9	.....	5
1912	7	76	95	85	80	30	7	.....	2
1913	14	81	135	115	112	43	24	1	5
1914	11	84	97	103	99	49	16	2	8
1915	8	34	48	52	52	23	6	1	2
1916	7	68	119	84	105	65	18	3	4
1917	17	109	170	162	204	107	17	10	13
1918	7	38	41	29	50	27	6	.....	11
1919	7	30	47	60	51	22	7	2	23

In the following table, which gives the number of accidents occurring in the Republic, by industry and year, no distinction is made as to fatal and nonfatal accidents:

NUMBER OF INDUSTRIAL ACCIDENTS IN URUGUAY, 1909 TO 1919, BY INDUSTRIES.

Industry.	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Building	357	722	737	756	896	1,314	190	409	238	245	263
Food	169	161	140	116	92	84	27	90	141	124	121
Hides and leather	14	31	31	25	44	23	33	45	34	41	22
Paper and pasteboard	11	16	4	8	11	29	19	14	1	3	20
Alcohol and liquors	110	125	133	152	131	70	50	83	165	79	70
Metallurgy	176	238	294	394	522	405	305	257	367	534	347
Furniture	185	161	212	261	291	16	168	153	178	212	212
Book	1	1	7	14	9	4	13	33	23	19	26
Clothing	14	6	3	7	5	5	14	8	16	5	21
Refrigerating and salting	251	309	335	414	484	668	1,803	1,633	1,560	1,493	945
Electrical	23	9	32	51	36	25	27	21	55	33	29
Agriculture	5	2	1	.....	2	3	1	1	.....	1	2
Transport and freight	561	637	407	512	567	264	530	526	486	654	632
Manufacturing	51	9	59	120	45	80	100	37	3	1	3
Textiles	26	28	31	20	23	14	.....	2	2	4	6
Chemicals	6	.....	1	1	.....	9	.....	44	69	75	16
Government service	24	5	2	3	9	237	191	473	743	686	615
Not specified	703	865	1,090	1,787	2,061	870	1,065	1,587	1,999	3,363	1,864
Total	2,687	3,325	3,519	4,641	5,228	4,120	4,536	5,416	6,080	7,572	5,214

In 1919, it will be noted, the total number of accidents was 5,214, as compared with 7,572 in 1918, a decrease of 2,358. It is stated that this improvement is due largely to the more effective administration of the law for the prevention of accidents and to the greater vigilance of the labor inspectors. The refrigerating and salting industry showed the greatest decrease in the number of accidents, 945 in 1919 as compared with 1,493 the previous year.

Switzerland.

THE reports of the Swiss factory inspectors on their activity during the years 1918 and 1919 have recently been received.[4] Switzerland is divided into four inspection districts. The chief inspector of each district makes a report for his district covering working conditions and labor statistics in general, the workrooms, accidents, industrial diseases, workmen's registers, working regulations, wage payment, hours of labor, woman and child labor, and enforcement of the factory law. A general report covering all of Switzerland is lacking. The volume contains, however, statistical tables on factory and nonfactory accidents, industrial diseases, overtime and night and Sunday work permits, and fines imposed, which cover the entire country. According to these tables the total number of workers employed in factories in 1918 was 382,064. The number of factory and nonfactory accidents in 1917 and the first quarter of 1918 is shown in the following table:

[4] Eidgenössisches Volkswirtschaftsdepartement. Berichte der eidgenössischen Fabrikinspektoren über ihre Amtstätigkeit in den Jahren 1918 und 1919. Aarau, 1920. 186 pp.

FACTORY AND NONFACTORY INDUSTRIAL ACCIDENTS, AND COMPENSATION PAID, IN SWITZERLAND, 1917 AND FIRST QUARTER OF 1918.

[1 franc at par. = 19.3 cents.]

Class of accidents and year.	Accidents causing—				Total number of accidents.[1]	Total amount of compensations paid.
	Temporary disability.		Permanent disability.	Death.		
	Number.	Days lost.				
Factory accidents:						
1917	32,250	702,473	3	95	32,516	$7,821,658.74
1918 (first quarter)	9,082	207,881	2	19	9,154	2,240,235.50
Nonfactory accidents:						
1917	9,668	218,178	4	50	9,781	2,139,112.59
1918 (first quarter)	2,583	56,079	2	14	2,643	664,078.23

[1] The number of accidents shown in this column is that of all reported accidents causing disability in excess of 6 days, inclusive of accidents the final consequences of which were not yet known at the close of the statistics.

For the year 1917 and the first quarter of 1918 the factory inspectors reported 180 cases of industrial diseases causing temporary disability for a total of 4,830 days, and 3 deaths. The most frequent causes were poisoning by dinitrobenzol (47 cases), chlorine (21), nitrous gases (15), nitrobenzol and nitrochlorbenzol (15), muriatic and sulfuric acid (21), chloride of lime (14), and carbon monoxide (14). Of the three deaths caused by industrial diseases two were caused by bromethyl and one by nitrobenzol poisoning.

WORKMEN'S COMPENSATION AND SOCIAL INSURANCE.

Cost of Occupational Diseases Under Workmen's Compensation Acts in the United States.

By CARL HOOKSTADT.

OF THE 46 compensation jurisdictions in the United States only eight (California, Connecticut, Hawaii, Massachusetts, New York, North Dakota, Wisconsin, and the Federal Government) provide compensation for occupational diseases. In Massachusetts, North Dakota, and the United States this inclusion has been effected through the commissions and courts, whereas in the other States it has been brought about by statutory enactment. The New York law limits compensation to certain specified diseases enumerated in the act, while in the other States presumably all occupational diseases are covered. In the remaining 38 compensation jurisdictions occupational diseases are excluded, in theory at least, from the operation of the compensation acts. This exclusion has been brought about (1) by limiting the scope of the law to injuries by "accident," (2) by adverse rulings of the courts and commissions, and (3) by express provisions in the compensation acts themselves.

Of foreign countries, Great Britain and most of the Canadian Provinces provide compensation for occupational diseases, limited, however, to certain diseases and processes stipulated in the schedule. In most of the European countries occupational diseases are taken care of under their sickness and invalidity insurance acts.

The failure to include occupational diseases in the early American acts was due, in part at least, to lack of information as to their prevalence and probable cost. At the time there existed no reliable statistical data showing the number of industrial diseases in the United States.

Since then the experience under the United States, California, and Massachusetts compensation acts, together with investigations made by the actuarial committee of the National Council on Workmen's Compensation Insurance, have thrown considerable light upon both the number and cost of occupational diseases as compared with industrial accidents in the United States. The several reports and investigations show that the maximum cost of occupational diseases, if included in workmen's compensation acts, would not be greater than 2 per cent of the aggregate cost of industrial accidents. The cost would probably be a great deal less than 2 per cent. The occupational disease experience in California, Massachusetts, and under the Federal act is shown in subsequent tables. Moreover, the actuarial committee of the National Council has come to the conclusion, after a detailed study, that the additional cost of occupational diseases is not of great importance, and consequently recommended that no special factor be used in the rates to measure the cost of

such diseases. The committee came to this conclusion because the experience of California and Massachusetts showed no radically different results than the experience of other States where the occupational disease hazard is not specifically covered by the statute. Furthermore, continued the committee, "a large proportion of so-called occupational disease cases have already been carried into the experience. Such cases as lead poisoning and anthrax have, in many jurisdictions, been classified as accidents and compensated under the terms of the workmen's compensation law provided they occurred under certain conditions." [1]

The conclusion of the actuarial committee to disregard the occupational disease factor in the computation of insurance rates is particularly significant in view of the fact that heretofore insurance rates had been loaded 2 per cent in order to take care of the occupational disease hazard.[2] This 2 per cent loading had been based upon the report of a committee on loadings and differentials made to the joint conference on workmen's compensation insurance rates held in New York City in 1915, supplemented by a memorandum on the compensation cost of occupational diseases submitted by J. D. Maddrill to the joint conference.

The probable increased cost of occupational diseases will depend somewhat upon the definition of an occupational disease. At the present time there is little uniformity among the several States, either as to a definition of occupational diseases or as to their practice in awarding compensation.

Occupational diseases may be classified according to cause and nature of injury, as follows:

1. Diseases due to gradual absorption of poisons (lead poisoning).
2. Diseases in which the poison or germ enters the system through a break in the skin (anthrax).
3. Skin affections from acids or other irritants (eczema, dermatitis).
4. Diseases due to fumes or dusts entering the system through respiratory organs (tuberculosis, gas poisoning).
5. Diseases due to vibrations or constant use of particular members (neuritis, telegrapher's cramp, housemaid's knee).
6. Miscellaneous diseases (caisson disease, miner's nystagmus).

There are, however, two additional classes of diseases, nonoccupational in character, for which compensation is usually granted: (1) Those diseases, such as typhoid fever, erysipelas, pneumonia, and ivy poisoning, which arise out of and are proximately caused by the employment. These diseases, to be compensable, however, must have had their origin in the employment and must be definitely traceable to it. (2) Those diseases which either result from an accident or are aggravated, accelerated, or developed by the accident. In these cases compensation is awarded not for the disease per se but for the results of the accident. Had the accident not occurred

[1] Proceedings of the Casualty Actuarial and Statistical Society of America, 1919–1920, vol. 6, p. 280.

[2] All classifications have some industrial disease hazard. To cover this, 1 per cent is added to the pure premium for each class. Certain classifications have specific industrial disease hazards; as for example: Lead poisoning, mercurial poisoning, compressed air sickness, etc. For each of these classifications an industrial disease pure premium is added to reflect the specific hazards. The combination of 1 per cent on all classifications and the specific loading represents an average increase of 2 per cent in pure premiums for those States where payments are made on account of industrial disease. (Report of the work of the Augmented Standing Committee on Workmen's Compensation Insurance Rates—1917, p. 86. Issued by the National Workmen's Compensation Service Bureau.)

the disease would presumably never have developed; consequently the resulting disability is justly attributable to the accident.

However, in many States in which the compensation laws do not cover occupational diseases the courts and commissions in actual practice have awarded compensation for most of the diseases enumerated above.[3] They undoubtedly feel that an employee who contracts an occupational disease is just as much entitled to compensation as one who sustains the loss of an arm. Consequently, in their decisions under the law they have no doubt been influenced by their desire to remedy as far as possible the economic injustice of the statutes. Compensation has been usually granted if one or more or all of the following conditions were present: (1) If the disease resulted in violence to the physical structure of the body, i. e., if it was traumatic or produced a lesion; (2) if the injury occurred unexpectedly or not in the usual course of events; (3) if the injury can be traced to a definite time and place in the employment; and (4) if the injury was not due to a known and inherent risk of the occupation; or, even if inherent in the occupation, if the employer had neglected to provide reasonable safeguards which would presumably have prevented the injury.

The guiding principle adopted by most of the courts and commissions in occupational disease cases is stated by the Pennsylvania Workmen's Compensation Board in awarding compensation for dermatitis due to the fortuitous presence of poison in hides handled by the employee, as follows:

> Where injuries received in the course of employment are of untraceable inception and gradual and insidious growth and can not be traced to having been received at some certain time, and in which there is no sudden or violent change in the condition of the physical structure of the body, they must be regarded as the results of an occupational disease. However, if the disease can be traced to some certain time when there was a sudden or violent change in the condition of the physical structure of the body, as, for instance, where poisonous gases were inhaled which damage the physical structure of the body, it is an accident within the workmen's compensation act of 1915, and is compensable.[4]

Thus it will be seen that the additional cost to a State desiring to include occupational diseases in its compensation law will not be materially increased because many of such diseases are already being compensated, not as diseases but as accidents.

The following table shows the number of cases of occupational diseases and average number of days lost under the Federal compensation act for the year 1919. It will be noted, however, that this list includes injuries such as pneumonia and typhoid fever, poisoning from gas and fumes, etc., which have been compensated in States that do not include occupational diseases in their compensation acts.

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[3] For example, New York, before occupational diseases were included in the act, had awarded compensation for anthrax, gas poisoning, ivy poisoning, frostbite, pleurisy, and pulmonary tuberculosis; Pennsylvania has granted compensation for anthrax, gas poisoning, dermatitis, and sunstroke; Illinois, for arsenical poisoning, gas poisoning, traumatic peripheral neuritis, and sunstroke; Wisconsin, for miliary tuberculosis, skin affections from acids, typhoid fever, and frostbite; Michigan, for throat infection from inhalation of dusts; Minnesota, for gas poisoning and sunstroke; Ohio, for gas poisoning and sunstroke; Connecticut for housemaid's knee, erysipelas, and frostbite; and Indiana, for nephritis; etc.

[4] Roller v. Druedling Bros. Pennsylvania Workmen's Compensation Board decisions for 1916, p. 86.

NUMBER OF CASES OF OCCUPATIONAL DISEASES AND AVERAGE NUMBER OF DAYS LOST UNDER FEDERAL COMPENSATION ACT FOR YEAR 1919.

Cause of injury.	Total cases.	Deaths and permanent total disabilities.	Permanent partial disabilities.	Temporary total disabilities.	
				Number.	Average number of days lost.
Poisonous substances (ivy, brass, copper, TNT, etc.)	71	2	.....	69	18
Gases and fumes	48	6	.....	42	31
Corrosive substances (acids)	154	.....	5	149	17
Occupational diseases (lead poisoning, neuritis, pneumonia, rheumatism, and typhoid fever)	26	[1] 8	.....	18	33
Total	299	[1] 16	5	278	21
Total, all injuries	19,354	[2] 617	607	18,130	22

[1] Includes one permanent total disability and 6 deaths from pneumonia.
[2] Includes 30 permanent total disabilities.

The following table shows the number of cases of occupational diseases and extent of disability as compared with all injuries under the Federal compensation act for the year 1919. It will be noted that occupational diseases constitute less than 2 per cent of the total injuries.

NUMBER OF CASES OF OCCUPATIONAL DISEASES AND EXTENT OF DISABILITY AS COMPARED WITH ALL INJURIES UNDER FEDERAL COMPENSATION ACT, 1919.

Item.	All injuries.	Occupational diseases.	Per cent occupational diseases are of all injuries.
Total number of cases	19,354	299	1.5
Death and permanent total disability cases	617	16	[1] 2.6
Permanent partial disability cases	607	5	.8
Temporary total disability cases	18,130	278	1.5
Total number of days lost in temporary total disability cases	397,395	5,740	1.6

[1] Only 1.6 per cent if the 6 pneumonia cases are excluded.

The following table shows the number of cases of occupational diseases, the number of injuries caused by poisonous and corrosive substances, and the total number of injuries in California for the year 1919. The injuries due to poisonous and corrosive substances are taken from the cause classification table of the commission's report, whereas the occupational diseases are taken from the nature of injury table. Both types of injuries are here given in order that the California data may be comparable with that of the other States.

NUMBER OF CASES OF OCCUPATIONAL DISEASES AND NUMBER OF INJURIES DUE TO POISONOUS AND CORROSIVE SUBSTANCES AS COMPARED WITH TOTAL NUMBER OF INJURIES IN CALIFORNIA FOR THE YEAR 1919.

Nature of injury.	All injuries.	Injuries caused by poisonous and corrosive substances.		Occupational diseases.	
		Number.	Per cent of all injuries.	Number.	Per cent of all injuries.
Total number of cases	58,577	670	1.1	455	0.8
Deaths	586	1	.2	3	.5
Permanent disabilities	1,714	8	.5	.....	.....
Indeterminate disabilities	695	5	.7	6	.9
Temporary disabilities	55,582	656	1.2	446	.8
Total number of days lost	7,228,983	30,161	.4	.....	.....

The following table shows the cases of occupational diseases as compared with the total number of injuries in Massachusetts for the four years 1915–16, 1916–17, 1917–18, and 1918–19. A large number of these so-called occupational diseases would be considered accidents in other States and compensated as such. It will be noted that the percentage of fatal occupational diseases to total fatal injuries for the four-year period is 2.9, whereas the same percentage for nonfatal injuries is 1.3.

NUMBER OF CASES OF OCCUPATIONAL DISEASES AS COMPARED WITH THE TOTAL NUMBER OF INJURIES IN MASSACHUSETTS FOR THE FOUR YEARS, 1915–16, 1916–17, 1917–18, AND 1918–19.

Year.	Fatal injuries.			Nonfatal injuries.		
	Total cases.	Cases of occupational diseases.		Total cases.	Cases of occupational diseases.	
		Number.	Per cent of total cases.		Number.	Per cent of total cases.
1915–16	463	26	5.6	68,180	1,351	2.0
1916–17	431	16	3.3	78,789	992	1.3
1917–18	438	8	1.8	77,067	891	1.2
1918–19	356	1	.3	66,884	554	.8
Total	1,738	51	2.9	290,920	3,788	1.3

The following table shows the number of cases of occupational diseases and extent of disability as compared with the total tabulatable injuries in Massachusetts for the years 1917–18 and 1918–19.

NUMBER OF CASES OF OCCUPATIONAL DISEASES AND EXTENT OF DISABILITY AS COMPARED WITH TOTAL TABULATABLE INJURIES IN MASSACHUSETTS FOR THE YEARS 1917–18 AND 1918–19.

Item.	Total tabulatable injuries.		Occupational diseases (including poisonous and corrosive substances).		Per cent occupational diseases are of total number of injuries.	
	1917–18	1918–19	1917–18	1918–19	1917–18	1918–19
Total number of cases	77,505	67,240	899	555	1.2	0.8
Deaths	438	356	8	1	1.8	.3
Permanent total disabilities	17	7	1	.....	5.9	.....
Permanent partial disabilities	2,177	1,750	2	4	.1	.2
Temporary total disabilities	74,873	65,127	888	550	1.2	.8
Total number of days lost in temporary total disability cases	1,661,845	1,361,649	18,379	12,916	1.1	.8

The following table shows the number of cases of occupational diseases in Massachusetts for the two years 1915–16 and 1916–17, classified by kind of disease. The table also shows the total number of days lost on account of the nonfatal diseases for the year 1915–16. It will be noted again that many of these so-called diseases are being compensated in States which do not cover occupational diseases in their compensation acts.

NUMBER OF CASES OF OCCUPATIONAL DISEASES IN MASSACHUSETTS IN THE YEARS 1915–16 AND 1916–17, CLASSIFIED BY KIND OF DISEASE.

Cause.	Cases of occupational diseases.				Days lost on account of nonfatal diseases, 1915–16.
	Nonfatal.		Fatal.		
	1915–16	1916–17	1915–16	1916–17	
Harmful substances (causing constitutional disturbances):					
Brass	1	5	.....	1	4
Dusts	5	7	.....	.....	60
Gases, vapors, and fumes	76	62	10	2	1,118
Anthrax	20	20	5	4	814
Lead	49	53	3	1	3,063
Miscellaneous	.....	13	.....	1	.....
Harmful conditions:					
Compressed air	383	36	4	.....	7,734
Extreme cold	77	78	2	4	2,402
Extreme heat	74	114	2	2	622
Eye strain	7	2	.....	.....	164
Strain, fatigue, cramp, faulty positions, "occupational neuroses," blows, vibration, pressure, etc., causing injuries to nerves, muscles, and bones	84	67	.....	.....	4,194
Miscellaneous	4	13	.....	.....	162
Irritant fluids and substances (causing local affections):					
Brass	21	26	.....	.....	600
Cement	4	4	.....	.....	97
Chemicals	.....	72	.....	.....	.....
Chrome	16	32	.....	.....	269
Cyanide and plating solutions	10	10	.....	.....	123
Dyes	32	27	.....	.....	1,028
Hides	14	25	.....	.....	352
Lime	51	16	.....	.....	580
Oil	48	58	.....	.....	514
Paint	4	13	.....	.....	340
Poisonous vines and shrubs	45	44	.....	.....	981
Raw wool	8	9	.....	.....	104
Washing and cleansing fluids	15	27	.....	.....	198
Local irritations from constant vibrations, etc	132	78	.....	1	2,234
Miscellaneous	171	81	.....	.....	3,576
Total	1,351	992	26	16	31,333

Mutual Relief Associations Among Government Employees in Washington, D. C.

THERE are among Government employees in Washington, D. C., at least 80 organizations which maintain funds for the purpose of furnishing financial assistance to members in case of sickness or death.

A survey of these organizations was made by the United States Bureau of Labor Statistics during the early fall of 1920, the results of which will be published as Bulletin No. 282 of this bureau under the title "Mutual relief associations among Government employees in Washington, D. C." These relief associations are divided into three general classes according to the nature of the benefit paid. Fifty of them pay sick benefits only, 14 death benefits only, and 16 organized on the basis of sick benefit societies pay a death benefit as well as a sick benefit. As to location in the service, 28 of them are in operation in the Navy Yard, 23 in the Government Printing Office, 11 in the Bureau of Engraving, 6 in the City Post Office, and 1 each in 12 other departments, offices, or bureaus.

From the latest available data, which in many instances were for the year ending November 30, 1919, and in the remainder for periods extending into the year 1920, it appears that these 80 organizations had a total membership of 23,171 men and women. Their total receipts from all sources were $256,013.92, while there was paid out in sick and death benefits (77 societies reporting) $132,320.05. All except two of the associations paying sick benefits distribute their surplus funds at the end of each year to the members who have not drawn sick benefits, in the form of a dividend prorated upon the number of months for which they have paid dues, and two of the death benefit associations make a similar division of their surplus funds. Of the 66 associations paying such dividends, 61 which reported this item for the period covered had available for disbursement for this purpose $77,681.91.

Of the 50 associations providing relief in case of sickness only, 46 reported receipts, benefits, and amount available as dividends. The total receipts of these 46 societies for the year were $100,296.16. Over 96 per cent of this amount was paid to members either as sick benefits during the year or as dividends at the end of the year, the sick benefits amounting to $46,289.62 and the amount available as dividends (which was practically all paid out as such) being $50,129.43. Less than 4 per cent, therefore, of the receipts was used for salaries, rent, printing, and other expenses.

Benefits.

THE amount of sick benefit ranges from $4 to $30 per week and is paid for maximum periods varying from 4 to 10 weeks during any association year. A waiting period of 1 week or of from 6 to 12 working days is required in every instance before the benefit is paid. No sick benefit is paid for less than one week and to secure this, notification of illness must be made to the officers of the association within the time (2 to 6 days) fixed by the constitution of the society. The largest amount of relief possible from a single membership is $192 for the association year.

The death benefit is either a stated amount, varying in the different associations from $50 to $300, or is made up from an assessment of a certain amount per member for each death, the amount paid being thus made dependent upon the number of members.

The promptness with which both the sick and the death benefits are paid is a strong feature of these organizations. Financial assistance in cases of sickness and death often relieves absolute need; and even families which by reason of thrifty habits or larger pay envelopes have put by a portion of their earnings may not always have available a sum sufficient to meet emergencies of this kind, especially in times like the present when the high cost of dying is as true as the high cost of living. After the first week of sickness (2 weeks in a few associations) sick benefits are paid weekly, while beneficiaries in the case of death benefits often receive the amount due them within a few hours after the death of a member.

Five Years of Compensation in Pennsylvania.

THE Workmen's Compensation Bureau of Pennsylvania has just issued an advance summary (typewritten) covering the operations of the Workmen's Compensation Law of the State from January 1, 1916, when it first came into effect, to December 31, 1920. The law calls for the reporting of all accidents suffered during the course of employment and causing disability for two days or more. The following table shows the results by years:

NUMBER OF INDUSTRIAL ACCIDENTS BY RESULTS, 1916 TO 1920.

Year.	Fatal.	Serious.	Minor.	Total.
1916	2,670	59,714	193,232	255,616
1917	3,072	81,769	143,039	227,880
1918	3,403	55,783	127,658	184,844
1919	2,569	38,942	111,033	152,544
1920	2,528	93,598	78,853	174,979
Total	14,242	327,806	653,815	995,863

The striking increase in the number of serious accidents in 1920 is chiefly explained by the change in classification due to the amendment of 1919 reducing the waiting time from 14 days to 10 days. Accidents had been classed as "serious" when they caused disability extending beyond the waiting time, and by the amendment this was changed from 14 days to 10 days; there is, however, a considerable increase in the total number of accidents, which had steadily decreased during each of the four years preceding.

During the period covered by this report agreements and awards have been made in 320,436 cases, incurring compensation liability amounting to $48,244,448. There were 10,931 fatal cases in which the award averaged $2,516. Permanent disability, total or partial, was incurred in 5,186 cases, the average award in such cases being $1,491.

The following table shows the number of fatal cases and amounts of compensation awarded by years:

NUMBER OF FATAL INDUSTRIAL ACCIDENTS AND COMPENSATION AWARDED, 1916 TO 1920.

Year.	Agreements and awards.	Compensation awarded.	
		Average per case.	Total.
1916	1,727	$2,383	$4,116,075
1917	1,946	2,153	4,189,328
1918	2,607	2,631	6,859,718
1919	2,496	2,577	6,431,155
1920	2,155	2,741	5,905,822
Total	10,931	2,516	27,502,098

In 2,725 cases eyes were lost, in 68 of which the loss of both eyes was suffered. The average compensation for all cases was $1,246.

Both hands were lost in 7 cases, and one hand in 1,085 cases. The average compensation in the 1,092 cases was $1,602. For the loss of an arm (337 cases) the average was $1,895; while for the loss of a foot (565 cases) the average was $1,451. In 8 of these cases both feet were lost. Legs were lost in 433 cases, in 10 of which there was loss of both legs; the average award was $1,868. There were 304,319 temporary disability cases, involving the payment of $13,008,765, or an average of $43 per case.

Referees are employed in the determination of claims, 11,428 claim petitions being received by the bureau and assigned to such referees during the five-year period. Of these, 3,555 led to awards, 2,296 to disallowances, an additional 3,578 being dismissed, while 774 were withdrawn. This leaves 1,225 cases pending before referees, of which 550 are alien enemy cases wherein the dependents reside in Europe. Conditions of communication due to the late war have made it practically impossible to dispose of these cases.

The work of these referees receives special discussion in the report. They come into intimate and direct contact with the injured workers and their employers, and have developed a most satisfactory system of disposing of the numerous and complicated problems which arise. One great benefit that they have rendered is in eliminating the "ambulance chaser," since they are in immediate touch with the situation and have been able to give the needed advice, "with the result that often a poor injured man or helpless widow is saved from the clutches of unscrupulous attorneys who seek their victims through the medium of newspaper clipping bureaus and whose chief concern is in securing as large a fee as possible." It is said that the Pennsylvania referee system "has been very favorably commented upon by industrial boards or compensation commissions throughout the United States."

Commutation to lump-sum payments has been requested in 3,445 cases during the five years, 2,043 being for disability and 1,402 in fatal cases. The board granted 1,331 requests in disability cases and refused 672. In fatal cases the requests were granted in 869 cases while 523 were refused. The payment of mortgage debts or the

purchase of property constituted the chief ground for allowing such sums. Second in line comes the purpose to establish a business, while the payment of debts comes next; a considerable number were for the purpose of permitting the recipient to leave the country.

Cases referred to the Workmen's Compensation Board during the five years aggregated 6,857. Of these, 1,950 were appeals from the decisions of referees, 1,175 were petitions for review, 3,445 for commutation, 122 for the determination of compensation under agreed facts, miscellaneous petitions numbering 165. Of the total, 526 cases were appealed to the courts from the decisions of the board, representing approximately 7½ per cent of the total number of cases passed upon by the board.

The Pennsylvania statute is elective, but election is presumed in the absence of notice served by the employer. "Less than one-fourth of 1 per cent of the employers of the State, or to be exact 260, have rejected the provisions of the act, and more than three-fourths of these have less than 10 employees."

Besides the referees, already noted, another important adjunct to the administration of the law is an adjustment bureau with headquarters at the capital and "a subordinate adjusting staff placed at strategic points throughout the State." It is the duty of these men to keep in daily touch with the reports of accidents and see that claims are settled promptly and in accordance with the terms of the law. Their services have been especially valuable on occasions of catastrophic disasters where the office organizations of the employers "were more or less demoralized following the disasters and were burdened with other duties." The adjustors were able to secure all needed data and to arrange for agreements, leading to the prompt payment of compensation, otherwise impossible.

The division of exemptions supervises the self-insurance system provided for under the law. During the year 1920, 470 employers were operating as self-insurers, but due to the careful handling of the matter of financial ability, which may be required to extend over a period of 16 years, "there has never been a default in the payment of any compensation by an employer operating as a self-insurer."

Workmen's Compensation in Queensland, Australia.

THE operations of the Queensland workmen's compensation act of 1916 are set forth in a report of the State Government Insurance Office.[1] Figures are given not only for the fiscal year ending June 30, 1920, but also comparable figures so far as available for the previous years of operation of the present law, i. e., since July 1, 1916.

The number of accidents reported during the year was 10,690, which is an increase over the previous year of 1,003, or more than 10 per cent. In 703 cases no claim was made, 149 claims were rejected, 8,863 were settled, and 1,106 remain outstanding. These figures include 131 claims reopened in addition to the original reports for

[1] Australia (Queensland). Fourth Annual Report of the State Government Insurance Office for the year ended June 30, 1920. Brisbane, 1920. 31 pages.

the year. The rejections were principally because the incapacity was not the result of an accident or because the applicant was not a worker. The amount paid on account of the claims accruing during the year was £162,058 4s. 9d. ($788,656.41, par); with an estimated balance due of £52,507 ($255,525.32, par); payments and reserves on account of prior injuries bring up the aggregate payments or obligations for the year up to £271,375 19s. 6d. ($1,320,651.18, par).

Of the accidents reported in 1919–20, 150 were fatal. Of these, 80 left persons totally dependent, 27 left partial dependents, in 11 cases no dependents survived, in 12 the facts were not known, while in 20 cases there were either no claims or a rejection.

Designated classes of industrial diseases are compensated under the Queensland law, of which there were 18 cases during the year, 17 being compensated; 16 of these were for phosphorous or lead or other mineral poisoning and 1 for anthrax. A claim for an undesignated cause was rejected. On account of the prevalence of pneumonic influenza among nurses in hospitals and among waterside workers handling cargoes from infected districts, a special provision was made for insurance of these classes of workers. In 30 cases compensation was allowed, 20 other claims being rejected. A third group under this head is that of mining diseases, of which 111 cases were reported. Forty-seven involved lung diseases, 17 caisson diseases, and 2 dermatitis, caused by working in mineralized or acid water.

the defendants to do business in the way they did not choose. But, when equal rights clash, the law can not interfere" (National Fireproofing Co. *v.* Mason Builders' Ass'n (C. C. A.), 169 Fed. 259).

While the foregoing decision is but negative, merely leaving the contract in existence, it does not touch upon its effect upon the parties to it. More to the point is a decision (Jacobs *v.* Cohen, 183 N. Y. 207, 76 N. E. 5) in which a contract between an employer and a union was upheld where the point involved was the collection of a note given by the employer to guarantee his observance of the terms of the agreement. However, it has been said that such contracts do not call for the employment of particular individuals, but only of individuals of a definite class, so that employers of workmen may terminate individual contracts without incurring penalties or being subject to the test of the terms of a collective contract. (Burnetta *v.* Marceline Coal Co., 118 Mo. 241, 79 S. W. 136; Barnes & Co. *v.* Berry, 157 Fed. 883); or, as said by another court, such a contract is merely a memorandum of rates of pay and of the regulations governing the conditions of the employment of the members of the union. "It is not a contract for labor or even an offer, but merely usage" (Hudson *v.* Cin., etc., R. Co., 152 Ky. 711, 154 S. W. 47). Courts have therefore refused to put into individual contracts with workmen the provisions of the collective agreements, on the ground that the union was incompetent to contract for its individual members; nor was the union, an unincorporated association, liable in an action for damages for the breach of its contract made in behalf of its members, since it was not a legal person.

The foregoing determinations necessarily rest to some extent upon the form of the contract, that considered in the Hudson case containing no obligation on the part of the union to supply workmen to the employer. In contrast with this is the agreement in the case, Nederlandsch Amerikaansche Stoomvaart Maatschappij *v.* Stevedores' & Longshoremen's Benev. Soc. et al., 265 Fed. 397, noted in the October REVIEW, pages 204, 205. Here the steamboat company was awarded damages and costs against unions which had failed to meet their assumed obligations to furnish labor to carry on the work of unloading a cargo. The court expressed the opinion that "the contract is valid and imposes the reciprocal obligation on respondents to work according to the contract in good faith." Of like effect is a decision of the Supreme Court of New York (Gulla *v.* Barton, 149 N. Y. Supp. 952), where an employee was allowed to recover from his employer the difference between the lower rate agreed to by him individually and a higher rate which the employer was bound under his contract with the union to pay. So where a union had the monopoly of the workmen in a locality and the employer agreed with it to observe its standards, the union was held liable in an action to recover the difference between the rates actually paid by him and the lower rates which the union had without his knowledge adopted (Powers *v.* Journeymen Bricklayers (Tenn.), 172 S. W. 284). Here it was said that though there was no contract with the union for the services of any particular workman, individual contracts must be made in the light of the union's assumption of right to fix rates; and this assumption imposes the obligation to give due notice of changes made by it. In another case the court went so far as to say that "the union alone

was clothed with power to contract for its members," so that employees willing to continue to work under a former agreement could not do so after its expiration, since they were bound by the rulings and demands of the union so long as they remained members (Saulsberry *v.* Coopers' I. U. (Ky.), 143 S. W. 1018).

One of the latest decisions on this point is by the Supreme Court of Arkansas (Moody *v.* Modern Window Glass Co., 224 S. W. 436). Here what was known as a "national agreement" had been made between the window glass manufacturers of the United States and a national association of window glass workers. One provision required companies which had hired workers to pay $20 per week during any time intervening between the arrival and report for duty of a worker hired and the actual giving of employment; or, as an alternative, the reimbursement of all expenses incurred by the worker from the time that he left his home or place of starting until his return to destination. In the case at hand, an Arkansas company engaged workers residing at the time in California, stating the time when they should report for duty. However, on their arrival work was not furnished as promised, and payment of the waiting money was refused after the second week. The court awarded Moody's claim for five weeks' pay at the rate fixed by the national agreement, saying that "the facts stated constituted an implied contract, if not an express contract, to settle with appellants according to the terms of the national agreement." This corresponds to a decision in an earlier Federal case (Barnes & Co. *v.* Berry, 169 Fed. 225, 94 C. C. A. 501), in which the court defined an agreement between employers' and employees' associations as in reality separate contracts between employers and employees who were members of the various organizations; "or, rather that the provisions of the contract, upon its being entered into, become terms of the separate contracts of employment between each member of the employers' association and the members of the union in his employ."

Another very recent case is of special interest as extending the effects of an agreement between an employer and a union of his employees to a workman not a member of the union (Gregg *v.* Starks, 224 S. W. 459). Here a railroad company had a contract with its conductors, negotiated by an organization representing a part of the conductors, determining seniority rights in the assignment of runs. The plaintiff, Gregg, was not a member of this organization, but had been in the employ of the Louisville & Nashville Railroad Co. for many years, and was held entitled to the seniority rights acquired by him as described by the agreement, even though a nonmember, since the company recognized the contract as one governing the conditions of employment of its conductors as a whole.

It is obvious that a decided lack of harmony exists between the foregoing decisions, but the validity of such agreements, at least where not establishing a monopoly, would seem to be increasingly recognized. This is indicated by a recent decision of the court of chancery of New Jersey (Lehigh Structural Steel Co. *v.* Atlantic Smelting & R. Co., 111 Atl. 376, January REVIEW, pp. 194, 195), where a contract which involved "nearly all the building contractors of New York City" undertaking to establish a closed shop in that industry, was declared invalid. The court said in this

case that "the principle of the closed shop, i. e., the monopolization of the labor market, has found no judicial sponsor"; but where the effect is limited, as to a single establishment, an agreement which includes the maintenance of a closed shop controls the action of the employer (Greenfield *v.* Central Labor Council (Oreg.), 192 Pac. 783). This distinction is drawn in the New York courts in two cases (Curran *v.* Galen, 152 N. Y. 33, 46 N. E. 297, and National Protective Association *v.* Cumming, 170 N. Y. 315, 63 N. E. 369). In the Curran case a local monopoly was said to be contemplated by the organization and redress was allowed as for the unlawful infringement of rights; while in the Cumming case the court found an absence of such intent, holding the agreement valid and denied redress. Therefore an association of employers covering practically the whole line of trade in a locality can not enter into an agreement with a designated labor organization for the exclusive employment of union members, though an individual employer might do so (McCord *v.* Thompson-Starret Co., 198 N. Y. 587, 92 N. E. 1090).

The importance of collective agreements will doubtless increase rather than diminish. Absolute individualism can not be maintained in the face of the far reaching changes in industrial organization originating in the office of the employer rather than in the meeting rooms of the labor unions. The State has taken a hand in so far as the employment conditions of women and minors are concerned by the establishment of minimum wage commissions, authorized to fix a rate below which services are not to be rendered, while in several jurisdictions such commissions have authority to determine legal standards of employment. If the State is not to act in behalf of adult male workers, thousands of whom are employed by a single corporation, it would seem a necessary alternative that there should be a recognition of agreements made by groups of workers or their representatives in conference with the representatives of the employer. The question is complicated by the existence of large numbers of workers who do not choose to become members of the union, but for whom the law must afford protection against an infringement of their rights by aggressive organized agencies; but this can not be taken as justification for disregarding the choice and purpose of workers who desire by affiliation and combined effort to equalize somewhat the situation between themselves and their employers, whose economic conditions are unequal, comparing individual with individual, by reason of which the so-called freedom to contract may be made illusory.

"Serious Misconduct" Under the California Compensation Law.

SECTION 6b of the Workmen's Compensation Act of California provides that where an employee is injured by reason of the serious and willful misconduct of the employer, the amount of compensation recoverable shall be one-half larger than the normal rate fixed by the law. The construction of this provision was considered in a case recently decided by the Supreme Court of Cali-

fornia (E. Clemens Horst Co. *v.* Industrial Accident Commission, 193 Pac. 105). The case was that of a woman whose hair was caught in a revolving shaft by which she suffered the complete loss of her scalp. She was employed in a vegetable-drying plant, inspecting the work of a potato-peeling machine. Directly over her head was a rapidly revolving shaft, about 5½ feet above the platform on which she stood. The shaft was unguarded below, though on the side nearest the employee it was protected by a board. The situation was usually safe, but in attempting to clear away the potatoes from a slicer, the mouth of which had become clogged, the worker shifted her position so that her hair was caught with the result indicated. It was admitted that the accident happened in the course of her employment, and no question is made of her right to recover compensation. What was objected to was an award increased by one-half above the normal on account of the alleged willful and serious misconduct of the employer.

The finding of the commission had been that the construction and maintenance of the shaft were in direct and open violation of the safety requirements of the workmen's compensation act and also of General Safety Order No. 6 (A) of the Industrial Accident Commission; and on these grounds it based the applicant's right for the increased award. The court sustained the position of the commission, ruling that there was "serious misconduct," which the court defined as "conduct which the employer either knew or ought to have known if he had turned his mind to the matter, to be conduct likely to jeopardize the safety of his employees." As to the question of whether the conduct was "willful" it was conceded that knowledge is required, but "it seems to us that in order to prove the requisite knowledge, it is not necessary for the evidence to show positively that the employer was notified of the unsafe condition of his premises, but that it is sufficient if it appears that the circumstances surrounding the act of commission or omission are such as 'evinced a reckless disregard for the safety of others and a willingness to inflict the injury complained of.'" The failure to guard the shaft was shown to be a direct violation of the general safety order, and the finding that the violation was "serious and willful misconduct" was held to be sustained.

The company made the further claim that this provision of the act was in itself unconstitutional, being beyond the legislative power. The State constitution authorized the enactment of a compensation law, and the court construed the increased compensation as the judgment of the legislature that where an injury is due to the willful misconduct of the employer he shall be made to pay an added portion of the amount usually awarded as the employer's share of the burden of the injury; the increase is therefore not for exemplary damages, but merely the carrying of a larger share of the risk where the risk is due to the employer's misconduct. The provision was therefore upheld.

It is of interest to note that a similar provision of the Ohio compensation law was construed by a Federal court as not meaning a deliberate intent to do bodily injury, but simply actions in utter disregard of consequences (McWeeney *v.* Standard Boiler & Plate Co., 210 Fed. 507). Here the legislature rejected this view, which corresponds with that of the California court above, and defined a

"willful act" as "an act done knowingly and purposely with the direct purpose of injuring another." This coincides more closely with the position of the Supreme Court of Oregon, though there the term construed was "deliberate intent;" this was said not to imply carelessness or negligence however gross but a determination to injure (Jenkins *v.* Carman Mfg. Co., 155 Pac. 703).

Workmen's Compensation Insurance in Ohio.

THE long drawn battle against the power of the State to prescribe the mode of carrying workmen's compensation insurance in Ohio would seem to have been brought to an end by the action of the Supreme Court of the United States on December 20, 1920. In the MONTHLY REVIEW of April, 1917 (pp. 552–554), some account is given of a decision of the State supreme court construing provisions of law forbidding insurance in stock companies. (See also MONTHLY REVIEW for August, 1916, pp. 60, 61.) The law of Ohio provides an exclusive State fund, but permits employers to carry their own risk subject to approval by the industrial commission of the State. Self-insurers are forbidden to insure their liability in stock companies and are required to make a contribution to the expense account of the State insurance fund. The validity of this law was sustained by the supreme court of the State in State *v.* Employers' Liability Assurance Corp., 116 N. E. 513, and State *v.* U. S. Fidelity & Guaranty Co., 117 N. E. 232; these cases were decided in January and April, 1917. Cases were subsequently carried to the Supreme Court of the United States from the United States court of appeals questioning the right of the State to compel the cancellation of a contract of insurance, valid when drawn, and excluding private companies from writing workmen's compensation insurance in the State, these actions being taken through the industrial commission in carrying out its duty under the laws of the State. In considering the question the Supreme Court regarded the validity of the laws as settled by the action of the supreme court of the State, "and our inquiry is confined to the effect upon them of the Constitution of the United States."

The contention was made by the plaintiffs "that insurance against loss is the right of everybody, and specifically it is the right of employers to indemnify themselves against their liability to employees, and that the right is so fixed and inherent as to be an attribute of liberty removed from the interference of the State." In deciding this case (Thornton *v.* Industrial Commission of Ohio, Dec. 20, 1920) the court took notice of the provision of the Constitution of Ohio authorizing the enactment of a workmen's compensation law and the establishment of an insurance fund in connection therewith, the same to be administered by the State. This law had been declared constitutional in Jeffrey Manufacturing Co. *v.* Blagg (235 U. S. 571, 35 Sup. Ct. 167), as had laws of like general import in New York and Washington. The construction placed upon its law by the supreme court of the State was to the effect that the commission had power to "at any time change or modify its findings of fact if, in its judgment,

such action is necessary or desirable to secure or assure a strict compliance with all of the provisions of the law." This was accepted as expressing the power of the commission to terminate concessions made by it to employers to deal directly with their employees, if, in the judgment of the commission this was necessary or desirable. The court found that this conclusion does not transcend the power of the State or in any way violate the Constitution of the United States. Continuing the court said:

> The law expressed the constitutional and legislative policy of the State to be that the compensation to workmen for injuries received in their employment was a matter of public concern, and should not be left to the individual employer or employee, or be dependent upon or influenced by the hazards of controversy or litigation, or inequality of conditions. There was an attempt at the accommodation of the new policy to old conditions in the concession to employers to deal directly with their employees, but there was precaution against failure in the provision of section 22 giving discretion to the commission to withdraw the concession. After a few years' experience, that discretion was turned into a duty and by the amendment of March 20, 1917, the concession was taken away from those employers who indemnified themselves by insurance. This was considered necessary to execute the policy of the State, and we are unable to yield to the contention that property rights or contract rights had accrued against it. To assert that the first steps of a policy make it immutable, is to assert that imperfections and errors in legislation become constitutional rights. This is a narrow conception of sovereignty. It is, however, not new and we have heretofore been invoked to pronounce judgment upon it. Complying, we said, that an exercise of public policy can not be resisted because of conduct or contracts done or made upon the faith of former exercises of it upon the ground that its later exercises deprive of property or invalidate those contracts.

Provisions for the Settlement of Labor Disputes in Bolivia.

THE United States consul at La Paz, Bolivia, has furnished this bureau, through the Department of State, the following text of a decree issued by the Committee of Government, on September 29, 1920, the purpose of which is to provide means for the settlement of labor disputes. The consul states that a threatened general strike on the Bolivian Railroad was said to have been averted through the mediation of a board appointed in accordance with the provisions of this decree.

Text of the Decree.

The Committee of Government (*Junta de Gobierno*), considering: That within the Republic there have been repeated strikes, whose conduct it is necessary to regulate in the future within the practices of modern law, in order that they may not lead to results solely prejudicial to the social interests of the country,

Decrees:

ARTICLE 1. In the cases in which workmen and employers join together to declare a strike or decide on a lockout because of differences arising, they shall be subject to the following conditions:

ART. 2. Notification of strikes or lockouts shall be given to the departmental authorities eight days in advance of the date set for the strike or lockout, in the following cases:

(*a*) When the strikes or lockouts may tend to produce a shortage in the supply of water or light, or suspend the service of railways or street-car lines.

(*b*) When by reason of the strike or lockout the sick or inmates of asylums, in the hospitals and houses of charity, would thereby be deprived of proper attention.

ART. 3. Notification of strikes or lockouts shall be given to the departmental authorities five days in advance in all other cases not included in the previous article.

ART. 4. Leaders and promoters of strikes who do not comply with the above requirement shall suffer the penalty of a fine of not less than 500 bolivianos [$194.65, par] nor more than 2,000 bolivianos [$778.60, par].

ART. 5. The workmen or allied employers who are not in accord with a decision of strike or lockout shall have the right to freely differ from the collective decisions of their unions or associates, without incurring any responsibility whatsoever.

ART. 6. Those who in order to form, maintain, or prevent agreements among employers, agreements among workmen, strikes of workmen, or lockouts by employers resort to violence and coercion sufficient to compel and force their will on workmen and employers engaged in the free and legal exercise of their business or work, shall be punished by 20 to 60 days' imprisonment.

ART. 7. Usual crimes committed against the life and security of persons or their property, in connection with strikes or lockouts, shall be punished in conformity with the penal code.

ART. 8. Immediately upon the Ministry of Government having knowledge of a projected strike or a strike already begun, it shall send a commission of one to investigate on the part of the workmen and of the employers the determining causes of the strike or lockout.

ART. 9. Every dispute arising from disagreement between employers and employees shall be submitted to a board of conciliation which shall endeavor in every way possible to reach a settlement of the difficulties. If, notwithstanding this intervention, the disagreement shall continue, it shall be submitted to arbitration.

The interested parties in the dispute shall have the right equally to refer their case directly to arbitration by arbitrators agreed upon by themselves.

ART. 10. In order to settle strikes or lockouts, there shall be formed boards of conciliation composed of one representative of the Government, two of a chamber of commerce or mining company, and one named by each of the two disputing parties.

ART. 11. The arbitration decisions shall be binding on the parties concerned in the dispute, without necessity of intervention on the part of the judges of the courts for their fulfillment. But the decisions rendered shall affect in no way the laws in force at that time.

ART. 12. Government and other public employees shall not declare themselves on strike under any pretext whatsoever. Any action contrary to this regulation shall be considered contrary to the law so far as legal action thereupon is concerned.

ART. 13. The Ministry of Government shall register the present decree.

Passage of 8-Hour Law in Costa Rica.

THE United States minister at San Jose, Costa Rica, has forwarded to this bureau through the Department of State the following translation of the 8-hour-day law passed over the veto of the president on November 29, 1920, by the Congress of Costa Rica:

THE CONGRESS OF THE REPUBLIC OF COSTA RICA DECREES:

ARTICLE 1. That the normal labor which may be required of day laborers, artisans, and other workmen on farms, in shops, and other similar concerns shall be fixed at eight hours a day, and at ten hours for clerks and commercial employees. The chiefs, superintendents, or managers shall fix the daily wage or monthly salary in accordance with the work herein stipulated.

ART. 2. The work done by the persons mentioned in the foregoing article in excess of the ordinary hours specified shall be counted as overtime and shall be paid for as follows: Twenty-five per cent of the regular wage or salary for the first three hours of extra work, and 50 per cent, at least, for the remaining overtime.

ART. 3. The number of daily working hours shall not exceed 15, and in such cases the employee must prove that he is in good health.

HOUSING.

Building Operations in the United States.

STATISTICS of building operations, collected by the United States Geological Survey and recently published under the title "Building operations in the larger cities," show the number of permits issued and the cost of building operations in the principal cities of the United States as indicated by reports obtained from the building departments of these cities. Although these figures are not complete for the entire country, no reports having been received from the smaller cities or rural communities, it is believed that they are indicative of conditions for the country as a whole.

Building operations of 128 cities are shown for 1919 by classes of buildings, both the number of permits issued and the cost being given separately for wooden buildings and for those of brick or hollow tile, and figures for additions, alterations, and repairs are separated from those for new buildings.

Unfortunately permits for residential buildings are not shown separately, being included with buildings for industrial, business, educational, religious, public, and other purposes. According to figures for 1920, obtained from a different source and including building contracts aggregating about two and one-half billion dollars, only about 22 per cent of the cost of all buildings erected during the year was for those intended for residential purposes. An ideal form of records would show the number of families provided for.

According to the report of the Geological Survey the year 1918 showed less building activity than any one of the preceding 20 years, and the country was at least a year behind in buildings. The high cost of building and the antagonistic attitude of the public toward increased rents made necessary thereby diverted capital to more lucrative fields and so retarded building operations. One-sided and often unjust legislation also had the same effect.

The report shows that 67 per cent of the total number of classified operations, 73 per cent of all new operations, and 69 per cent of additions and alterations were of wooden buildings.

The following table compares the building operations in 60 of the leading cities of the United States in 1918 and 1919:

BUILDING OPERATIONS IN THE LEADING CITIES OF THE UNITED STATES IN 1918 AND 1919.

City.	1918		1919		Increase, 1919 over 1918.	
	Number of permits or buildings.	Cost.	Number of permits or buildings.	Cost.	Cost.	Percentage.
Akron, Ohio	2,185	$4,112,236	6,894	$27,219,436	$23,107,200	561.9
Atlanta, Ga	2,044	3,572,086	3,022	10,442,739	6,870,653	192.3
Baltimore, Md	6,170	5,390,483	5,554	17,574,847	12,184,364	226.0
Boston, Mass	3,977	7,704,190	6,042	23,520,855	15,816,665	205.3
Bridgeport, Conn	982	3,040,913	1,464	4,846,909	1,805,996	59.4
Buffalo, N. Y	3,457	7,014,000	5,886	13,033,000	6,019,000	85.8
Cambridge, Mass	454	2,170,368	754	3,592,534	1,422,166	65.5
Camden, N. J	481	7,727,187	1,236	3,421,270	[1] 4,305,917	[1] 55.7
Canton, Ohio	917	1,845,067	2,018	6,039,960	4,194,893	227.4
Chester, Pa	1,193	5,129,267	560	1,277,432	[1] 3,851,835	[1] 75.1
Chicago, Ill	2,529	34,792,200	6,589	104,198,850	69,406,650	199.5
Cincinnati, Ohio	3,200	4,265,635	4,734	9,058,531	4,792,896	112.4
Cleveland, Ohio	8,668	16,385,800	12,283	47,707,975	31,322,175	191.2
Columbus, Ohio	1,824	3,301,220	3,436	6,345,760	3,044,540	92.2
Dallas, Tex	537	1,668,030	1,594	14,695,608	13,027,578	781.0
Denver, Colo	1,960	2,595,890	3,036	6,779,880	4,183,990	161.2
Des Moines, Iowa	670	4,460,566	1,220	5,266,185	805,619	18.1
Detroit, Mich	7,010	18,226,832	21,473	82,995,071	64,768,239	355.3
Duluth, Minn	1,243	2,627,814	2,066	5,453,463	2,825,649	107.5
El Paso, Tex	1,041	626,121	1,269	2,255,580	1,629,459	260.2
Flint, Mich	670	945,453	4,772	13,657,424	12,711,971	1,344.5
Fort Wayne, Ind	329	913,124	771	2,228,792	1,315,668	144.1
Grand Rapids, Mich	858	1,199,985	1,808	3,784,088	2,584,103	215.3
Hartford, Conn	808	2,978,561	1,552	9,084,340	6,105,779	205.0
Houston, Tex	2,206	2,270,649	1,432	6,281,306	4,010,657	176.6
Indianapolis, Ind	4,308	4,558,676	7,454	12,794,556	8,235,880	180.7
Jersey City, N. J	684	4,232,693	1,008	4,557,951	325,258	7.7
Kansas City, Mo	1,910	5,649,645	1,900	9,544,925	3,895,280	68.9
Los Angeles, Calif	6,381	8,678,862	13,209	28,225,833	19,546,971	225.2
Louisville, Ky	1,213	2,017,432	2,163	4,140,714	2,123,282	105.2
Memphis, Tenn	643	1,591,078	1,974	7,518,950	5,927,872	372.6
Milwaukee, Wis	11,043	6,513,096	4,388	20,006,303	13,493,207	207.2
Minneapolis, Minn	3,695	5,395,740	6,704	17,309,160	11,913,420	220.8
Nashville, Tenn	1,211	534,783	1,962	2,159,873	1,625,090	303.9
Newark, N. J	1,696	5,336,033	3,182	20,102,812	14,766,779	276.7
New Bedford, Mass	352	976,714	762	7,005,423	6,028,709	617.2
New Haven, Conn	928	3,227,058	1,758	8,910,917	5,683,859	176.1
New Orleans, La	542	1,770,930	1,065	5,249,092	3,478,162	196.4
Newton, Mass	352	469,423	829	3,569,399	3,099,976	660.4
New York, N. Y.:						
Bronx	1,847	5,207,320	3,888	23,385,799	18,178,479	349.1
Brooklyn	4,824	21,566,382	17,890	77,280,360	55,713,978	258.3
Manhattan	2,668	17,697,650	3,962	106,773,373	89,075,723	503.3
Queens	2,228	6,768,138	8,910	46,022,687	39,254,549	580.0
Richmond	1,308	2,362,514	2,840	4,295,268	1,932,754	81.8
	12,875	53,602,004	37,490	257,757,487	204,155,483	380.9
Oakland, Calif	2,948	5,382,160	4,059	7,134,573	1,752,413	32.6
Omaha, Nebr	941	3,709,554	1,959	9,022,647	5,313,093	143.2
Peoria, Ill	532	1,941,163	919	7,050,048	5,108,885	263.2
Philadelphia, Pa	5,820	15,340,500	14,509	65,088,750	49,748,250	324.3
Pittsburgh, Pa	2,571	7,938,350	4,832	14,731,616	6,793,266	85.6
Portland, Oreg	5,707	6,176,047	8,922	9,840,725	3,664,678	59.3
Providence, R. I	2,532	4,963,100	3,406	8,077,200	3,114,100	62.7
Richmond, Va	949	1,838,614	2,339	8,770,452	6,931,838	377.0
Rochester, N. Y	1,361	1,949,551	3,525	9,641,579	7,692,028	394.6
St. Louis, Mo	5,396	6,352,582	7,923	20,538,460	14,185,878	223.3
St. Paul, Minn	1,977	10,152,709	4,159	19,258,733	9,106,024	89.7
San Francisco, Calif	3,688	7,924,319	5,363	15,163,242	7,238,923	91.4
Seattle, Wash	12,016	10,876,183	12,993	15,575,590	4,699,407	43.2
Sioux City, Iowa	416	3,097,209	1,137	7,028,413	3,931,204	126.9
Springfield, Mass	787	1,598,423	1,593	5,879,845	4,281,422	267.9
Toledo, Ohio	1,529	2,660,161	3,650	7,899,132	5,238,979	196.9
Washington, D. C	4,362	10,675,632	7,255	20,665,683	9,990,051	93.6
Waterbury, Conn	1,251	3,852,620	1,482	4,767,867	915,247	23.8
Worcester, Mass	1,195	2,066,734	2,219	5,925,164	3,858,430	186.7
Youngstown, Ohio	1,726	4,577,984	2,141	6,990,089	2,412,105	52.7
Total	160,950	362,591,439	281,698	1,108,665,038	746,073,599	205.8

[1] Decrease.

In using the above comparison it should be borne in mind that the figures include all classes of permits, from the repair of a small garage to the erection of a large apartment house or office building, that the figures reflect the increased cost of building operations and in some cases at least do not represent the same class of building in both 1918 and 1919. Camden, N. J., for example, shows an increase of 157 per cent in number of permits and a decrease of 55.7 per cent in cost of buildings. The totals for the 60 cities show an increase of about 75 per cent in number of permits and of 205.8 per cent in total cost of operations.

The table following shows by years, from 1909 to 1919, inclusive, the number of permits, total cost of buildings, and average cost per permit or building for some of the larger cities of the United States:

BUILDING OPERATIONS IN SOME OF THE LARGER CITIES OF THE UNITED STATES, 1909 TO 1919.

Year.	Number of cities.	Number of permits or buildings.	Cost.	Average cost per permit or building.
1909	137	273,883	$930,520,713	$3,398
1910	145	282,661	916,353,775	3,242
1911	145	279,017	863,968,860	3,096
1912	143	278,129	919,809,054	3,307
1913	147	285,850	859,657,250	3,007
1914	147	281,174	785,525,746	2,794
1915	144	292,707	821,120,657	2,805
1916	146	347,761	1,046,276,549	3,009
1917	145	266,686	700,700,815	2,627
1918	143	210,538	430,014,365	2,042
1919	141	365,972	1,302,998,607	3,560

Of the 141 cities reporting for 1919, as shown in the preceding table, 128 reported by classes of structures. The tendency toward economy in building, by alterations, additions, and repairs, is apparent in the table following, which shows the operations for 141 of the larger cities in 1918 and 1919. While many of the cities did not report according to the classification given in the table, it is believed that the figures are accurate enough to indicate the relative importance of the kinds of operations shown.

DIFFERENT CLASSES OF BUILDING OPERATIONS IN 141 OF THE LARGER CITIES IN 1918 AND 1919.

Class.	1918				1919			
	Number of permits or buildings.	Cost.	Percentage of total.		Number of permits or buildings.	Cost.	Percentage of total.	
			Number.	Cost.			Number.	Cost.
New construction	81,516	$269,750,562	41	72	186,933	$951,047,495	55	84
Alterations, additions, and repairs	95,196	85,699,971	47	23	131,729	171,024,832	39	15
Miscellaneous	24,074	17,504,495	12	5	20,846	15,246,442	6	1
Total	200,786	372,955,028	100	100	339,508	1,137,318,769	100	100

The foregoing figures relate to all building operations for whatever purpose, no attempt being made to show residential buildings separately.

The following table, taken from Building Statistics for December, 1920, published by the F. W. Dodge Co., of New York City, covers the States north of the Ohio, and east of the Missouri River and classifies the building and engineering operations according to the purpose for which the structure is to be used. The number of projects or buildings, the new floor space provided, and the valuation are shown for each of the 11 classifications. The figures are for actual contracts awarded during the calendar year 1920. Residential buildings include all apartments, flats and tenements, dwellings, barns and farm buildings, dormitories, hotels, and private garages and stables.

BUILDING AND ENGINEERING CONTRACTS AWARDED DURING THE YEAR 1920 IN STATES NORTH OF THE OHIO, AND EAST OF THE MISSOURI RIVER.

Class of buildings.	Number of projects.	New floor space, in square feet.	Valuation.
Business	10,760	82,631,600	$420,146,500
Educational	2,029	26,295,100	172,468,600
Hospitals and institutions	587	6,052,100	47,542,800
Industrial	6,138	128,329,800	591,964,500
Military and naval	175	1,294,600	12,996,800
Public	536	2,834,300	26,647,700
Public works and public utilities	6,408	.....	594,242,930
Religious and memorial	949	5,061,400	41,342,000
Residential	[1] 28,962	136,345,000	565,930,985
Social and recreational	1,308	12,355,300	91,126,300
Miscellaneous	7	.....	172,800
Total	57,859	.....	2,564,581,915

[1] 68,781 buildings.

It is seen that the valuation of contracts awarded for residential buildings is about 22 per cent of the valuation of all contracts awarded.

Comparative data showing the total contracts awarded during each year, 1910 to 1920, as shown by the report of the F. W. Dodge Co., are as follows:

AMOUNT OF CONTRACTS AWARDED DURING EACH YEAR, 1910 TO 1920.

Year.	Contracts.	Year.	Contracts.
1910	$805,700,399	1916	$1,356,989,397
1911	777,456,313	1917	1,618,157,000
1912	868,103,000	1918	1,689,242,000
1913	857,698,500	1919	2,579,880,000
1914	720,241,300	1920	2,564,582,000
1915	940,089,334		

Beginning with 1915 a gradual increase in the amount of contracts awarded is noted each year, except for 1920, but data are not available to show how much of this increase is caused by the higher cost of materials and labor, nor are the figures at hand to show what proportion of the valuation is for residential buildings each year, but the index number of the United States Bureau of Labor Statistics for lumber and building materials for 1920 shows that the cost of these materials has increased 218 per cent since 1914. The aver-

age increase in wages of 35 building trade occupations, 1920 over 1914, equals about 87 per cent. The actual volume of construction represented by the higher money valuations of the later years is, therefore, comparatively small.

In an article published in The American Contractor for January 8, 1921, containing an estimate based on building permit statistics for 14 large cities, it is estimated that the accumulated deficit amounts to about 147 per cent of the normal annual building program, and that therefore in 1921 we face a demand equivalent to a normal output of two and one-half years.

Housing Notes from Foreign Countries.

Australia.

WITH regard to the housing problem in Adelaide, South Australia, the Sydney (New South Wales) Morning Herald of October 22, 1920, says:

After discussing the high cost of building and housing problems the Master Builders' Federal Convention has affirmed by resolution that the contributing causes were:

"1. The shortage and high cost of materials, due to the dislocation of industry, and consequently lessened production as a result of the war.

"2. The extreme scarcity of labor due to the great demand for houses under the repatriation scheme; the loss of mechanics in industry killed and incapacitated at the war; the lessened output due to shortening of hours, elimination in some States of work on Saturdays, and general decrease of efficiency; and the moving of men out of industry on to the land."

It was recommended that—

"1. Vocational training classes be continued and made available for the purpose of training unskilled men.

"2. The erection of buildings other than residential should be limited.

"3. The abolition of all duties other than revenue on all building materials."

The convention also strongly recommended that State associations take into their serious consideration the urgent necessity for encouragement and formation of suburban and district associations to be represented at the convention, and that uniformity be secured in the allowance of trade discounts to members of associations by suppliers of materials by placing members of the associations of convention on the wholesale basis.

Home Building for Ex-Service Men in Victoria.[1]

The State of Victoria is putting into effect comprehensive home-building plans for returned soldiers and sailors. The War Service Homes Commissioner has purchased large areas for subdivision and is having them laid out in accordance with the latest town-planning ideas. It is expected that the road construction, footpaths, parking, tree planting, and utility services will be completed about the same time the houses are finished. Provision has been made for 1,115 dwellings in the vicinity of Melbourne.

Hungary.[2]

IN A recent interview the Hungarian commissioner of lodging affairs stated that the Government was about to take active measures for the construction of houses in various congested areas and that they

[1] Data taken from Commerce Reports, Nov. 12, 1920, p. 694. Washington.
[2] Data from the American consul at Budapest, dated Oct. 29, 1920.

were prepared to set aside a sum of fifty million crowns for meeting these urgent building needs. The lack of houses is a crying necessity in all the larger cities of Hungary. The greatest of all is the need in Budapest, whose present population is estimated to be 50 per cent greater than before the war. Beside the causes which appear in general in most of the greater European cities to produce abnormal congestion (viz, the crowding in from the country districts to the town, cessation of new constructions since the outbreak of the war, etc.), there has been in Budapest a great influx of public officials and other persons who have fled from the territories of prewar Hungary now occupied by Czecho-Slovaks, Rumanians, and Jugoslavs. Many of these refugees are now, and have been since the autumn of 1919, residing in box freight cars which stand on switches of the principal railway stations in Budapest and many other parts of the country. It now appears that the Hungarian Government will take some active measures toward new construction—of which hitherto there has been almost none. The situation in Budapest has hitherto been relieved principally by the lodging office, which has forcibly commandeered all space considered to be in excess of the requirements of the occupier and thereby found accommodation for a great number of persons within the existing structures.

The sum of 50,000,000 crowns (about $125,000 at the current rate of exchange, but probably having a purchasing power in Hungary of more than twice that) is, of course, not a vast sum, but it should nevertheless considerably relieve the situation if wisely expended. It will likewise improve conditions of railway transport by rendering available for freight purposes the box cars now occupied as residences.

New Zealand.[3]

THE demand for workingmen's homes in the different centers of New Zealand far exceeds the supply. The scarcity of building materials, the high cost of construction, and the timidity of private capital in the matter of investment in private houses or business properties have brought about an acute situation. To meet this condition Parliament has appropriated $3,742,900 for the building of homes for the workers in various parts of the Dominion during the coming year.

Scotland.[4]

DUNDEE authorities are now proposing to experiment in cottage municipal houses. Plans have been prepared for a total of 1,200 cottages to be erected in Craigie, Maryfield, and Balgay districts.

These cottages, it is claimed, will cost at least £1,400 ($6,813.10, par) each, which will result in an aggregate expenditure by the municipality of something like £1,500,000 ($7,299,750, par).

The houses will be of two sizes, one type being a five-room house and the other a six-room house. The necessary sites have been acquired for the cottages, and the roads are now being constructed.

[3] Data taken from Commerce Reports, Nov. 17, 1920, p. 754. Washington.
[4] Data from the American consul at Dundee, Scotland, dated Dec. 8, 1920.

LABOR ORGANIZATIONS.

Nationality of Members of International Seamen's Union of America.

THE following tables showing the nationality or nativity of members of the International Seamen's Union of America at specified dates were compiled at the office of the United States Shipping Board from membership cards of the organization as they were found in the several districts. The original facts as to nativity are obtained in order that any wages unpaid or any money otherwise due at a member's death may be transmitted through the proper channels to such relatives as he shall designate and which is noted on the cards. As has been intimated, the figures represent nativity of members rather than nationality, since the union has not yet been able to obtain figures showing the number of members who have been naturalized.

NATIONALITY OF MEMBERS OF THE INTERNATIONAL SEAMEN'S UNION, DEC. 1, 1920, AS COMPARED WITH SEPT. 1, 1919, AND JULY 1, 1917.

Dec. 1, 1920.[1]

Nationality.	All districts.		Atlantic and Gulf coasts.			Great Lakes.			Pacific coast.		
	Number.	Per cent.	Sailors.	Firemen.	Cooks.	Sailors.	Firemen.	Cooks.	Sailors.	Firemen.	Cooks.
Argentina	323	0.21	5	298	.....	2	.....	2	7	7	2
Austria	917	.59	114	320	187	91	60	34	45	26	40
Belgium	1,197	.77	376	405	336	8	13	1	19	29	10
Britain[2]	19,083	12.23	3,520	4,650	5,934	1,141	839	473	1,415	494	617
Bulgaria	16	.01	6	.....	.....	.....	5	3	.....	2	.....
Chile	837	.53	6	692	.....	.....	.....	.....	50	49	40
Cuba	275	.18	.....	218	56	.....	.....	1	.....	.....	.....
Denmark	4,937	3.16	2,246	1,296	461	139	29	17	580	74	95
Finland	3,574	2.29	1,874	538	.....	151	64	12	925	.....	10
France	476	.31	.....	113	250	11	7	15	45	10	25
Germany	2,767	1.77	542	478	421	179	130	59	605	103	250
Greece	3,045	1.95	76	2,182	345	21	75	12	140	182	12
Holland	2,776	1.78	1,154	541	757	45	21	4	164	38	52
Italy	1,818	1.17	463	645	411	159	18	24	50	18	30
Mexico	935	.60	.....	468	139	.....	.....	.....	180	78	70
Norway	8,810	5.65	2,427	2,865	591	696	152	53	1,675	182	169
Philippine Islands	716	.46	.....	699	.....	.....	.....	.....	14	3	.....
Poland	107	.07	.....	.....	.....	.....	71	29	7	.....	.....
Portugal	2,372	1.52	536	1,269	476	.....	.....	.....	17	12	62
Roumania	57	.04	.....	47	.....	.....	4	4	.....	2	.....
Russia	3,683	2.36	1,643	532	471	292	105	34	435	161	10
South and Central America, not specified.	1,103	.71	195	100	756	.....	.....	.....	.....	52	.....
Spain	7,251	4.64	342	4,890	1,585	15	31	2	32	275	79
Sweden	8,300	5.32	2,464	3,249	336	431	201	38	1,340	181	60
Switzerland	292	.19	.....	68	132	9	17	13	15	8	30
Turkey	295	.19	.....	197	38	2	3	1	13	38	3
United States	79,565	50.99	20,963	23,695	14,801	4,914	3,191	3,718	2,335	4,146	1,802
Others[3]	475	.30	2	416	.....	22	8	27	.....	.....	.....
Total	[4]156,002	100.0	38,954	50,871	28,483	8,328	5,044	4,576	10,108	6,170	3,468

[1] The Pacific: About 90 per cent organized; sailors practically all A. B.'s. The Great Lakes: About 50 per cent organized; sailors are in the majority A. B.'s, a minority ordinary seamen. The Atlantic: Practically 90 per cent organized.

[2] Includes all British possessions.

[3] Includes Serbia, Hawaiian Islands, Lithuania, Hungary, Bohemia, Syria, Jugo-Slavia, Porto Rico, Asia, Iceland.

[4] The president of the union, Andrew Furuseth, explains that the active membership is about 104,000. An active member is one paid up within six months. The total as given arises from the great turnover, especially on the Lakes and among the firemen on the Atlantic.

NATIONALITY OF MEMBERS OF THE INTERNATIONAL SEAMEN'S UNION, DEC. 1, 1920, AS COMPARED WITH SEPT. 1, 1919, AND JULY 1, 1917—Concluded.

Sept. 1, 1919.

Country of birth.	All districts.		Atlantic and Gulf coasts.			Great Lakes.			Pacific coast.		
	Number.	Per cent.	Sailors.	Firemen.	Cooks and stewards.	Sailors.	Firemen.	Cooks and stewards.	Sailors.	Firemen.	Cooks and stewards.
All countries	89,167	100.0	19,068	25,286	11,594	7,104	6,938	3,702	8,781	3,570	3,124
United States	39,347	44.1	8,463	10,123	4,857	3,888	4,079	2,910	1,609	2,192	1,226
Scandinavia	16,078	18.0	5,614	3,489	559	1,315	706	111	3,625	367	292
British Empire	10,990	12.3	1,070	2,503	2,674	934	1,052	448	1,266	328	715
Mediterranean countries	9,700	10.9	1,223	5,962	1,337	164	310	47	160	303	194
Eastern and southeastern Europe	5,072	5.7	1,610	888	135	443	424	86	1,330	125	31
Central and southwestern Europe	4,937	5.5	969	915	1,040	357	367	95	669	151	374
Latin America (including Dutch West Indies)	2,465	2.9	119	907	992	3	.....	3	122	101	218
Philippines and Hawaii	576	0.6	.....	499	.....	.....	.....	.....	.....	3	74
All others	2	0.0	.....	.....	.....	.....	.....	2	.....	.....	.....

July 15, 1917.

All countries	42,467	100.0	7,956	6,567	5,629	4,239	4,416	1,073	6,669	3,011	2,847
United States	12,219	28.8	1,327	1,250	1,910	1,910	2,231	799	529	1,350	910
Scandinavia	10,854	25.6	3,413	1,739	230	1,006	457	70	3,102	550	287
British Empire	6,866	16.2	530	709	2,152	614	926	135	651	352	797
Mediterranean countries	3,061	7.3	374	1,441	465	56	134	6	83	311	191
Eastern and southeastern Europe	3,423	8.1	1,144	378	47	260	206	16	1,225	108	39
Central and northwestern Europe	5,582	13.2	1,163	1,092	748	351	454	46	1,038	321	459
Latin America (including Dutch West Indies)	258	0.6	5	48	54	.....	1	.....	41	19	90
All others	144	0.3	.....	.....	23	42	4	1	.....	.....	74

Constitution Adopted by Labor Congress at Guayaquil, Ecuador.[1]

THE following is a copy of the constitution adopted by the recent labor congress at Guayaquil which expresses the sentiments and aspirations of the labor people of Ecuador.

The workers of the Republic of Ecuador, reunited in congress in the city of Guayaquil, agree to the following constitution:

ARTICLE 1. The Federation of Ecuadorian Workers is herewith established, formed of the societies represented in this congress and all that may be established hereafter if they so desire.

ART. 2. The object of this Federation is the moral, intellectual, economic, and material betterment of the working classes of Ecuador, and for the unification of all labor organizations to secure:

(*a*) Our rights as citizens guaranteed by the Constitution of the Republic;

(*b*) The principal objects and organization of all classes of workers in the Republic;

(*c*) Encourage their instruction;

(*d*) Obtain from the public powers the passage of new laws and simplify the existing laws for the improvement of the common people;

(*e*) The participation of all federated societies in all matters relating to political and military parties in the country, as well as questions that would injure the religious beliefs of the various social classes.

ART. 3. This federation to employ adequate measures for the attainment of its object under the constitution and laws of the State, and for its protection proposes:

[1] Data furnished by United States consul at Guayaquil, Ecuador, under date of Nov. 12, 1920.

(*a*) To encourage within the workers true patriotism and the compliance with their duties through the spread of civic and moral instruction;
(*b*) To cultivate in the male and female workers a dignified character, reciprocal respect, fraternity, solidarity, cooperation, love of work, sobriety, hygiene, etc., combating especially gambling and alcoholism;
(*c*) To procure for all workers of the Republic all the political and military rights guaranteed by the constitution;
(*d*) Assist in organizing the female workers.
ART. 4. For the realization of these objects proper laws shall be secured:
(*a*) On accident to workers;
(*b*) Regulation of the hours of work;
(*c*) Protection of women and crippled children;
(*d*) Reduction in cost of living;
(*e*) Construction of hygienic houses to be acquired by a system of amortization;
(*f*) Free medical assistance, rest on Sunday;
(*g*) Establish savings banks, and loan offices with no interest;
(*h*) Protection of the aborigines;
(*i*) Freedom from fiscal and municipal taxes to cooperative societies dealing in foodstuffs;
(*j*) Freedom from taxes on unproductive land;
(*k*) Forced labor;
ART. 5. To realize these it is proposed:
(*a*) To establish primary and technical schools for children under age, business schools for workers, libraries, conferences, popular lectures, boarding schools in the capital of each province for children of the Indian race;
(*b*) To establish professional syndicates, mutual aid societies, cooperative production and consumption societies, employment offices, information bureaus, banks of loan and deposit;
(*c*) To found homes for old and invalid workers, trades schools for orphans and indigent children, and
(*d*) To improve by all possible means the hygienic conditions of the workers, particularly by the construction of adequate houses for them.
ART. 6. The federation shall procure by all possible means from Congress a ministry of office of labor to look after labor legislation, and enforce all the laws relating to the working classes.

After a discussion from October 7 to 15, the foregoing constitution was signed by the representatives of the various societies.

Labor Organization in China.[1]

ALTHOUGH labor in China can not be said to be organized in the sense that labor is organized in Europe and America, there have been in China from time immemorial guilds which have played an important part in the life of the people. These guilds are either composed of natives of the same province or town, or merchants or craftsmen in the same line of business. They have, speaking generally, not concerned themselves so much with rates of wages or labor conditions as with the protection of their members against official exactions and the rendering of assistance in money or kind in time of trouble. Of late years, and more especially since the war, these guilds have increased in number, and in a place like Shanghai they now embrace almost every form of labor, skilled and unskilled. There are guilds of stevedores, wheelbarrow and ricksha coolies, chauffeurs, and even cooks, in fact almost every class of labor employed

[1] Excerpts from report for the year 1919 on the conditions and prospects of British trade with China. Appendix III, pp. 50–53. Great Britain, Department of Overseas Trade, London, 1920. Cmd. 853.

by foreigners, and during the present year students, merchants, shopkeepers, and streets have formed themselves into associations and unions. The inherent capacity of the Chinese for combining and blind obedience to the orders of their superiors has placed great power in the hands of those, often professional agitators, who lead them, as is shown by what happened in June, 1919, in Shanghai, when, in sympathy with the students' movement against the Japanese, all the Chinese shops in the Foreign Settlement closed their doors, coolies refused to load or unload ships, and crews to go to sea in them; workers in the shipbuilding yards came out, and even chauffeurs in foreign employment went on strike—the only explanation the latter were able to give being that the guild had ordered them to do so.

It is certain that the movement above described will gather in strength as time goes on and the result of the privileges and immunities recently gained by labor in other countries becomes known and understood in China. For the moment labor unrest in China is prevented from becoming serious owing to the hand to mouth existence led by the vast majority of the people and the lack of funds in the hands of the guilds which make it difficult to organize and carry on strikes for more than a very brief period. Moreover, most of the guilds and the recently formed associations are local and not directly connected with similar bodies in other parts of the country, thus preventing action being taken on a wide and national scale. But the movement already constitutes in Shanghai, Peking, Canton, and other large towns, an anxious problem for the Chinese authorities and the foreign interests concerned. They are, for instance, at the time of writing, faced with the threat of another general strike of shopkeepers and workers in the International Settlement at Shanghai as a means of forcing the municipal council to accept Chinese members on the council, the watchword of the promoters of the agitation being "No taxation without representation," a phrase hitherto unknown in China, and quite meaningless to the vast majority of the people.

LABOR CONDITIONS.

Efficiency of Seamen on the Pacific Coast.[1]

THE efficiency of seamen on the Pacific coast has fallen off approximately 50 per cent in the last six years. Efficiency has been eaten into from two sides. A large number of men have gone to navigation schools and become officers of vessels. That takes away from the men before the mast that amount of actual skill. Then, we have now in this country some 12,000,000 tons of shipping instead of 2,000,000. While a large number of men who had quit the sea have returned, and quite a number of workmen have quit the sea, there necessarily must have come into the service a very large number of entirely new men, and it takes years to train seamen into actually efficient men. On the Pacific coast it has operated this way to a certainty, and the actual efficiency in the handling of the vessels' gear and appliances and in doing the work for the vessels in any sense has been reduced approximately 50 per cent. The shipowners now understand this and the reasons for it, and some of them are doing the best they can consistent with their business to assist in developing the old standard of efficiency again. It was a remarkable fact that while the wages on the Pacific prior to 1915 were at least 50 per cent higher than on the Atlantic, the cost of transporting a ton of freight or 1,000 feet of lumber for any given distance was probably about 30 per cent less than on the Atlantic. Of course, on the Pacific the seamen handle the cargo and they at all times handle the ship's gear, which has the advantage that the gear is taken better care of and therefore lasts longer. The method used in developing this system on the Pacific was first to give the members of the union the preference; and, secondly, to insist that the union should examine applicants for membership and reject those who are not reasonably efficient; thirdly, the men obtain their employment directly from the officers of the vessels, which always results in a constant weeding out of men who either can not or will not learn to do their work as they should; fourthly, there was an understanding that the officer of the vessel might discharge a man who was found inefficient or failed to do his work reasonably proper at any place.

School for Seamanship.

ACCORDING to an announcement in the Seamen's Journal (San Francisco), for December 8, 1920, a school for seamen is about to be established in San Francisco by the Sailors' Union of the Pacific, one of the Pacific district organizations of the International Seamen's Union of America. The purpose of this new educational venture is

[1] The first paragraph of this article is a statement by Andrew Furuseth, President of the International Seaman's Union of America, Dec. 11, 1920.

to train men in the arts of the sea. Some of the older members of the union will act as instructors.

It is the desire of the union to maintain a high standard of craftsmanship and to compensate for the dilution of the merchant marine personnel during the war with untrained seamen.

Prior to the war young American apprentice seamen did not have to be trained. European countries furnished a sufficient number of able seamen. The war, however, affected this supply. Moreover, the adoption of the La Follette Seamen's Act resulted in wage increases for seamen both in Europe and in America, as the law made it possible for seamen reaching American ports on foreign vessels to quit and contract with American vessels for American wages. In consequence foreign shipowners were forced to raise wages, which has tended to make sailors remain on ships of their own nationality.

Home Workers in New York City Tenements.[1]

IN 1919 under the auspices of the Child Welfare Committee of the Women's City Club of New York, Mrs. Mary G. Schonberg made an intensive study of tenement home work in that city. Some of the findings of this investigation of 500 families in which home work was being done constitute a strong argument for a campaign of education and publicity in order that legislation may be enacted to abolish altogether what is declared to be an "iniquitous" phase of industry.

The articles made at home were as follows:

For men: Slippers, shirts, neckwear, pants, vests, coats, overcoats, hat bows on sweat bands, and pajamas.

For women: Corset covers, stockings, spats, waists, smocks, dresses, aprons, neckwear, silk vests, crochet buttons, swiss embroidery, tassels, flowers, feathers, dress trimmings, gloves, snap fasteners, hat pins, hats, powder puffs, and veils.

For children: Infants' petticoats, dresses, coats, pillow slips, carriage covers, children's dresses, boys' jackets, knitted caps, and toy watches.

Miscellaneous and household articles: Table cloths, tags, lamp shades, night lights, flannel bags, paper bells and garlands, novelty paper caps, umbrellas, cushions, and gold and silver embroidery on uniforms.

Some of the facts brought out in the survey were as follows:

1. Of the 500 families studied, 93 per cent were Italians and 7 per cent other nationalities.

2. Fifty-two per cent of the workers worked less than 6 hours a day, and 48 per cent worked more than 6 hours a day, and many of them worked 9 and 10 hours a day.

3. Eighty-two per cent of the workers earned less then 20 cents an hour, 17 per cent earned between 20 and 50 cents an hour, and only 1 per cent earned more than 50 cents an hour. This 1 per cent was composed of contractors whose exploitation of home workers is particularly vicious.

4. Forty-seven per cent of the workers earned $5 or less a week, 42 per cent earned between $5 and $10 weekly, and about 11 per cent earned more than $10 a week.

When it is remembered that these home workers were living in highly congested districts in crowded houses, tenements, or flats (425, or 85 per cent, of the families investigated lived in four rooms or less) and that 82 per cent of the families have four or more members, the seriousness of the problem is realized.

[1] Summarized from report published in The American Child, published by the National Child Labor Committee, New York City, November, 1920, pp. 257-261.

Industrial home work conflicts with family duties, children are neglected, homes are uncared for, mothers are exhausted, and the children of home workers are made to labor in time they should spend in play and study. Even when the children do not actually assist in the industrial home work, they carry goods to and from the factory and inadequately perform many of the household tasks that their mothers have not the time or energy to do, such as dishwashing, sweeping, cooking, and taking care of the babies. School records indicate that "many children engaged regularly in homework attend school irregularly, are dull when they do attend and frequently fail in their term's work."

Labor Unrest in France.[1]

By ANICE L. WHITNEY.

IN FRANCE as in all the countries affected by the war the conditions resulting from the long struggle which left the world depleted of raw materials, food, credit, and men, have contributed to augment the unrest among working people which was making itself felt before the outbreak of the war in 1914. Among the specific causes of dissatisfaction and unrest which are fairly general in all the countries are unemployment, scarcity of food and fuel, high cost of living, profiteering, depreciation of national currency, failure of the Governments to keep promises made to the workers, and agitation of radical labor leaders. In France all these factors are included and resentment is also felt because of failure to adequately enforce the eight-hour day and because of the arrest of labor leaders during the strikes of last May and the failure of the Government to release them. Underneath all these causes, however, is the fact that the policy of the General Confederation of Labor (Confédération Générale du Travail), the powerful trade-union organization of the country, is and always has been essentially a revolutionary one.

Union Organization.

THE growth of trade-unionism is comparatively recent in France, for while freedom of association was recognized by ancient French law, it was, except for short intervals, denied to French workmen up to the year 1860. From that time to 1884 it was tolerated and there was a slow growth in workmen's societies up to 1884 when a law was passed according freedom of association to both employers and workers, but it was not until 1901 that these rights were fully granted. Organization has always been more complete among employers than among the workers, though since 1914 membership in employees' federations has been increasing rapidly, that of the General Confederation of Labor having grown from about 500,000 in 1914 to more than 2,000,000 in 1920. The General Confederation of Labor is com-

[1] In preparing this article the current numbers of the following publications have been used: Bulletin du Ministère du Travail, Bulletin de la Statistique Générale de la France, Christian Science Monitor, The Contemporary Review, The Economic Review, L'Économiste Français, The Economist, La France Libre, French Labor Year Book—1919, L'Humanité, L'Information Ouvrière et Sociale, Labour Overseas, Monthly Labor Review, Political Science Quarterly, Questions Pratiques Droit Ouvrier, La République Française, New Statesman, La Travailleuse.

posed of two sections—the national federation of the unions (syndicats) of a given trade or industry and the local Bourses du Travail made up of the syndicates of a given locality irrespective of the nature of their trade, which are in turn united into a National Federation of Bourses. The federations and bourses are exclusively composed of "syndicats rouges" (red unions) which are divided into two groups; the revolutionary syndicates upholding class war and the social revolution, and those dealing only with trade questions.

The aims of the C. G. T. (Confédération Générale du Travail), as expressed in the first article of the constitution are as follows:

(1) To unite wage earners in the defense of their moral and material, their economic and professional interests;

(2) The Confederation unites, apart from all political theses, all workers who are conscious of the struggle to be waged in order to destroy the system of wage earners and employers.

Recent affiliations to the C. G. T. are the Federations of Civil Servants which include the Postal Federation, the Federation of Officeholders, and the Federated Union of State Employees. An organization with somewhat similar aims is the recently formed amalgamation of four organizations of agricultural workers called the National Federation of Agricultural Laborers.

Not all of the workers' organizations in France are founded on the principle of the class struggle, however. There are the so-called "syndicats jaunes" (yellow unions), founded in 1900 and working to better the conditions of the workmen by law and upholding the entente between employees and employers; the recently formed Confédération National du Travail which has approximately 100,000 adherents, largely ex-soldiers, and which stands for agreement between capital and labor and against the struggle of the classes, and the Federation of Christian Workers, with a membership of 140,000 which stands for the defense of the occupational interests of its members and is considered to have been instrumental in bringing about the failure of the general strike last spring through its orders to its members.

French Socialist Party.

IT IS impossible in a consideration of present tendencies and conditions in the working-class movement to exclude the French Socialist Party, which while it is in the main limited to political action is made up largely of the working classes and is inspired by the same theories and ideas as those of the General Confederation of Labor. Each branch of the labor movement is independent or autonomous; that is, there is no stable tie connecting the trade union, socialist, and cooperative groups and they do not meet except in special definite cases to plan their policy, so that it is seldom that the members of the Socialist Party are called upon to act as propagandists of trade-unionism or the cooperative movement. On the other hand, prominent members of the Socialist Party have a large part in determining the policy of the C. G. T. through their membership in that organization.

In 1920 there were 160,000 members' cards issued by the Socialist Party, but this is hardly an index of the party's strength since in the November, 1919, elections approximately one-fifth of the more than 8,000,000 votes cast were for Socialist candidates.

General Labor and Industrial Conditions.

UNEMPLOYMENT at the present time is very serious throughout the country and is increasing with great rapidity. By the first of December it was stated that the electrical industry was practically the only one which remained normal. Various estimates place the number of unemployed at the present time at from 500,000 to 1,000,000. Industries which are particularly badly off are all luxury industries and iron and steel, automobile, textile, clothing, silk, glove, hides and skins, fur, and shoe industries.

The causes of unemployment are many; they include overproduction, lack of organization in some industries for export trade, the difficulties met in adapting some of the mechanical industries to postwar manufacturing, lack of money for reconstruction in the devastated regions, high cost of raw materials, scarcity of coal, etc. The fundamental cause, however, seems to be the lack of confidence which is felt by bankers and financiers as a result of the expected lowering in prices which has caused merchants, manufacturers and public to await the lower prices before increasing stocks or buying. As a result of the accumulation of stocks due to the sudden cessation of orders and the failure of the banks to extend credit many industries have been forced to reduce wages and salaries and when strikes have resulted manufacturers have indicated their willingness to close their factories if the cuts were not accepted.

In spite of the difficulties due to scarcity of money and materials progress in reconstruction in the 10 invaded Departments has been rapid in the past 15 months. On the 1st of October 77 per cent of the industries located in these regions had resumed work with from 45 to 60 per cent of their prewar personnel employed in the different localities.

The Economic Council.

BECAUSE of the economic difficulties of the country demands were made by the C. G. T. that an economic council representing workman and employer, producer and consumer, should be appointed by the Government. A commission called the economic council was, after some discussion, appointed but as it was unsatisfactory to the labor bodies the C. G. T. formed an economic council early in the past year on which were represented, in addition to the C. G. T. itself, the National Federation of State Employees, the National Federation of Cooperatives and the newly formed Union of Industrial, Commercial and Agricultural Technical Workers (U. S. T. I. C. A.), which is made up of engineers and intellectual workers engaged in productive processes who have until recently held aloof from social propaganda. Projects which so far have been advocated by the council are nationalization of railroads, of mines, and of water power and creation of a bureau of national economics.

Manifestations of Labor Unrest.

The General Strike.

THE strikes and disorders which marked the year 1919 and in which the strikers had been almost uniformly victorious increased in strength and violence in March and May, 1920. To the demands for

more wages and shorter hours was added the demand for "industrialized nationalization." The general strike was precipitated by the more radical element among the railwaymen on the 1st of May on the ground that the Government had not kept its promise to collaborate with the C. G. T. in considering the question of nationalization. The strike was opposed by several unions of railway workers not affiliated to the C. G. T. and was therefore not complete upon most of the lines. On the 2d of May the C. G. T. called upon the miners, seamen, and dockers to support the railwaymen by going on strike, and on the 8th of May a similar order was issued to the metal workers, building workers, road transport and aviation workers. On the 10th of May employees in the electric power houses of Paris were called out and on May 12 the Paris Union of Gas Workers and the furniture workers were ordered to go on strike. A reduced service of omnibuses, tramways and taxicabs was maintained in Paris, but large numbers in the building and metal trades, seamen, dockers, and miners went on strike. Some of the railway companies decided to close their repair shops and give their work to private firms and as a result about 13,000 men were thrown out of employment.

The strike of the miners lasted between eight and twenty days in the different districts and affected 120,000 workers, causing an immense loss in wages and production. By the 20th of May the strike was practically over except on the railways, on which an order was given by the C. G. T. for a general resumption of work on May 29.

As a result of the strike about 2,600 employees were dismissed from the railways and a number of the leaders were either dismissed or arrested. Several editors and anarchist leaders were arrested because of their activities in connection with the strike. Among them were the editors of La Vie Ouvrière and Populaire; M. Loriot, the Communist leader; M. Le Bourg, secretary of the Federation of Soviets, and six other militant anarchists who were charged with inciting the strikers by placards to continue the strike, and these and other militants were accused of a plot against the security of the State.

The strike resulted in much ill-feeling within the ranks of labor itself, the extremist elements, which had forced the strike at a time when the moderates thought the country was not ready for it, having to give ground to the moderates who resumed control.

The Suit Against the C. G. T.

One of the results of the strike was the decision of the minister of justice and the law officers of the Republic on May 11, to institute proceedings against the C. G. T. with the object of forcing the dissolution of the organization. The action was based on alleged infringements of the law of 1884 which legalized trade-unions for the study and defense of their occupational interests only.

The specific charges against the C. G. T. were that it had exceeded its authority as laid down in the law of 1884 by dealing with such questions as military intervention in Russia, by demanding general amnesty for political prisoners, and by agitation for the nationalization of industries. It was charged also that unions, such as the federations of civil servants, had been admitted irregularly and had defied

the law under cover of the confederation and that it had abandoned its impartial rôle and had been organizing the country politically. The defendants in the action were M. Jouhaux, secretary; MM. Dumoulin, Laurent, and Lapierre, assistant secretaries; and M. Calveyrac, treasurer.

An alliance has been formed recently between the organizations of officeholders, including the Postal Federation, the Federation of Officeholders, and the Federated Union of State Employees, for the purpose of defending the right to organize and to oppose the law introduced into the Chamber of Deputies restricting organization of employees in the public service. This alliance has been enlarged by the adherence of the federations of public utilities, of railroad workers, of State auxiliaries of the health service and of education, of the police and of the interunion committee of the city of Paris, representing altogether more than 1,000,000 persons.

M. Jouhaux, secretary of the General Confederation of Labor, replying to the charges made by the judge in charge of the Government proceedings, claimed that the aims of the organization had not been questioned by successive governments since 1914, that M. Clémenceau had invited the C. G. T. to collaborate in drawing up the article in the peace treaty dealing with the international labor questions; that frequently favorable hearings had been obtained from both M. Millerand and M. Clémenceau on questions of amnesty; and denied that the demand for nationalization and the May Day strike were pretexts for social revolution and a war on capitalism or that the economic council had been formed to work for revolution which the C. G. T. could not openly do.

On January 13, the eleventh court of correction before which the Government's case against the C. G. T. was tried ordered the dissolution of the confederation. In addition to the order to dissolve the defendants were sentenced to a nominal fine of 100 francs ($19.30, par) each and an expert was named to dispose of the property of the union. An appeal against the decision will be lodged by officers of the confederation.

The Ministry of Posts, Telegraphs, and Telephones opened on September 2 a judicial investigation with a view to prosecuting syndicates of employees of the ministry. The national council of the Postal Federation met two days later to protest against the action of the Government against the subordinate official classes (the manual workers' union is not included in the action) and decided to withdraw all trade-union delegates who were working on official committees with the postal administration. A resolution was passed that even if the law restricting the organization rights of government employees was passed their organization would remain trade-unionist. On the other hand, the recently formed police union, on being ordered by the Government to dissolve, submitted the question to a referendum vote of its members and as a result it was decided at a meeting of the Federation Council on September 4 to dissolve the organization.

An appeal was issued on the same day by the C. G. T. to the federations of civil servants not to dissolve their associations in consequence of the persecution of the Government.

Trade-Union Congresses.

The check to the revolutionary movement of last May and the numerous defections which in the following months made gaps in many organizations have provoked in different congresses held since that time, in all regions and among all groups, some interesting controversies on the questions of aims and methods, which reached their culmination in the congress of Orleans in the latter part of September.

The national congress of railroad men, which met in the first part of September, voted on two resolutions, one approving unreservedly the attitude and conduct of the "extremists" who were responsible for the May strike and the other affirming that the strike would have gained in efficacy if a complete and effective agreement had been realized between the General Confederation of Labor and the Federation of Railroad Men before a general strike was attempted. The latter resolution presented by the majority party was finally passed. Two other resolutions were placed before the congress, one which was designed to ally the federation with the Third International and the principle of the class struggle was defeated, while the other, favoring the immediate resumption of relations with the Government and with the companies, resulted in another victory for the "moderates." At congresses of the textile workers, and skin and leather trade workers, held during the month of September, the question of adherence to the Third International was voted upon and in both instances was rejected. Several other congresses held in this same month, however, while not voting on the question of adherence to the Communist International, did affirm their belief in direct action and a revolutionary policy. A congress of 55 minority trade-unions held at Limoges passed a resolution in favor of beginning a revolutionary agitation "to institute, as in Russia, a régime of social justice and real equality" and demanding the liberation of militants in prison. The miners voted about the middle of September to adhere to the Third International, but this action was reversed the next week and the resignation of their secretary, which had been handed in as a result of their action, was not accepted. A congress of all the trade-unions of Marseilles refused to subordinate the trade-union movement to political activities even at the direction of the "pontiffs of Moscow."

A committee of action, subordinated to no party, called the League for the Rights of Man, with M. Anatole France as president and other well known literary men among the members, was recently formed for the purpose of defending freedom of speech. The first object the committee proposed to work for was the release of the imprisoned militants and amnesty for the Black Sea mutineers, the sailors who refused to fight the Bolshevists.

The Orleans Congress.

The Congress of the General Confederation of Labor was held at Orleans September 27. The discussions of the congress revolved about the questions of the methods and policies of the organization as interpreted by the "moderate" and the "extremist" elements. The fight of the moderates was led by M. Jouhaux and that of the extremists by M. Frossard, who, with M. Marcel Cachin, editor of

L'Humanité, was a delegate to the Moscow International last summer and both of whom have since been working to promote acceptance of the Third International by the labor unions and the Socialist Party. M. Jouhaux defended the policy of the majority leaders of the C. G. T., stating that the plans they were advocating were steps toward revolution; that their first aim was to secure for the workers a share in management which would prepare them eventually to assume complete control and that the "industrialized nationalization" plan of the economic council, while not revolution itself, was a step toward revolution. He also took issue with the proposal of the extremists for simple expropriation of the capitalists in upholding the principle of compensation.

The last day of the congress was given to a discussion of the future policy of the C. G. T. The number of speakers was limited to four—MM. Merrheim and Rey for the resolution proposed by the "moderates" and MM. Frossard and Bouet for that of the "extremists." M. Frossard, in agreeing with the majority group of the federation that the C. G. T. should be an autonomous body and not subject to a political party, proposed that a committee of action similar to the one formed in England should be established in case circumstances necessitated it. He did not deny the charges of brutality of the dictatorship of Lenin but maintained that it was necessary and of a temporary character only and that the duty of the French proletariat was to uphold the Russian revolution from the attacks of capitalists, that being essential to the inauguration of the universal revolution.

There were three resolutions placed before the convention, one by the "minority" unions, another still more extreme than that of the minority, which received little attention, and one by the "majority" unions.

The resolution of the majority group, reaffirmed the "Amiens resolution" which holds that their revolutionary aim is "more than ever incompatible with existing institutions, with capitalism and its political expression." The immediate aims of the C. G. T. were stated to include control of commerce and industry and the industrialized nationalization of vital industries. The work of the International Labor Office in its endeavor to secure legislation for the protection of labor was indorsed. The resolution further expressed the indignation of the congress against the French Government, stating that it "is the servile tool of reaction all over the world." Complete solidarity with the Russian revolution was voiced and the need for continual agitation for the total restoration of peace, the independence of the Soviet Republic, and free self-government in Russia. The closing paragraph of the resolution is as follows: "For these reasons the congress declares that the constitutional basis of the C. G. T., the principles of autonomy which it has hitherto maintained, and its methods of action, are in strict accordance with the present needs of the struggle, with the improvements to be realized and with the revolutionary powers to be attained. The C. G. T. proclaims once more before the whole world its ideal of economic liberation by the abolition of the wage system."

The minority resolution charged the C. G. T. with compromise and condemned the Amsterdam International for submitting to such

leaders as Jouhaux, Appleton, and Mertens, who were during the war advocates of "jusqu'au boutisme" (pursuing the war to the bitter end) and of the slaughter of workers by each other. The most important part of the resolution, however, was the statement that there is but one revolutionary international, that of Moscow, and that the obvious duty of the C. G. T. was to give adherence to it.

The vote on the resolutions resulted in a decided victory for Jouhaux and the "moderates," the majority resolution receiving 1,479 votes against 602 for that of the minority group.

The plan of the extremists as a result of this defeat did not include secession from the C. G. T. but rather a scheme of systematic propaganda within the organization to enlarge and extend their revolutionary ideas and organization.

Much interest was shown by the press of the country as to the results of the congress. According to editorial articles in Les Journal des Débats, Le Temps, and Le Matin, the carrying of the final motion by the "Majoritist" party does not signify the end of Bolshevist agitation in France, but only that methods different from those of Moscow are considered advisable. "In spite of the victory of Longuet and his branch of the party," Le Temps says, "the C. G. T remains to-day, as it was yesterday, a formidable organization for social war. Furthermore, the entire program of syndical demands is there to show that the C. G. T. will renounce nothing of its revolutionary ideals; the nationalization of essential industries and means of exchange, the control by workingmen of industry and commerce so as to wrest from employers their authority, the suppression of salaries, and complete solidarity with the Russian revolution—such are the essential points of a program which is considered as a thing to be put into immediate realization. It is very difficult to understand why after all Moscow repudiates the C. G. T. since the latter is striving by its own means, which are not the least dangerous, to prepare the way for the brutal realization of the dictatorship of the proletariat." L'Humanité, the principal of the extreme Socialist organs, on the other hand rejoices that the highest official of the Socialist Party (M. Frossard) not only spoke there but spoke in the name of the revolutionary minority, showing, the paper said, that in the future "revolutionary socialism will refuse to efface itself before 'reformist' trade-unionism."

Propaganda for the Third International.

On October 19 the administrative committees of the C. G. T. and the Unified Socialist Party met to discuss the support of the Russian revolution. M. Jouhaux, of the C. G. T., and MM. Renaudel and Mayeras, of the Socialist Party, refused to indorse common action unless the Socialist Party pledged itself not to encourage partisans of the Third International. An agreement was reached, however, between the Bureau of the C. G. T., the Socialist Party, and the League for the Rights of Man by which an intensified propaganda of the Third International was to be permitted within the C. G. T. A committee was formed composed of three delegates from each organization and this committee immediately began organizing meetings in the Department of the Seine and the chief towns of France to inaugurate the campaign in favor of Russia. This action provoked

much dissension within the ranks of the labor organizations, and at a meeting of the National Council on November 9 a resolution was passed declaring that the federations could take punitive action against sections obeying instructions of the Third International.

At a meeting of the Socialist Federation of the Seine in November the results of the months of Bolshevist agitation were evidenced in the result of the votes cast for the resolutions of MM. Cachin, Longuet, and Paoli-Blum. The Cachin resolution indorsing the Third International and accepting the terms imposed by the Moscow leaders was carried by 13,000 votes against less than 3,000 for the other two combined.

A committee of socialist resistance was formed shortly after to combat "efforts at division and civil war among the workers, conducted in full agreement by the Committee of the Third International, the Citizens Cachin and Frossard, and all those who gave support to their tactics by signing the so-called motion of adherence to the Third International." This anti-Bolshevist committee has as members such Socialist leaders as Renaudel, Blum, Varenne, and Mayeras. The committee is not in disagreement with the principles of the Third International, but objects to the fact that acceptance of conditions and statutes is made obligatory and that the Communists wish to safeguard themselves by expelling in advance all who do not accept the dictatorship of Moscow. It appears to be only a question of a struggle for supremacy between the old and new leaders of the party, since both Socialists and Communists agree in their purpose to combat the established social order by every means in their power.

The Socialist Congress at Tours, held the last week in December, carried by a large majority the resolution to uphold the Moscow International. Le Temps accounts for the success of the "extremists" on the ground that their groups consist of new elements and that the old elements are turning more and more from a party which has caused them nothing but disappointment. Socialism in Parliament is regarded as having been a failure and is said to have lost credit with the rank and file, so that the leaders are trying to recover an appearance of power by the conquest of the labor organizations and the attempt to form revolutionary centers among the trade-unions.

The congress had an echo in the French Parliament, where a speech was made by M. Cachin, leader of the Socialist Party in the Chamber of Deputies, which, though not as incendiary as the one he delivered at Tours, was still sufficiently revolutionary to bring down the condemnation of the chamber. As a result an overwhelming vote of confidence was given to the Government, 541 votes to 54, the strongest vote of confidence yet given to the premier.

The results of all this revolutionary agitation within the ranks of labor, since it evoked the principle of direct action in the strikes of May, seems to be a division which can only have the effect of decidedly weakening the power and influence of both the labor unions and the Socialist Party. There is evidence, however, that the more moderate views will prevail, since M. Longuet announced recently that he had received more than 50,000 applications for membership in the new Moderate Socialist Party which he formed as a result of the split.

The Threatened Strike of the Miners.

On November 3 the National Council of Underground Workers issued two manifestos appealing for support in the general strike which was called for November 15, one addressed to the miners and the other to workers in other industries and to the public. The demand was for increased wages, but the charge was made in this as in other strikes that the workers were seeking control of the industry. The committee of employers stated in connection with the demand of the miners that since 1913 wages had gone up 368 per cent, while the average individual output had fallen 35 per cent, and that if wages were raised it would be necessary to raise the price of coal, which was already selling at 270 francs ($52.11, par) per ton in Paris. Meetings between the ministers of public works and labor, of mine owners, and mine workers resulted in postponement of the strike and final agreement by which, while the operators refused to raise wages, the allotment for large families was increased. A demand for the reinstatement of miners striking on the 1st of May was met by the employers with a promise only to consider each case on its merits. The agreement was almost unanimously ratified by the miners.

Economic Gains of Labor.

INFORMATION as to material gains of labor since the war is very vague and incomplete. Minimum rates of wages fixed by collective agreements between employers and workers show substantial increases over prewar rates in principal occupations in the different Departments in 1919. The index numbers (based on 1913 = 100) for wages of masons vary in different Departments from 236 to 375; stonecutters, 250 to 370; carpenters, 250 to 375; joiners, 300 to 409; blacksmiths, 273 to 365; plumbers, 263 to 350; tilers, 286 to 375; painters, 250 to 333; upholsterers, 275 to 393; navvies, 287 to 469; building laborers, 280 to 473. While in 1917 it was stated that it was unusual except in the war industries and in the vicinity of Paris to find as much as 10 francs ($1.93, par) per day being paid, in 1920 it was not unusual to find a daily wage of from 18 to 24 francs ($3.47 to $4.63, par). In such industries as automobile manufacturing and the metal trades laborers were receiving from 18 to 24 francs daily, while skilled workers were paid from 32 to 40 francs ($6.18 to $7.72, par) for an eight-hour day.

The movement for allowances for families of employees grew rapidly during the war and was taken up both by individual employers and by groups of employers in the same industry and the same region. The movement was especially strong in industries working for the national defense, metal trades, mechanical construction, chemical products, woodworking, and mines. During the past summer many new compensation funds have been started. In Lyons 450 firms established such funds and in Paris 480 firms paid out between March and June, 1920, more than 4,000,000 francs ($772,000, par) to about 39,000 families. The funds usually allow about 25 francs ($4.83, par) per month for two children and 100 francs ($19.30, par) for four or more. Methods of distribution are tending to become uniform, but the rates vary according to the conditions of the particular district. These bonuses are not looked upon with favor by the trade-unions.

The 8-hour law was passed on April 23, 1919. This is a general law designed to be put into effect by each industry through executive order. The distribution of hours within the week or period, temporary and permanent exceptions, and rest periods are determined by the executive order for each trade or locality. Consultation with employers and workers is required in advance of promulgation of orders and decrees. Much dissatisfaction has been expressed by labor because of delays in different industries in putting the law into effect, while protests have been general from employers' associations and chambers of commerce of the different cities against extension of the 8-hour day to more industries at the present time. The principal arguments advanced against it are that output has been reduced to a greater extent than the working hours, that transport has been affected adversely, that agricultural laborers have flocked to the towns, that the law has tended to increase the cost of necessities, and that it has spread discontent throughout the agricultural, industrial, and commercial world.

The alleged reduction in output as a result of the 8-hour day has been the reason for refusing wage increases in the building trades in which the employers claimed that hourly production had decreased as much as 25 per cent while the textile manufacturers stated that the results of the 48-hour week had been disastrous.

In March, 1920, the law of 1884 in regard to trade-unions was amended to extend the civil rights of unions. The additional rights granted include the ability to acquire property, the guaranty of the protection of the law in cases of direct or indirect injury to the collective interest of the trade they represent, protection of union labels, right to form cooperative buying and selling organizations for their members, and protection from seizure of property essential to the business of the unions.

With the exception of the above laws there seems to have been little ameliorative legislation passed in France recently beyond the amendments relating to retirement annuities and unemployment funds, extension of the accident insurance law to cover occupational diseases, and a law by which State and employees are to share in the profits of mines.

Attitude of the Public.

AT THE time of the general strike in May numerous civic unions were started throughout the country, organized by business and professional men, to combat the strikes in public utilities. These unions, which refused to interfere in local industrial disputes, were undoubtedly an important factor in terminating the railroad and transport workers' strike and may be taken as somewhat indicative of public opinion. A member of the C. G. T., writing of them in the Revue du Travail, said, "It is foolish to ignore the importance of the civic unions. They represent a working class which by a large majority is opposed to any revolutionary action and a middle class which is capable of self defense."

The general elections of 1919 showed a decided swing to the Right in spite of the large Socialist vote cast. The election was a triumph for the "bloc national," an alliance of Conservatives and members of other parties, which became by this election the strongest party

in the Chamber of Deputies. Sixty-eight Socialist deputies were elected, whereas in 1914 there were 102 elected. This loss was accounted for by the Socialists by the change in methods of representation, by coalition of other parties against the Socialists, by the "untrue" system of counting votes, and by the wave of anti-Bolshevism which was used against the party. Other reasons given as causes for this setback of the party were the fear of the peasants of the soviet land scheme, the strike of the linotypers and typographers which came at the height of the electoral campaign and which stopped the publication of all but the Socialist newspapers, and the undoubted reaction against the revolutionary aims of the party.

The senatorial election of January 9, 1921, is considered to have had all the importance of a general election, although only 98 senators—one-third of the Senate—are elected at this time. The final returns show a slight gain for the liberal elements, but it is stated that this gain is so slight as practically to amount to a defeat of the liberals and all the ministerial candidates except the minister of agriculture were returned. On January 12 Premier Leygues and the entire cabinet resigned as a result of the vote of lack of confidence in the general policy of the Government, the vote being 463 to 125, which is said to be the largest vote cast against a French Government since the founding of the Third Republic. This vote is a triumph for the "bloc national," which stands for the integral enforcement of the peace treaty.

Conclusion.

THE general tendencies in the labor movement as represented by the dominant labor group, the C. G. T., and by the labor leaders within the Socialist Party, seem to be the increasing disposition to subordinate ordinary trade-union aims to the furtherance of extreme revolutionary ideas. Although there is no doubt that the Russian revolution has brought the possibility of a dictatorship of the proletariat in other countries seemingly within the bounds of more immediate realization to those disposed to sanction such a cause, the communistic ideas of the working people had taken root before the war and had been most strongly evidenced in the elections of 1914. The union of the labor leaders with the other parties during the war in the "Union Sacrée" for the purpose of the common defense of the country silenced for a time the aspirations for control of the workers. The war ended and the need for united action being past, however, the old differences reasserted themselves, augmented by the economic difficulties which were a result of the war and by the propaganda which has been carried on by the leaders of the Russian revolution. As a result of the general strike in May there is said to have been a loss in membership of about 300,000 in the C. G. T., but this is more than counterbalanced by the adherence to the C. G. T. of approximately 1,000,000 of the State employees, which if allowed to continue by the Government, offers possibilities of serious complications through the liability of strikes against the Government by its employees. As has been indicated throughout the article the political implications are the important ones in such a situation as is presented in France at the present time and the feelings

of the people as a whole may be perhaps more accurately gauged by the results of the elections on January 9 and the resignation of the entire French cabinet on January 12 than by the radical resolutions of the labor parties. Although the Socialists have cited such events as the recent by-election in which a Socialist candidate, Renaud Jean, was overwhelmingly elected after a defeat by the national party a year ago, and the result of the Tours Congress as evidence of an impending Socialist landslide, the senatorial elections showed that there had been practically no change in the past 15 months in the general attitude of the people.

Production and Labor Conditions in German Hard-Coal Fields.

Compiled by ALFRED MAYLANDER.

THE International Labor Office at Geneva has recently issued two reports on production and labor conditions in the coal mines of the Ruhr basin and Upper Silesia in Germany.[1] A brief summary of the two reports with additional available information follows:

Production Before, During, and After the War.

THE Ruhr basin comprises all the mines of the lower Rhine and Westphalia and centers in the industrial region of the basin of the Ruhr. The mining region of Upper Silesia is only part of the immense area which includes the mines of Dombrowa on the east and the area of Mährisch-Ostrau on the west; it extends to the whole southern and eastern part of Upper Silesia.

The mines in the Ruhr basin are nearly all owned by large mining companies and by iron and steel works. Those in Upper Silesia formerly belonged exclusively to great noble families, but to-day some of the large mines are owned by the Prussian State and by large mining stock companies.

German hard-coal production reached its highest point in 1913 with 190,109,440 metric tons.[2] Of this amount 179,861,015 metric tons (94.61 per cent) were mined in Prussia. The two largest coal fields of Prussia, those of the Ruhr basin and of Upper Silesia, contributed 114,486,847 (60.22 per cent) and 43,434,944 metric tons (22.85 per cent), respectively, to the total German hard-coal production in 1913. A recently published business report of the Rhenish-Westphalian Coal Syndicate for the fiscal year 1919–20, a digest of which was given in the issue of October 21, 1920, of Stahl und Eisen, a trade jounal of the German iron and steel industry, contains a table showing the hard-coal production of Germany, Prussia, the Ruhr basin, and Upper Silesia for the years 1892–1919. The table is reproduced below in part:

[1] International Labor Office. La production du charbon dans la Ruhr. Geneva, Sept. 1, 1920. (Etudes et documents Série B, No. 1.); and The conditions of labor and production in the Upper Silesian coal field. Geneva, December 10, 1920. (Studies and reports series B, No. 3.)

[2] 1 metric ton=1,000 kilograms (2,204 pounds).

HARD-COAL PRODUCTION OF GERMANY, PRUSSIA, THE RUHR BASIN, AND UPPER SILESIA, IN SPECIFIED YEARS, 1892 TO 1919.

[Source: Stahl und Eisen, Düsseldorf, Oct. 21, 1920, p. 1425. 1 metric ton=2,204 pounds.]

Year.	Germany.	Prussia.		Ruhr basin.		Upper Silesia.	
	Metric tons.	Metric tons.	Per cent.	Metric tons.	Per cent.	Metric tons.	Per cent.
1892	71,372,191	65,442,558	91.69	37,216,610	52.14	16,437,489	23.03
1895	79,169,276	72,621,509	91.73	41,490,103	52.41	18,066,401	22.82
1900	109,290,237	101,966,158	93.30	60,336,017	55.21	24,829,284	22.72
1905	121,298,607	113,000,657	93.16	66,915,097	55.17	27,014,708	22.27
1910	152,827,777	143,771,612	94.07	89,314,838	58.44	34,460,660	22.55
1911	160,747,126	151,324,030	94.14	93,799,880	58 35	36,653,719	22.80
1912	174,875,297	165,302,784	94.53	103,092,608	58.95	41,074,600	23.49
1913	190,109,440	179,861,015	94.61	114,486,847	60.22	43,434,944	22.85
1914	161,384,711	152,955,961	94.78	98,358,293	60.95	36,996,106	22.92
1915	146,867,563	140,007,429	95.33	86,778,371	59.09	38,106,787	25.95
1916	159,169,666	152,284,343	95.67	94,563,391	59.41	41,723,292	26.21
1917	167,311,000	159,531,013	95.35	99,365,085	59.39	42,751,766	25.55
1918	160,508,000	152,809,966	95.20	96,027,510	59.83	39,647,968	24.70
1919	116,500,000	112,031,141	96.16	71,163,670	61.08	25,932,372	22.26

In 1914, the first year of the war, the German hard-coal production, which had been one of the chief factors of the industrial prosperity of Germany in prewar times, fell to 161,400,000 metric tons, and in 1915 it decreased still further to 146,900,000 tons. In 1916 production shows an increase, as war prisoners had been assigned to coal mines in very large numbers. In 1917, in pursuance of the Hindenburg program, most of the skilled miners in military service were discharged and returned to their former employment, so that in this year production rose to 167,300,000 tons, the highest figure during the war. The production figures for 1918, the last year of the war, again show a decline, and in 1919, the last year covered by the table, there was a really disastrous diminution to 116,500,000 tons (inclusive of the production of 9,000,000 tons of the Sarre mines which are under French occupation), or to 61.3 per cent of the production in 1913. If the output of the Sarre mines is deducted the hard-coal production decreased by 82,600,000 tons, or 43.4 per cent, as compared with the production of 1913.

In the following table are shown the German home production, import and export, and home consumption of hard-coal for the 10-year period 1909–1918:

HARD-COAL HOME PRODUCTION, EXPORTS, IMPORTS, AND HOME CONSUMPTION OF GERMANY, 1909 TO 1918.

[Source: Stahl und Eisen, Düsseldorf, Oct. 21, 1920, p. 1426. 1 metric ton=2,204 pounds.]

Year.	Home production.	Imports.	Total.	Exports.	Excess of exports over imports.	Home consumption.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
1909	148,788,070	13,172,091	161,960,141	28,821,197	15,649,106	133,138,944
1910	152,827,777	12,120,191	164,947,968	30,939,936	18,819,745	134,008,032
1911	160,747,126	11,768,244	172,515,370	35,052,019	23,283,775	137,463,351
1912	174,875,297	11,184,851	186,060,148	40,591,537	29,406,686	145,468,611
1913	190,109,440	11,324,145	201,433,585	44,911,350	33,587,205	156,522,235
1914	161,384,711	6,956,000	168,340,711	33,960,000	27,004,000	134,380,711
1915	146,867,563	2,658,000	149,525,563	22,732,000	20,074,000	126,793,563
1916	159,169,606	1,403,000	160,572,606	20,946,000	19,543,000	139,626,666
1917	167,311,000	584,000	167,895,000	18,957,000	18,373,000	148,938,000
1918	160,508,000	143,000	160,651,000	14,050,000	13,907,000	146,601,000

In the preceding table the home consumption of hard coal is computed by adding to the home production the imports and deducting the exports. In the above figures showing the exports and imports coke and briquettes are included. The table shows that before the war the German production of hard coal was large enough to cover not only the steadily increasing needs of home industries, but also to permit the export of very considerable quantities of hard coal and hard-coal products (coke and briquettes). Even during the war Germany had available a surplus of hard coal for export, although the quantities exported decreased from year to year. With the termination of the war conditions changed abruptly. Germany lost the Sarre coal fields to France, at least for a long time to come, production in its remaining hard-coal fields fell enormously, and the peace treaty imposed the obligation of compulsory deliveries of hard coal to the Entente and other countries. These deliveries began in September, 1919, before the Treaty of Versailles had even come into force. Expressed in per cent of the total hard coal available, i. e., the coal produced after deduction of that consumed by the mines themselves and that furnished free to the miners for fuel, these compulsory deliveries were made in the extent indicated in the following table:[3]

PER CENT OF TOTAL HARD COAL AVAILABLE COMPULSORILY DELIVERED BY GERMANY TO THE ENTENTE AND OTHER COUNTRIES, SEPTEMBER, 1919, TO MARCH, 1920.

Month and year.	Deliveries to the Entente.	Total compulsory deliveries inclusive of those to Poland and German Austria.
	Per cent.	*Per cent.*
September, 1919	6.0	7.7
October, 1919	7.6	9.3
November, 1919	8.8	11.8
December, 1919	9.3	12.0
January, 1920	5.8	9.4
February, 1920	8.7	12.6
March, 1920	6.9	11.2

On their face these figures do not indicate the serious effect which these compulsory deliveries exercise upon German industry. During 1919 and 1920, however, the home consumption of German hard coal had been reduced to nearly one-half the quantity actually needed. Each further per cent of compulsory deliveries means, therefore, the shutdown of numerous industrial establishments and increased unemployment.

In contrast to the production of hard coal that of lignite (*Braunkohle*) showed a steady increase during the war (with the exception of that during 1914), rising from 87,100,000 metric tons in 1913 to 100,700,000 metric tons in 1918. The decrease in lignite production in 1919 to 93,863,000 metric tons was not as marked as that of hard coal. The decrease in hard-coal production in 1919 as compared with 1918 was 27.4 per cent, and of lignite only 6.8 per cent.

[3] Stahl und Eisen, Düsseldorf, Oct. 21, 1920, p. 1426.

The diminution of hard-coal production has been relatively greater in the Upper Silesian fields than in those of the Ruhr basin. Mere comparison of the total production does not demonstrate this fact. The mines of Upper Silesia, which in 1913 produced 43,434,944 metric tons, in 1919 produced 25,932,372 tons, a difference of about 17,500,000 tons, or 40.3 per cent; in the Ruhr basin the corresponding figures were 114,486,847 and 71,163,670 tons, a difference of 43,300,000 tons, or 37.9 per cent. The percentage diminution in the two areas as shown by these figures is practically identical. When comparison is made of the diminution in output per worker per day in Upper Silesia and in the Ruhr area (figure arrived at by taking account of the whole working force of the mines), the figures obtained are as follows:

PRODUCTION (IN METRIC TONS) PER WORKER PER DAY (BASED ON WHOLE WORKING FORCE).

	1913	1919
Ruhr basin	1.0	0.7
Upper Silesia	1.192	.567

The difference of average output among the mine workers of the two districts is due to the fact that the conditions of social and economic life in the area of Upper Silesia are now, as they were before the war, peculiar to the district. It would therefore be misleading to attempt to establish exact comparisons between the production in these two areas.

An increase in production set in first in the mines of the Ruhr basin. In the district of the superior mine office of Dortmund, in which all the coal mines of the Ruhr basin are located, production in January and February, 1920, as compared with the corresponding months of 1914 and 1919, was as follows:

COAL PRODUCTION IN THE MINING DISTRICT OF DORTMUND, JANUARY AND FEBRUARY, 1914, 1919, AND 1920.

[1 metric ton=2,204 pounds.]

Month.	Monthly production.			Daily production.		
	1914	1919	1920	1914	1919	1920
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
January	9,252,737	6,007,441	6,425,026	368,268	237,918	254,456
February	8,603,193	5,222,168	6,564,191	358,466	217,590	273,508

In January and February, 1920, production increased considerably as compared with the same months of 1919, but was still far behind that of the corresponding months of 1914. Stahl und Eisen (Düsseldorf, Sept. 16, 1920) contains the following production statistics for July and August, 1920.

MONTHLY COAL PRODUCTION OF THE MINES OF THE RUHR BASIN, JULY AND AUGUST, 1913, 1919, AND 1920.

[1 metric ton=2.204 pounds.]

Month.	1913	1919	1920
	Metric tons.	*Metric tons.*	*Metric tons.*
July	10,150,000	6,703,100	7,564,000
August	9,790,000	6,520,000	7,500,000

Thus production in August, 1920 (with 26 workdays), was practically the same as in July, 1920 (with 27 workdays), but had increased by about 1,000,000 tons over production in August, 1919. Compared, however, with the production in August, 1913, there was a decrease in August, 1920, amounting to 2,300,000 tons.

In Upper Silesia an equal improvement in production is recorded, but it did not take place until July, 1920, as may be seen from the following data:

MONTHLY COAL PRODUCTION OF UPPER SILESIAN MINES DURING SPECIFIED MONTHS OF 1920.

[1 metric ton=2,204 pounds.]

Month.	Metric tons.
April	2,581,703
May	2,247,471
June	2,659,111
July	3,036,598
September	2,757,287
October	2,797,290

In Upper Silesia, as in the Ruhr basin, the improvement has been maintained in spite of political and labor disturbances, but the problem of labor and production is quite different in the two districts.

Hours of Labor.

Ruhr Basin.

IN 1913 the Ruhr miners' shift was 8½ hours "bank to bank," i. e., 1½ hours were consumed in descent and ascent, so that the actual working time was 7 hours per shift. In November, 1918, after the revolution, the hours of labor were reduced to 8 (6½ hours of actual work), and in April, 1919, following the great miners' strike there was a further reduction to 7 hours "bank to bank" (5½ hours of actual work). At the same time the German Government promised to the miners that it would appoint a commission to study means for introducing on February 1, 1920, the 6-hour shift "bank to bank." This commission deliberated the problem during the winter of 1919 and at the beginning of 1920 it adopted a resolution declaring the introduction of the 6-hour shift unfeasible, except through an international convention.[4]

After several conferences at Essen between representatives of the Government and of the mine owners and miners an agreement was

[4] See MONTHLY LABOR REVIEW, January, 1920 (pp. 173-177), and March, 1920 (pp. 130, 131).

concluded March 8, 1920, providing that beginning with March 15, 1920, all miners should, in addition to their regular shifts work an extra half-shift twice each week, an increase of 7 hours in the weekly hours of labor. The recent improvement in production in the mines of the Ruhr basin is largely due to the introduction of these extra half-shifts.

For these extra half-shifts the miners receive double the regular wage and in addition they are allowed a total bread ration of 3.125 kilograms (6.9 pounds) per week and a supplementary allowance of 500 grams (1.1 pounds) fat per week. The agreement provides that the supplementary bread and fat shall be furnished them at the same price as that established for the regular rations. Actually the miners pay only 10.3 marks ($2.45, par) for their supplementary ration of fat, or half the current price. Nearly all the miners are now working these extra shifts.

The Ruhr miners cling to the principle of the 6-hour day, i. e., three shifts of 6 hours each and the Christian trade-unions and the socialistic trade-unions have incorporated this principle in their resolutions.

Upper Silesia.

The hours of labor in the coal fields of central Germany and of Upper Silesia differ from those in the Ruhr basin, because differing working conditions in the individual coal fields require that in each field the hours of labor be regulated separately.

In most of the mines of Upper Silesia the hours of labor before the war were ten (from 6 a. m. to 4 p. m.) or, deducting the time necessary for descent and ascent, 8½ hours of actual work. On November 18, 1918, the first agreement was entered into between the miners' unions and the mine-owners' association, the Oberschlesischer Berghüttenmannischer Verein. By this agreement the Upper Silesian mine owners undertook to introduce in all the mines by December 1, 1918, at the latest the shift of 8 hours, reckoned from the commencement of the descent to the commencement of the ascent, or about 7 hours of effective work. At the end of April, 1918, 33.6 per cent of the miners were already working not more than 8 hours; 59.7 per cent worked 10 hours, and 6.7 per cent even 11 hours.

On January 31, 1920, the first collective agreement was concluded between the miners' union and the employers' association, Arbeitgeberverband der Oberschlesischen Bergwerks- und Hüttenbetriebe. It fixed the working day at 7½ hours, or, deducting the time necessary for descending, 6 hours' actual work. The morning shift lasted from 6 a. m. to 1.30 p. m.; the evening shift from 2 p. m. to 9.30 p. m. At the same time, the employers' association proposed to the miners that the question of the adoption in Upper Silesia of the 7-hour shift should be submitted to the Reichsarbeitsgemeinschaft.[5] The latter appointed a joint commission of workers' and employers' representatives from the mines of the Ruhr, Saxony, and Upper Silesia, which made a tour of investigation of the various coal fields and reported that in its opinion "it was possible by an improvement in methods of working to reduce the difference between the hours of productive

[5] A vast joint industrial council formed since the revolution in November, 1918, which extends to all branches of economic life and to the whole of Germany. See MONTHLY LABOR REVIEW, April, 1919, pp. 158-160.

work and the hours of unproductive work, and by these means to introduce into Upper Silesia the same working hours as in the other mining areas." The work of the commission has so far had no other result.

Wages of Miners and Coal Prices.

Ruhr Basin.

MINERS' wages in the Ruhr basin rose considerably during the war, but after the revolution of 1918 and still more after the end of 1919 their rise was phenomenal. According to the collective agreement concluded on October 25, 1919, the basic wage of miners proper (*Hauer*) was fixed at 14 marks ($3.33, par) per shift. The next agreement of February 2, 1920, fixed this basic wage at 17 marks ($4.05, par), and in the subsequent agreement of April 1, 1920, it was fixed at 22.5 marks ($5.36, par). Inclusive of various allowances, extra shifts, etc., miners proper earned 40 marks ($9.52, par) per day in the Ruhr mines on the basis of the agreement of February 2, 1920, and 45.5 marks ($10.83, par) on the basis of that of April 1, 1920. They ask now for a further increase of 8 marks ($1.90, par) per shift. The following table published in the Reichsanzeiger,[6] the official German gazette, indicates the phenomenal rise of miners' earnings during the period beginning with the second quarter of 1914 and ending with the last quarter of 1919:

AVERAGE NET EARNINGS PER SHIFT OF MINERS PROPER IN THE RUHR BASIN, 1914 TO 1919.

[1 mark at par=23.8 cents.]

Year and quarter.	Earnings.
	Marks.
1914, second quarter	6.19
1915, second quarter	6.66
1916, second quarter	8.05
1917, second quarter	10.00
1918, second quarter	12.61
1919, second quarter	19.53
1919, third quarter	23.01
1919, fourth quarter	27.66

If the earnings shown in the preceding table are compared with those during the first quarter of 1920, i. e., 40 and 45.5 marks ($9.52 and $10.83, par) per day the enormous rise of wages in 1920 becomes apparent.

The price of coal has increased in a still greater ratio than wages. During the war coal prices had to be increased several times owing to increased costs of production. The defeat of Germany in the war, the shortening of the shift, the decrease in production per worker, and the depreciation of German money, which caused continuous demands for wage increases and an increase in the price of all supplies, made necessary rapid increases in the prices of coal in order to cover the costs of production. In the following table is shown the movement of the price of run-of-mine anthracite coal

[6] Reichsanzeiger, Berlin, Apr. 14, 1920.

(*Fettförderkohle*), by the price of which the prices of all other qualities of coal are governed, for the period April 1, 1913, to March 1, 1920:

PRICE MOVEMENT OF RUN-OF-MINE ANTHRACITE COAL IN THE RUHR BASIN, APRIL 1, 1913, TO MARCH 1, 1920.

[Source: Stahl und Eisen, Düsseldorf, Oct. 21, 1920, p. 1427. 1 mark at par=23.8 cents, 1 metric ton=2,204 pounds.]

Date.	Price per metric ton.	In this price are included—		
		Coal tax.	Sales tax.	Contributions for supplementary food rations and miners' dwellings.
	Marks.	*Marks.*	*Marks.*	*Marks.*
Apr. 1, 1913	12.00			
Apr. 1, 1914	11.25			
Apr. 1, 1915	13.25			
Sept. 1, 1915	14.25			
Jan. 1, 1917	16.25			
May 1, 1917	18.25			
Oct. 1, 1917	24.30	4.05		
Sept. 1, 1918	26.85	4.47	0.14	
Jan. 1, 1919	41.30	6.88	.21	
May 1, 1919	61.30	10.22	.30	
June 1, 1919	67.40	11.23	.34	
Oct. 1, 1919	77.90	12.98	.39	
Dec. 1, 1919	86.90	14.48	.44	
Jan. 1, 1920	103.90	17.82	1.60	8.00
Feb. 1, 1920	149.70	24.95	2.25	8.00
Mar. 1, 1920	168.00	28.00	2.52	8.00

If a comparison between the rise in wages and that in the price of coal is made on the basis of the data shown in the preceding tables it will be found that the daily earnings of miners proper have risen from 6.19 marks ($1.47, par) during the second quarter of 1914 to 45.5 marks ($10.83, par) on April 1, 1920, or 635 per cent, and the price of run-of-mine coal from 11.25 marks ($2.68, par) per metric ton on April 1, 1914, to 168 marks ($39.98, par) on March 1, 1920, or 1,393 per cent. These figures seemingly would indicate that the profits of the mining companies in the Ruhr basin have greatly increased during the war and still more during the years subsequent to the armistice, but such is not the case. On the contrary, owing to the reasons stated above, the percentage representing the profit on the value of the total production of the mines of the Ruhr basin fell from 9.01 per cent in 1910–11 to 6.81 per cent in 1917, 5.52 per cent in 1918, 1.99 per cent in 1919, and for 1920 it is estimated will not amount to 1 per cent.

The relation between wages and profits is still better illustrated in the following table:

RELATION OF WAGE DISBURSEMENTS AND PROFITS IN THE COAL MINES OF THE R HR BASIN, 1910 TO 1919.

[Source: Stahl und Eisen, Düsseldorf, Oct. 21, 1920, p. 1429. 1 mark at par=23.8 cents.]

Year.	Disbursements for wages.	Compulsory social contributions of employers included in disbursements for wages.	Profits.	Total.	Proportion wage disbursements are of total.	Proportion profits are of total.
	Million marks.	*Million marks.*	*Million marks.*	*Million marks.*	*Per cent.*	*Per cent.*
1910	531.9	69.6	88.6	620.5	85.72	14.28
1911	566.8	72.9	101.4	668.2	84.83	15.17
1912	650.6	79.9	117.3	767.0	84.72	15.28
1913	755.3	83.1	122.9	878.3	86.00	14.00
1914	661.2	79.8	81.6	742.8	89.02	10.98
1915	577.1	62.1	104.4	678.5	85.06	14.94
1916	715.3	65.3	129.3	844.7	84.69	15.31
1917	959.1	79.3	142.0	1,101.1	87.10	12.91
1918	1,181.1	100.2	128.1	1,300.2	90.22	9.78
1919	2,161.5	169.9	79.4	2,240.9	96.46	3.54

The above table shows that the relation between wage disbursements and profits changed greatly in 1917 and 1918 and still more in 1919. While in 1916 the proportion of wage disbursements to profits was 84.69 to 15.31, in 1919 it was 96.46 to 3.54.

The report of the International Labor Office states that the Ruhr miner in spite of the enormous increase in his earnings, which now average 45.5 marks ($10.83, par) per day, has great difficulty in providing himself and his usually numerous family with food, housing, clothing, and other necessaries of life, and that as a matter of fact he is economically much worse situated than when his earnings were 6 marks ($1.43, par) per day.

Upper Silesia.

The wages of the coal miners of Upper Silesia remained up to recent times appreciably lower than those of the miners of the Ruhr basin, as may be seen from the following data:

AVERAGE EARNINGS PER SHIFT OF MINERS PROPER.

[1 mark at par=23.8 cents.]

	Ruhr basin.	Upper Silesia.
	Marks.	*Marks.*
1914, second quarter	6.19	4.87
1918, second quarter	12.61	10.11
1919, second quarter	19.53	18.34

During the year 1920 the wages of miners have risen considerably in Upper Silesia as in the Ruhr, but the increase has not followed the same course. In 1913 miners proper (*Hauer*) in Upper Silesia earned from 6 to 6.5 marks ($1.43 to $1.55, par) per shift. As a result of strikes provoked by the constant increase in the cost of

living the minimum wage of hewers was fixed by an award of the arbitration commission at 10 marks ($2 38, par) on July 9, 1917, and on November 18, 1918, by collective agreement at 16 marks ($3.81, par). Since the beginning of 1920 wages have increased in the following manner:

BASIC WAGE AND AVERAGE PIECE-RATE AND TOTAL EARNINGS PER SHIFT, FEB. 1 TO APR. 1, 1920.

[1 mark at par=23.8 cents.]

Date.	Basic wage per shift.	Average piece-rate earnings per shift.	Average total earnings per shift.
	Marks.	*Marks.*	*Marks.*
Feb. 1, 1920	14.00	19.40	33.40
Mar. 1, 1920	15.60	19.40	35.00
Apr. 1, 1920	30.60	19.40	50.00

From these data it may be seen that the increase in the wages of hewers made a considerable jump at the beginning of April. Wages in Upper Silesia on April 1, 1920, exceeded those in the Ruhr district, where the basic wage was 22.50 marks ($5.36, par) and the average total earnings amounted to 45.50 marks ($10.83, par).

The representatives of the trade-unions, however, were not satisfied, and after long negotiations the April scales were modified so that the wages of hewers were fixed as follows, under an agreement of July 26, 1920:

	Marks.
Basic wage per shift	21.40
Average piece rate earnings per shift	28.60
Average total wage per shift	50.00

Under this new provision hewers in Upper Silesia now earn on an average 52 marks ($12.38, par), and even 56 marks ($13.33, par) per shift, a figure closely approximating that of the wages of the hewers in the Ruhr basin, which was newly fixed at 57.5 marks ($13.68, par) by the agreements of May 21 and August 19, 1920.

The following table shows the changes in the price per metric ton of run-of-the-mine coal in Upper Silesia since 1914:

	Marks.		Marks.
April, 1914	13.90	Jan. 1, 1920	95.40
September, 1918	29.50	Jan. 15, 1920	114.40
January, 1919	44.00	February, 1920	157.80
April, 1919	58.50	April, 1920	182.50
December, 1919	93.90		

A comparison of miners' wages and the price of coal reveals the following facts: According to the official statistics published in the Reichs-Arbeitsblatt, the average earnings of miners proper were 4.87 marks ($1.16, par) per shift during the second quarter of 1914 and 31.64 marks ($7.53, par) per shift during the first quarter of 1920. The price of coal (*Grobkohle*), on the other hand, was 13.90 marks ($3.31, par) per metric ton in April, 1914, and 182.50 marks ($43.44, par) in April, 1920. Thus, miners' wages have increased fivefold since 1914 and the price of coal twelve fold.

The price of coal in Upper Silesia is appreciably below the price of coal in the Ruhr basin. This difference is to be explained by the fact that to-day difficulties of transport make each mining area a sort of close market, and therefore each area is in a position to fix the price of its coal quite independently. The price of coal in Upper Silesia is at present fixed by the Inter-Allied Commission on the recommendation of the Oberschlesische Kohlenconvention.

Conditions for Increasing Production.

FOR the purpose of increasing the production of coal it is necessary that the labor supply be increased and that the workers employed should not only work but work harder, but in order to do so they must receive more and better food. The shortage of miners' dwellings must also be remedied, and there must be improvement in the technical methods of working the mines.

Increase of labor supply.—In the Ruhr basin the working force of the coal mines was considerably increased during the first months of 1920. It now exceeds that of 1919 and even that of 1914. The number of workers employed during the first four months of 1914, 1919, and 1920 was as follows:

NUMBER OF WORKERS IN RUHR BASIN COAL MINES, JANUARY TO APRIL, 1914 1919, AND 1920.

Month.	1914	1919	1920	Month.	1914	1919	1920
January	412,761	409,314	457,771	March	415,761	402,239	463,193
February	414,856	312,891	462,064	April	420,015	406,737	455,42[illegible]

This increase in the working force has been brought about in spite of great scarcity of skilled miners and of miners' dwellings. The mine managements have energetically been training the inexperienced workers and at the same time have been constructing everywhere company houses for the miners. The Zechenverband, the employers' association of the Ruhr mines, has bought large stocks of building materials and sells them at low prices to the managements of the individual mines. The housing program for the Ruhr basin contemplates the construction within one year of from 20,000 to 25,000 miners' dwellings.

In this connection it should be mentioned that the Prussian Diet has passed a law providing that all communes of the Ruhr basin shall form one large housing and settlement association called "Siedlungsverband Ruhr Kohlenbezirk," which shall have its headquarters at Essen and whose duty it shall be to provide the required building materials and building lots. The funds required are to be raised by an assessment of 1,000,000,000 marks ($238,000,000, par) upon the price of coal.

Dearth of labor is a chronic phenomenon in the industrial area of Upper Silesia. As a result of the campaign which is being carried on in favor of the plebiscite, the introduction of foreign workers has become more difficult than ever. Poles and Germans are equally afraid that the arrival of foreigners will influence the plebiscite.

There are to-day barely 4,000 workers of foreign nationality in the mines (coal, iron, zinc) out of a total of more than 170,000 workers.

The housing crisis, moreover, would alone be sufficient to prevent the engagement of numerous additional workers. The mine managements, which house 40 per cent of the married miners in company houses, are under the necessity of building new dwellings. Two thousand houses for miners are under construction. The necessary means for this important work will be supplied partly by the retention of 6 marks ($1.43, par) per ton of coal, a provision which has been in force since January 15, 1920. The sums so furnished will only cover a very small part of the expense. The erection of a miner's house, which before the war cost 4,500 marks ($1,071, par), costs to-day 80,000 marks ($19,040, par). It will therefore be impossible at present to carry out work on a large scale.

Rationing of the miners.—The rations which the communal administrations and the mine managements in the Ruhr basin distribute to the miners are insufficient and not properly balanced. Each miner receives weekly for himself and each member of his family 1½ kilograms (3.31 pounds) of potatoes, 1½ kilograms of bread, a small quantity of milk, a little bacon, and a little fat. For each supplementary shift worked each miner receives for himself only 625 grams (1.4 pounds) of bread and 500 grams (1.1 pounds) of fat at 10.3 marks ($2.45, par). A heavy worker receives in addition per week 100 grams of bacon (0.2 pounds). The Krupp works distribute every two weeks to each miner 500 grams (1.1 pounds) of sausage or pork, as well as supplementary rations of bread and potatoes.

All these rations, regular or supplementary, have considerably increased in price during the last months. The miner, of course, may procure other foodstuffs, which are not rationed, but most of those are beyond his means.

The Ruhr miner finds himself in the midst of a vicious circle. The progressive increase of miners' wages is followed by a still greater increase in the price of coal, and every increase in the price of coal brings about another rise in the prices of all necessaries (rent, food, clothing).

The industrial area of Upper Silesia is situated in the midst of fertile agricultural regions, but even before the war the agricultural regions to the west sent the greater part of their products to Berlin and Breslau. The agricultural regions to the east were prevented by customs tariffs from sending their cattle, vegetables, and cereals to the industrial area. Since the revolution of 1918 the situation has not appreciably changed.

The miners of Upper Silesia are entitled at present to the following ration, being the normal weekly ration per head for all inhabitants of Upper Silesia: 1,800 grams (4 pounds) of flour, 2,000 grams (4.4 pounds) of bread, 5,000 grams (11 pounds) of potatoes, 200 grams (0.4 pound) of fat (butter, bacon, lard), 150 grams (0.33 pound) of special food products, so-called "Nährmittel," and 1 can of condensed milk. He receives in addition 750 grams (1.7 pounds) of sugar per month and a certain quantity of meat. The weekly supplementary ration per head for persons engaged in hard manual labor is: 1,050 grams (2.3 pounds) of flour, 1,500 grams (3.3 pounds) of bread, and 1 can of condensed milk.

The employers' association of the Upper Silesian metal and mining industry has for more than a year past obtained for the miners certain extra food at prices fixed by a joint commission (*Lebensmittelkommission*), namely: 21 grams (0.04 pound) of flour per head per week, 153 grams (0.34 pound) of fat, 136 grams (0.3 pound) of dried vegetables, and a certain quantity of herrings.

There are now negotiations under way for the conclusion of an agreement relating to the working of supplementary shifts by the Upper Silesian miners for which they are to receive per head and per week at reduced prices an extra ration of 500 grams (1.1 pounds) flour, 1,500 grams (3.3 pounds) bread, and 500 grams (1.1 pounds) sugar. The food situation of the Upper Silesian miners has notably improved since November, 1918, and is appreciably better than that of the Ruhr miners.

Improvement in technical methods.—The only remaining means for increasing production is the improvement of technical methods of working.

Not much can, however, be done in this respect in the Ruhr mines. When the commission to investigate the question of shorter working hours in the Ruhr mining industry was in session, it was recommended that improvements should be made in the transporting of workers to and from the coal face; that the number of trucks and tubs for use in the pit should be increased, and that improvements be made in the use of compressed air. The employers, however, asserted that everything possible had been done along these lines and that only a slow and slight increase in production could be anticipated from these measures.

The mine owners in Upper Silesia, even before the war, had recourse in a very large measure to machinery to make up for the lack of workers. The distribution and thickness of the coal seams made this possible, certain coal seams having a thickness of 12 meters (39.4 feet). In all the mines of Upper Silesia, before 1914, extensive use was made of explosives and special machines (drills, cutting machines, etc.). In many cases the mine owners could not obtain the minimum of skilled workers necessary for operating these machines and employing these explosives.

The development of mechanical methods of working was hurried. At the present time it is capable of being usefully improved and regulated. It was with this object that in July, 1920, both workers' and employers' representatives on the commission of inquiry on the seven-hour day passed unanimously a resolution calling for better organization of the work of production. It was with this object, also, that on September 26, 1920, the workers' councils affiliated with the German miners' union at Bochum passed the following resolution:

> The workers' councils recognize the necessity of increasing the production of coal. This increase in production must be obtained, in the first place, by the improvement of the technical processes of extraction, and not by supplementary shifts.

The improvement of the technical methods of extraction is the principal problem of coal production in Upper Silesia. But how is the improvement thus demanded to be obtained at the present time? All the equipment of the mines is now, after four years of intensive working, worn out or deteriorated.

Upper Silesia will not be able to find the necessary means for improving its mechanical processes of extraction until the plebiscite has definitely settled the future of the mining area. The area of Upper Silesia possesses considerable wealth in coal. It possesses a patient and diligent working population. It will not be able to make use of its labor supply or to employ its wealth to the fullest advantage until it is in possession of its definite economic and political organization. At the present time the effects of the propaganda carried on in connection with the plebiscite threaten to provoke fresh risings and fresh disturbances in the country.

WHAT STATE LABOR BUREAUS ARE DOING.

Arkansas Fee-Charging Employment Agencies.

IN HIS fourth biennial report covering the years 1919 and 1920, the Commissioner of Labor and Statistics of Arkansas suggests "the elimination of all fee-charging employment agencies." He believes that charges brought against these offices have injured their reputation and that "there is one general charge that may be made against the best of them—that charge is that they are against public policy." He says:

> Public policy is deeply concerned in steadying employment, fitting men for work to discourage and prevent labor turnover, and every effort along this line is handicapped so long as the private fee-charging office is permitted to continue. It is not even true that it serves any useful purpose. The State and Federal Government should do the work, and do it efficiently, effectively, and intelligently, because of public interest and public policy in the employment problem.

An appropriation of $10,000 is recommended for the establishment and operation of State free employment bureaus "in cooperation and conjunction with the Federal Employment Service," with the expectation that such service will share equitably in the expense.[1]

As an illustration of the good work of the Federal-State Service, the management of the labor supply in connection with the last wheat harvest may be cited:

> Each year thousands of men migrate to the harvest fields. During the season of 1920 the Federal-State Service cooperated; clearance offices were established in Kansas City and other central distributing points. When the demand for labor had been met, when all jobs were filled, each State was notified, and movement of labor to the harvest fields stopped or was diverted to other lines of work where most needed.

Through a united Federal-State Service, the Bureau of Labor and Statistics plans to avoid a congestion of labor, to distribute the man power equitably, and to save the employer and laborer both time and money.

Farm labor.—The Commissioner of Labor and Statistics suggests as an inducement to retain the laborer, especially the share cropper and renter, on the farm that—

> The hours be made as short as possible, the board should be good and the hours regular and the sleeping accommodations clean, comfortable and attractive. The chores should be done at regular intervals or assigned to some individual whose duties alone are confined to doing the "odds and ends," and not early in the morning or late in the evening, after a hard day's work when quitting time has arrived. Make the hours and wages conform as nearly as possible to those in town and pay promptly and fully. Perhaps if these suggestions were carried out a partial remedy would be found for the perplexing problems of keeping competent and efficient help on the farm, and, incidentally, "keeping the boy on the farm."

[1] For a brief statement of the operations of the Federal-State employment office in Arkansas, see p. 125 of this issue of the REVIEW.

Illinois.

IN A recent communication to this bureau the director of the Illinois Department of Labor reports that under the civil administrative code it is possible to "change the attitude of all inspections from mere regulation to constructive suggestion." He adds that constructive suggestion in lieu of prosecution for violation has been the "motto" of the division of factory inspection and the division of chief inspector of private employment agencies since the organization of the department of labor in July, 1917. During this period 501,506 inspections were made, 442,376 establishments being visited.

Intervention in Strikes.

The mediation and conciliation section of the Illinois Industrial Commission, it is reported by the commissioner, has done important work despite the fact that the State law permits "'advisory intervention' only in case of strikes, and then only upon the consent of the parties to allow the State arbitrators to mediate." For the period covered by the director's report (July 1, 1917, to December 31, 1920), the two mediators and conciliators acted in 132 strikes, 74 of which were settled, 50 unsettled, and 8 doubtful. A total of 62,360 men were affected by these strikes.

Reinstating Returned Soldiers and Sailors.

According to reports filed January 15, 1920, employers in Illinois have quite generally reemployed service men. Of 28,000 firms having 1,226,407 employees 128,270 left for military service, and of the number that returned 88,935 were reemployed.

Maine.

THE fourth biennial report of the State of Maine Department of Labor and Industries for 1917–18 has just been issued as a part of Volume II of the Maine Public Documents, 1918. This report notes that there were 13,745 more people employed in manufacturing just after the close of the war, or on December 1, 1918, than there were at the beginning of the war, or on December 1, 1916. A table shows the employment of minors between the ages of 14 and 16 years, giving the total of 582 boys and 332 girls employed on December 1, 1917, and 1,123 boys and 712 girls employed on December 1, 1918, or an increase of 93 per cent in the number of boys and of 113.9 per cent in the number of girls employed. A summary table of statistics of manufacturing industries in the State shows a total of 31,914 males and 11,796 females employed during 1918, of which number 20,847 males and 5,141 females were employed on war work.

North Dakota.

A BULLETIN of the North Dakota Workmen's Compensation Bureau, giving the report by the secretary and special investigator of the Minimum Wage Commission from August 4, 1919, to December 31, 1919, which has only recently been received by the Bureau of Labor Statistics, shows that the investigations were undertaken to ascertain the effects upon women of the eight-hour law, to determine the present sanitary and moral conditions of working women in different occupations, and to secure reliable information concerning wage scales and cost of living in various occupations in the State and their relation to each other. It is stated that the average weekly wage without room or board was $11.11, and with room and board $7.85.

To meet the necessary expenses for room and board and other items, it was recommended that the minimum wage for experienced woman workers in the State should be as follows:

For mercantile employees, office help, waitresses, and telephone and telegraph operators a weekly wage of $16.25 per week; $2.71 per day if employed by the day, or 34 cents an hour if employed by the hour.

For laundry workers, chambermaids, kitchen help in hotels, restaurants, and other public housekeeping establishments and hospitals, and factory workers, a weekly wage of $15.50 per week; $2.58 per day if employed by the day, or 32 cents per hour if employed by the hour.

That allowance for room and board furnished by the employers be as follows:

	Per week.
Allowance for room	$1.12
Allowance for board	5.75
Total	6.87

and that allowance of $5.75 a week for board include 21 meals per week—otherwise 27 cents per meal be allowed to employees.

As a result of these recommendations 12 orders were issued, under date of June 15, 1920, to take effect August 16, 1920. The weekly wages prescribed in these orders for the various classes of experienced woman employees are as follows:

Office occupations	$20.00
Waitresses, public service, and mercantile occupations	17.50
Chambermaids and kitchen help in public housekeeping	16.70
Manufacturing, laundries, and telephone	16.50

The enforcement of these orders is, however, held up at present by a court injunction based upon a purely technical matter.

Wyoming.[1]

THE Commissioner of Labor of Wyoming reports that up to a few months ago conditions in the various industries of that State were "comparatively satisfactory." There has been an excellent demand for workers of all kinds, and crops have been unusually good, resulting in the general prosperity of the State. A considerable

[1] Source: Clippings from the Wyoming Weekly Labor Journal of Dec. 31, 1920, and the Cheyenne Tribune of Jan. 1, 1921, forwarded by the Commissioner of Labor.

amount of highway construction in the past year and the carrying out of municipal improvement plans furnished employment for a large number of men. There has, however, been a recent change in the labor market as shown by the following letter sent by the Wyoming Commissioner of Labor to the labor departments of Colorado, Nebraska, Kansas, and Missouri:

> This department's attention has been called to a situation that to my mind is a serious menace to labor conditions in certain parts of Wyoming, creating discord and dissension wherever practiced. It is not only manifestly unfair to labor, but tends for the frequent turnover of workers in connection with large corporations which require many employees.
>
> I refer to labor agencies in Colorado, Nebraska, Kansas, and Missouri shipping workers into Wyoming with the assurance that there is a keen demand for labor of every kind, and that the unskilled worker has unequaled opportunities for well-paid employment.
>
> The facts are that activity in every line in Wyoming is slackening and that this State does not afford an enticing outlook to its winter unemployed. The railroads are reducing their forces in the maintenance of way, operating and other departments, the slack season is on in the oil fields and mines working part time.
>
> I am asking your cooperation that the law may be invoked to save these workers from employment sharks.

As a result of the passage by the 14th Legislative Assembly of Wyoming of the law regulating women's working hours, conditions of labor among women are much improved. Most of the industrial establishments have arranged their business to meet the requirements of this act.

It seems obvious that the Wyoming Legislature intended that the Department of Labor and the Bureau of Child and Animal Protection should jointly enforce the child-labor law. It is reported that "there are but few children working in industry coming under the supervision of the Department of Labor."

The commissioner states that his department has expended considerable effort in the gathering and compiling of recent price statistics. A comparison of these data with Wyoming wage statistics would seem "to indicate that wages as a whole have not increased in the same proportion as the price of commodities and the general cost of living."

CURRENT NOTES OF INTEREST TO LABOR.

Women's Section in the United States Bureau of Immigration.[1]

THE Secretary of Labor on July 1, 1920, established a Women's Immigration Section in the United States Bureau of Immigration, which section is in charge of a special woman immigration inspector For a number of years women immigration inspectors have been very much needed at the stations at the ports of entry in various parts of the country. More than twenty years ago the Commissioner of Immigration recommended to the Secretary of the Treasury that a women's branch be established in the Bureau of Immigration.

The duties of the newly created section include:

> The preparation of a suitable examination, with the assistance of the Civil Service Commission, for the promotion of women within the service to the position of immigrant inspector, and the preparation of an additional examination for properly qualified women outside of the service. Other duties of the section are to prepare memoranda for the department when required by the Secretary, Assistant Secretary, or Acting Secretary for immigration matters, in appeal and deportation cases involving women or children, and to prepare memoranda in other immigration cases when requested by the Commissioner General of Immigration, Assistant Commissioner General, or the law clerk of the bureau.

There are two female immigrant inspectors at Ellis Island, two at Boston, and one at New Orleans.

Anthracite Coal Industry in Pennsylvania in 1919.[2]

ACCORDING to a report on the anthracite coal industry by the Chief of the Bureau of Statistics and Information in the Pennsylvania Department of Internal Affairs, 168 establishments in that State working during 1919 on an average of 230 days mined 79,512,200 tons of coal having a value at the mines of $364,801,100. These establishments employed 151,812 persons of whom 67,229 were white Americans, 35 colored Americans, and 84,548 foreigners. Of the total number of both foreign and American workers 35 were women and 275 were boys under 16 years of age.

During the same year $209,452,900, or about 57 per cent of the value of the year's coal production, went to the miners in wages. The capital invested in the industry was $337,104,700.

The value of the anthracite coal mined in Pennsylvania in 1918 was $352,455,900, and the total amount paid in wages to the 143,801 persons employed was $187,544,300.

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[1] Source: Eighth Annual Report of the Secretary of Labor for the fiscal year ending June 30, 1920, pp. 174–175.

[2] Data furnished to the bureau, Dec. 24, 1920, by the Bureau of Public Information of the Pennsylvania Department of Internal Affairs, Harrisburg.

Visit of French Labor Representatives to the Ruhr District, Germany.

REPRESENTATIVES of the Confédération Générale du Travail in France recently visited the Ruhr industrial district and upon their return announced that the diminution of the production of coal in that district is due not to the bad will of the German workers but to their physical condition, which is much below par because of insufficient nutrition. It is for this reason that military occupation of the Ruhr district is opposed by the delegates. To quote from an account published in the Christian Science Monitor (Boston) for December 14, 1920 (p. 4):

> On the other hand the German syndicalists affirmed their desire to reconstruct the devastated regions of France. They considered this to be a primordial duty.
>
> They proposed to send into the north of France all the labor power necessary—though as trade-unionists with Socialist tendencies they demand that the conditions shall be such that capitalists of no matter what nationality shall not draw any profit from the reconstruction. They are not indeed alone in this wish. Mr. Poincare has made it clear that for German capitalists at any rate there must be no profit in the reconstruction.
>
> The practical importance of this declaration may not be apparent, but nevertheless the solidarity of the working classes and the desire on the part of German workers to undertake the task of reconstruction can not be regarded as negligible.
>
> The report showed that it was at the demand of the corresponding German labor association that the French delegation went to the Ruhr to examine the situation of the population of that region. The delegation was convinced of the sincere intentions of the German workers whatever may be the intentions of the German Government to fulfill the engagements entered into at the Conference of Spa concerning the quantities of coal to be delivered to France. There is, it was said, no effort to shirk this responsibility by slackening down and refusing to dig coal in sufficient quantities. If not so much as might be expected has been obtained from the Ruhr the cause is a physical one.

Creation of Roumanian Ministry of Labor and Social Welfare.[1]

A MINISTRY of labor and social welfare (Ministerului Muncii şi Ocrotirilor Sociale) has been created in Roumania by royal decree of March 29, 1920. A decree issued on April 26 of the same year regulates the organization of the new ministry. The ministry is to consist of the following seven bureaus: (1) The Central Fund for Social Insurance; (2) the Central Labor Office; (3) the Office for Urban Cooperative Societies; (4) the Social Museum; (5) the Central Office for Social Aid; (6) the Law Division; and (7) the Bureau of Accounts, Personnel, and Supplies. The Bulletin of Labor and Social Welfare (Buletinul Muncii şi al Ocrotirilor Sociale), the first number of which was issued in April, 1920, is the official organ of the new ministry.

[1] Roumania. Buletinul Muncii şi al Ocrotirilor Sociale. Vol. 1, Nos. 1–4. Bucharest, April–July, 1920. p. 49.

IMMIGRATION AND EMIGRATION.

Annual Movement of Aliens for Fiscal Years 1910 to 1920.

THE following table, taken from the annual report of the Commissioner General of Immigration, for the fiscal year ending June 30, 1920, shows the total immigration and emigration in each fiscal year, 1910 to 1920:

TOTAL ALIEN IMMIGRATION AND EMIGRATION, FISCAL YEARS 1910 TO 1920.

Year.	Arrivals.			Departures.			Excess of immigration.
	Immigrant.	Nonimmigrant.	Total.	Emigrant.	Nonemigrant.	Total.	
1910	1,041,570	156,467	1,198,037	202,436	177,982	380,418	817,619
1911	878,587	151,713	1,030,300	295,666	222,549	518,215	512,085
1912	838,172	178,983	1,017,155	333,262	282,030	615,292	401,863
1913	1,197,892	229,335	1,427,227	308,190	303,734	611,924	815,303
1914	1,218,480	184,601	1,403,081	303,338	330,467	633,805	769,276
1915	326,700	107,544	434,244	204,074	180,100	384,174	50,070
1916	298,826	67,922	366,748	129,765	111,042	240,807	125,941
1917	295,403	67,474	362,877	66,277	80,102	146,379	216,498
1918	110,618	101,235	211,853	94,585	98,683	193,268	18,585
1919	141,132	95,889	237,021	123,522	92,709	216,231	20,790
1920	430,001	191,575	621,576	288,315	139,747	428,062	193,514

Italian Emigration, 1916–1918.

DETAILED statistics of Italian emigration have been published by the Italian Central Statistical Office (Ufficio Centrale di Statistica) since 1876. The data for these statistics are furnished to the statistical office by the district police authorities, who compile them from the register of passports kept by them. The latest statistics published[1] deal in detailed form with the emigration movement during 1916 and 1917, and in summary form with that of 1918. A brief digest of the most important data for these three years, with special consideration of Italian emigration to the United States, is given below. The following table shows the general movement of Italian emigration for the period 1913–1918:

[1] Italy. Ministero per il Lavoro e la Previdenza Sociale. Ufficio Centrale di Statistica. Statistica della emigrazione italiana per l'estero negli anni 1916 e 1917 e dati sommari per il 1918. Rome, 1920.

ITALIAN EMIGRATION MOVEMENT, 1913–1918.

Year.	Number of emigrants.				Per cent of emigrants going to the United States.
	To European and Mediterranean countries.	To transoceanic countries.	Total.	To the United States.	
1913	313,032	559,566	872,598	376,776	43.18
1914	245,938	233,214	479,152	167,481	34.95
1915	79,502	66,517	146,019	51,720	35.42
1916	68,224	74,140	142,364	66,295	46.57
1917	33,483	13,013	46,496	11,459	24.64
1918	24,301	4,010	28,311	2,793	9.87

In 1913 Italian emigration had reached its highest level, 872,598 emigrants having left the country. The year 1906 shows the next highest figure, with a total of 787,977 emigrants. Beginning with 1914 Italian emigration decreased steadily owing to the war, and in 1918, the last year of the war, it had dwindled to 28,311, an insignificant figure if compared with that for 1913. Italian emigration to the United States also reached its highest point in 1913 with 376,776 emigrants, representing 43.18 per cent of the total emigration from Italy in that year. In conformity with the subsequent general decrease of Italian emigration that to the United States fell to167,481 in 1914, and to 51,720 in 1915. In 1916 it rose again to 66,295 (46.57 per cent of the total emigration). In 1917 it dropped to 11,459 (24.64 per cent of the total emigration) and in 1918 Italian emigration to the United States fell to 2,793, its lowest level of the period for which statistics are available. At the same time the percentage which emigration to the United States forms of the total emigration fell to the low figure of 9.87 per cent.

As in preceding years, so also in 1916 and 1917, the majority of the emigrants from the northern Provinces of Italy went to European and Mediterranean countries, while from 70 to 90 per cent of the emigrants from the southern Provinces went to transoceanic countries.

As is the case in all other countries, the male emigrants from Italy up to 1917 always have outnumbered the female emigrants. Owing to the war the Government had, however, restricted emigration of male subjects of military age, and thus in 1917 for the first time female emigrants outnumbered the male emigrants. In 1916 of the total number of emigrants 79,603 (55.92 per cent) were males and 62,761 (44.08 per cent) females. The corresponding figures for 1917 are 21,201 (45.60 per cent) and 25,295 (54.40 per cent), respectively. In 1918 the male emigrants once more outnumbered the female emigrants, their number being 15,649 (55.28 per cent) and 12,662 (44.72 per cent), respectively. Of the total number of emigrants in 1916, 28,210 (19.82 per cent) were children under 15 years of age, while in 1917 the number of child emigrants was 8,248 (17.74 per cent) and in 1918, 3,559 (12.57 per cent).

In the following table the Italian emigrants of 1916 and 1917 who were over 15 years of age are classified according to their occupations:

ITALIAN EMIGRANTS OVER 15 YEARS OF AGE CLASSIFIED BY OCCUPATION, 1916 AND 1917

Occupation.	All emigrants.				Emigrants to the United States.			
	Number.		Per cent.		Number.		Per cent.	
	1916	1917	1916	1917	1916	1917	1916	1917
Agriculturists	26,442	3,920	23.16	10.25	18,907	1,403	37.72	17.33
Day laborers on construction and excavation work	18,429	4,645	16.14	12.14	8,168	708	16.29	8.74
Brick and stone masons and helpers, kiln workers, etc.	6,642	2,070	5.82	5.41	1,233	122	2.46	1.51
Workers of the iron and steel, metal working, and machinery industries	2,007	819	1.76	2.14	421	72	.84	.89
Textile workers	800	310	.70	.81	351	126	.70	1.56
Clothing workers	6,546	2,674	5.73	6.99	4,067	1,289	8.11	15.92
Other industrial workers	14,922	5,893	13.07	15.41	5,682	1,033	11.34	12.76
Commercial and transportation workers	7,700	3,473	6.75	9.08	1,555	334	3.10	4.12
Professional men, artists, and salaried employees	3,260	1,461	2.86	3.82	315	113	.63	1.40
Domestic servants and housewives	23,762	11,378	20.82	29.75	8,668	2,561	17.29	31.63
No gainful occupation	2,585	1,011	2.26	2.64	378	90	.75	1.11
Miscellaneous and not specified	1,059	594	.93	1.55	381	246	.76	3.04
Total	114,154	38,248	100.00	100.00	50,126	8,097	100.00	100.00

The foregoing table shows that owing to the war there was a very considerable decrease in the proportion of emigrants who by occupation were agriculturists and day laborers, and who once formed the bulk of the emigrants—in 1914 these two classes formed 28.27 and 29.46 per cent, respectively, of the total emigration. Other occupations, especially that of domestic servant or housewife, are represented in a greatly increased proportion.

PUBLICATIONS RELATING TO LABOR.

Official—United States.

ARKANSAS.—*Bureau of Labor and Statistics. Fourth biennial report, 1919–1920. Little Rock [1920]. 138 pp.*

Contains reports on Child labor, Strikes and lockouts, Farm labor, Vocational education, and reports of the Coal mine inspector and of the Employment bureau. Orders of the minimum wage and maximum hour commission are also included.

Material improvement in respect to observance of the child labor law is noted. This is shown by the fact that in the two-year period ending April 1, 1919, 694 employment certificates were issued by the bureau of labor, whereas in the succeeding eighteen months' period 1,063 permits were issued to children coming within the jurisdiction of the child labor law. It is stated that the provisions of the State law are identical with those of the Federal taxing law.

Of the 1,063 certificates issued from April 1, 1919, to September 30, 1920, 121 were issued to colored and 942 to white children. Of the entire number, 57 were issued to boys over 16 years of age (those engaged in mining), 514 to boys 14 to 15 years of age, 332 to boys of 15 to 16 years, 83 to girls of 14 to 15 years, and 77 to girls 15 to 16 years of age.

It is urged that the commissioner of labor be authorized to hear and decide disputes arising from wage claims when the amount involved is not more than $100 and to collect the wages of those financially unable to take the matter into court.

The data relating to wages and employment are summarized on pages 83 and 125, respectively, of this issue of the MONTHLY LABOR REVIEW.

CALIFORNIA.—*Industrial Accident Commission. Report, July 1, 1919, to June 30, 1920. Sacramento, 1920. 121 pp.*

This report was summarized in the January, 1921, issue of the MONTHLY LABOR REVIEW, pp. 176 to 179.

—— *State Mining Bureau. A review of mining in California during 1919. San Francisco, 1920. 43 pp. Preliminary report No. 6.*

The labor situation in each field division is briefly discussed.

MAINE.—*Department of Labor and Industry. Excerpt from fourth biennial report for 1917–1918. [Augusta, 1919.] 40 pp. In volume II of Maine Public Documents, 1918.*

Among the topics covered in this report are Legislation, Factory conditions, and Child labor. The report is briefly noted on page 215 of this issue of the REVIEW.

MASSACHUSETTS.—*Department of Labor and Industries. Division of Statistics. Annual report on union scale of wages and hours of labor in Massachusetts, 1919. [Boston, 1920.] 146 pp. Labor bulletin No. 131 (being Part II of the annual report on the statistics of labor for 1920).*

The data presented in this report were obtained principally as of the date July 1, 1919, and represent wages paid under a time-rate system.

MONTANA.—*Industrial Accident Commission. Annual report for 12 months ending June 30, 1920. [Helena, 1920.] 357 pp.*

A summary of this report appeared in the January issue of the REVIEW, pp. 180–182.

NEW YORK.—*Industrial Commission. Bureau of Statistics and Information. Industrial code, 1920.* [*Albany, 1920.*] *248 pp.*

—— —— *Division of Industrial Hygiene. Bureau of Inspection. Asphyxiation in garages, and other automobile accidents.* [*Albany, 1920.*] *23 pp. Special bulletin No. 101.*

—— *Superintendent of Banks. Annual report relative to savings and loan associations, land bank of the State of New York, and credit unions for the year 1919.* [*Albany, 1920.*] *630 pp.*

NORTH DAKOTA.—*Workmen's Compensation Bureau, Minimum Wage Department. Report from August 4, 1919, to December 31, 1919. The minimum wage commission act and the hours of labor for females act.* [*Bismarck, 1920.*] *19 pp. Bulletin No. 1.*

For a brief summary of this report see page 216 of this issue of the MONTHLY LABOR REVIEW.

VIRGINIA.—*Bureau of Labor and Industrial Statistics. Annual report, 1920.* [*Richmond, 1920.*] *139 pp.*

Contains tables showing the number of employees receiving each classified weekly wage rate in the various manufacturing industries of the State, and the daily rates of pay and hours of labor in certain occupations in the mining industry. Also includes a report on hours and conditions of work for women in industry made by the Woman's Bureau of the United States Department of Labor in cooperation with the Bureau of Labor and Industries of Virginia. A table showing the number of women wage earners employed in department stores, and dry goods and millinery establishments receiving each classified weekly wage is reproduced on page 86 of this issue of the REVIEW.

WYOMING.—*Department of Labor and Statistics. First biennial report, 1917–1918.* [*Cheyenne, 1919.*]

Contains data on retail prices of food in various Wyoming cities, January 1, 1918, and October 1, 1918, on employment of women in mercantile establishments, and on hours and wages in various industries of the State.

UNITED STATES.—*Department of Commerce. Bureau of the Census. Report for the fiscal year ended June 30, 1920. Washington, 1920. 51 pp. Chart.*

—— —— *Commissioner of navigation. Annual report for fiscal year ended June 30, 1920. Washington, 1920. 242 pp.*

Appendix B contains tables giving the wages paid in the American merchant marine during the fiscal year, and the average monthly wages paid to able seamen, first mates, firemen, and first engineers on American vessels, 1895–1920; also the Shipping Board scale of wages and agreements.

—— *Department of the Interior. Bureau of Education. Salaries in universities and colleges in 1920. Washington, 1920. 43 pp. Bulletin, 1920, No. 20.*

A summary of this report appeared on page 110 of the January issue of the REVIEW.

—— —— *Bureau of Mines. Miners' safety and health almanac, 1921. Washington, 1920. 48 pp.*

This almanac is the third of a series published in cooperation with the United States Public Health Service for the purpose of enlisting the cooperation of miners in improving health conditions and decreasing accidents in the mining industry. Contains lists of the publications of the Bureau of Mines and the Public Health Service which are of interest to miners.

—— *Department of Labor. Bureau of Immigration. Annual report, fiscal year ended June 30, 1920. Washington, 1920. 454 pp. Charts.*

Some of the subjects covered in this report are Induced and assisted immigration, Contract labor, Oriental immigration, and Seamen. Tables give the extent of immigration and emigration during the past fiscal year, by ports of arrival, countries of

origin and destination, races or peoples, sex, occupations, destinations in the United States, etc. A statement of the annual movements of aliens during the fiscal years 1910 to 1920 appears on page 220 of this issue of the REVIEW.

UNITED STATES.—*Department of Labor. Bureau of Immigration. Division of Information. Annual report for the fiscal year ended June 30, 1920. Washington, 1920. 12 pp.*

The work of the division in promoting "a beneficial distribution of aliens admitted into the United States" and in giving them needed information and assistance upon their arrival in this country is reviewed in this report.

—— —— *Bureau of Naturalization. Annual report, fiscal year ended June 30, 1920. Washington, 1920. 114 pp. Charts.*

Consists largely of the report of the division of citizenship training. It is stated that the work of training foreigners for citizenship has been greatly facilitated by the cooperation of the public schools throughout the United States, as well as by prominent national organizations, and industrial employers. Legislation has been enacted in approximately one-half of the States to further citizenship instruction.

—— —— *Children's Bureau. Infant mortality. Results of a field study in Akron, Ohio, based on births in one year. Washington, 1920. 118 pp. Infant mortality series, No. 11. Bureau publication No 72.*

Includes a study of both the economic status of the family, including earnings and employment, and of housing, in relation to infant mortality.

—— —— —— *Report, fiscal year ended June 30, 1920. Washington, 1920. 45 pp.*

Some of the subjects covered in this report are industrial home work for children, rural child labor, employment of children, and children in industry [in Europe].

—— —— *Division of Publications and Supplies. Annual report, fiscal year ended June 30, 1920. Washington, 1920. 20 pp.*

—— —— *Employment Service. Annual report, fiscal year ended June 30, 1920. Washington, 1920. 43 pp. Charts.*

Includes reports of the special divisions of the Service, such as soldier and sailor placements, farm and harvest work, junior work, woman's work, and professional work. There is a chapter on the status and future of the United States Employment Service, a copy of a bill to provide for the establishment of a National employment service in the Department of Labor. There are also a number of charts illustrating the organization of the employment service. A summary of the activities of the Service since its organization in January, 1918, is given on page 123 of this issue of the REVIEW.

—— —— *Women's Bureau. Annual report for the fiscal year ended June 30, 1920. Washington, 1920. 12 pp.*

Some of the subjects treated in this report are Women in the Government service, Woman's part in American industries during the World War, Industrial training for women and girls, Effects of laws regulating their hours of work on the employment of women, General industrial conditions for women in the States, and Responsibility of wage-earning women for the support of others.

—— —— —— *Industrial opportunities and training for women and girls, Washington, 1920. 48 pp. Bulletin No. 13.*

—— *Federal Board for Vocational Education. Industrial rehabilitation—A statement of policies to be observed in the administration of the Industrial Rehabilitation Act. Washington, September, 1920. 48 pp. Bulletin No. 57. Industrial rehabilitation series No. 1.*

Official—Foreign Countries.

AUSTRALIA (WESTERN AUSTRALIA).—*Registrar of Friendly Societies, Report of proceedings * * * for the year ended June 30, 1920. Perth, 1920. 29 pp. No. 10.*

Reports a total membership of 18,388, an increase of 602 over 1918. The amounts in funds at the end of 1919 were: Sick and funeral, £260,892 ($1,269,630.92, par); medical and management fund, £7,031 ($34,216.36, par); other funds £10,730 ($52,217.55, par). Receipts by the sick and funeral fund amounted to £55,444 ($269,818.23, par) and benefits paid amounted to £55,668 ($270,908.32, par), while receipts by the medical and management fund amounted to £42,931 ($208,923.71, par) with payments amounting to £44,936 ($218,681.04, par). There were 4,626 members who received sick benefits.

BELGIUM.—*Ministère de l'Industrie, du Travail et du Ravitaillement. Le travail industriel aux Etats-Unis. Rapports de la Mission d'Enquête. Tomes I and II. Brussels. 1920. 485, 896 pp.*

In the first volume of the report of the Belgian mission for the study of industrial management in the United States are included a general report and special reports of six of the seven members of the commission. The first special report, that of M. Steels, president of the commission, gives his conclusions as to scientific management in American industries considered from the technical, economic, and social points of view. The report of M. Vandersypen shows the working out of the Taylor system in different establishments of the machine industries; the study of M. de Man relates to scientific management from the point of view of the workers, that of M. Steels deals with the working population of Pottstown, Pa., and M. van Hecke reports on the subject from the social point of view. The report of M. Mavant relative to "Taylorism" from the point of view of the relations between capital and labor is not finished in this volume.

The second volume includes information secured on the visit of the Belgian Commission in the spring of 1918, a visit by the author to England in the latter part of 1918, and a second visit to the United States in the spring of 1919. The first part of this volume deals with industry; its scientific organization, welfare, safety, and medical work, wages, woman and child labor, unemployment, accident compensation, etc., in the two countries. The second part covers social medicine, including work of public health service, public hospitals, insurance companies, housing projects, and other related subjects, and the third part reports on education of children and adults, American universities, and various educational movements, civic life, and reconstruction.

—— —— *Rapports annuels de l'inspection du travail. 20me Année (1919). Brussels, 1920. 303 pp.*

This report gives the results for the year 1919 of the labor inspection service in Belgium. The service which was completely disorganized was resumed November 26, 1918, and included in addition to inspection of establishments for the purpose of watching the execution of different laws and regulations, intervention in strikes and lockouts; investigation as to the resumption of industrial activity; information upon the application of the eight-hour day and the 48-hour week; participation in tribunals to fix war damages; a study of the industrial situation from December 8 to 20, 1919.

—— —— *Secrétariat général. Statistique des accidents du travail. Année 1909. Bruxelles, 1920. 419 pp.*

This report gives statistics relating to compensation for industrial accidents in the different industries of Belgium for the year 1909.

CANADA (MANITOBA).—*Council of Industry. Report on rent inquiry. Winnipeg, Nov. 24, 1920. 4 pp.*

In view of the house famine and the sudden increase in rents in Winnipeg an inquiry was instituted to determine whether there was any justification for the increase and whether the landlord was receiving more than a fair and reasonable return on a wise investment judiciously managed. The report of this investigation gives a table showing the percentage of gross income absorbed by certain expenses such as taxes, insurance, repairs, fuel, janitor services, light and water, depreciation, etc. The conclusion was reached that "there is no profiteering in rents in Winnipeg, the average rate to the landlord as estimated for the year 1920–21 * * * being 7.9 per cent after allowing a charge of 1½ per cent of the original investment for depreciation in addition to the other charges for maintenance and administration; and that the advance in rents while extraordinary and regrettably sudden does not allow an excessive return to the owner upon his original investment." The problem which remains to be solved is one of housing accommodation, the report declares. It is stated that while 3,392 houses and 149 blocks were constructed during the two years immediately preceding the war there were in the five years 1915 to 1919 only 258 houses and 11 inferior apartments constructed. In 1920, 262 houses and 11 small converted apartments were erected.

—— (ONTARIO).—*Department of Mines. Annual report, 1920. Part I. Toronto, 1920. 263 pp. Illustrated. Map.*

One section of the report is devoted to mining accidents in Ontario in 1919. It is stated that during 1919 there were 34 accidents in which fatalities occurred at the mines, metallurgical works, quarries, and clay and gravel pits regulated by the Mining Act of Ontario. The total number of deaths was 39 as compared with 32 in 1918. The 19 accidents which occurred underground resulted in 21 deaths. Six men were killed above ground at the mines, 10 at the metallurgical works, and 2 at the quarries and clay pits. The corresponding figures for the previous year were 11, 4, 12, and 5. The number of fatal accidents per 1,000 persons employed was 2.02 in 1917, 2.10 in 1918, and 3 in 1919.

—— (SASKATCHEWAN).—*Department of Agriculture. Bureau of Labor. Ninth annual report for the 12 months ended April 30, 1920. Regina, 1920. 46 pp.*

Gives tables showing totals of 18 fatal and 795 nonfatal industrial accidents in the Province during 1919–20 as compared with 13 fatal and 771 nonfatal in 1918–19. Most of the accidents (73.2 per cent) in the former period were on steam and electric railways. Orders issued by the Minimum Wage Board are noted. A brief statement of wages paid in the building trades in the years 1916 to 1919 is given on page 91 of this issue of the REVIEW.

FRANCE.—*Législation minére et législation ouvrière. Texte des principales lois. Quatrième édition. Paris, Comité central des houillères de France, 1920. 289 pp.*

This collection of laws and decrees covers the following subjects: General mining regulations, mining policy, regulations as to working of mines; fiscal regulations; associations; trade-unions, retirement and aid funds; accidents; conciliation and arbitration; trade councils; agreements relating to labor and labor regulation. There is a tabular summary of laws, decrees, circulars, etc., giving date of promulgation and the objects of the acts.

GERMANY (BERLIN).—*Statistisches Amt. Statistisches Jahrbuch der Stadt Berlin. 33. Jahrgang, enthaltend die Statistik der Jahre 1912–1914. Berlin, 1916. xx, 1211 pp.*

Volume 33 of the statistical yearbook of the city of Berlin covering the years 1912–1914 and partly also 1915. The volume contains the same kind of municipal statistics as preceding issues.

GREAT BRITAIN.—*Board of Agriculture and Fisheries. Report of subcommittee appointed to consider the employment of women in agriculture in England and Wales. London, 1919. 121 pp.*

This report, presented in December, 1919, gives a review of the employment of women in agriculture in the past, especially during the war. The most striking conclusion reached is concerning the necessity for educational work among farmers and laborers alike.

This need [of agriculture] is expressed, not in terms of shortage of labor, but in a general absence both on the part of employer and employee of knowledge and training in methods of how to make the best and most economical use of both time and labor, and how to turn home-grown products to best account, whether they are for sale or for home consumption.

It is here that the function of the local woman wants developing. The work of the farm home, intimately connected as it is with the agricultural industry, must be organized as highly as that of the farm itself, and woman's labor, whether in the house or on the farm, and whether of the wife or the wage earner, must be used as economically and as efficiently as that of men.

The subject of supplying the educational requirements of this type of worker, especially those of the small holder's wife, therefore, is of greater importance than any other which has to be considered in relation to the work of women on the land. As the women in question are seldom in a position to leave their homes, the keynotes of any recommendations for the most economic employment of women in agriculture are local demonstrations and itinerant instruction, local organization of workers and such social enterprise as stimulates a demand locally for education and cooperative effort.

—— *Industrial Fatigue Research Board. Preliminary notes on the boot and shoe industry. London, 1920. 32 pp. Report No. 10. Boot and Shoe Series No. 1.*

Gives a history of the boot and shoe industry in Great Britain, a brief description of the processes involved in the making of shoes, and the results of experiments, which show that the output of Saturday is low, even when doubled being often less than 75 per cent of that on the other days, and that the curve of the skilled workman is more irregular and begins to fall later in the week than the curve of the operative whose skill is less or who is ill suited to his work. Further experiments indicate that by a system of rest pauses it is possible in certain cases to increase the output of a factory or workshop by a considerable amount without incurring the expense of purchasing new machines. The experiment consisted of working the double presses with a team of three girls, each operative working 40 minutes in each hour and resting 20 minutes instead of two girls working continuously throughout the day.

—— *Ministry of Health. Persons in receipt of poor-law relief (England and Wales). London, 1920. 41 pp. 191.*

According to this statement the number of persons in receipt of poor-law relief in England and Wales on the night of January 1, 1920, was 576,418, or 1 in 65 of the total estimated population of 37,494,000. Women and children formed 76 per cent of this total.

—— *Treasury. Staffs employed in Government departments on 1st November, 1920. London, 1920. 2 pp. Cmd. 1059.*

On November 1, 1920, the total number of employees in the Government departments was 365,780, a decrease of 463 as compared with the figures for the previous month.

—— (BRADFORD).—*Education committee. Juvenile employment special subcommittee. Report of work for the year ended 31st July, 1920. [Bradford, 1920.] 17 pp.*

The juvenile employment scheme, which has been in operation since June 1, 1912, has for its aims: (1) To place boys and girls in suitable occupations; (2) to encourage attendance at evening classes; and (3) to arrange for the visitation by members of the various district committees of all children leaving school up to the age of 18 years. Tables show the occupations taken up by boys and by girls, respectively, on leaving

school during the year ending July 31, 1920, also the occupations in which boys and girls have been placed by the juvenile employment bureau during the same period. It is shown that the textile industry absorbed nearly as many juvenile workers as all other industries combined. The work of the bureau is summarized in the following table:

NUMBER OF BOYS AND GIRLS REGISTERED, NUMBER OF VACANCIES REPORTED BY EMPLOYERS, AND NUMBER OF VACANCIES FILLED DURING THE YEAR ENDING JULY 31, 1920.

Item.	Boys.	Girls.	Total.
Children registered	747	274	1,021
Vacancies reported by employers	604	283	887
Vacancies filled	340	119	459

ITALY.—*Ministero per il Lavoro e la Previdenza Sociale. Ufficio Centrale di Statistica. Statistica della emigrazione italiana per l'estero negli anni 1916 e 1917 e dati sommari per il 1918. Rome, 1920. xxxvi, 163 pp.*

This volume, published by the Italian Central Statistical Office, contains detailed emigration statistics for the years 1916 and 1917 and summary statistics for the year 1918. The contents of the volume are summarized in an article in the present issue of the MONTHLY LABOR REVIEW (pp. 220 to 222).

LEAGUE OF NATIONS.—*International Labor Office. La production du charbon dans la Ruhr. Geneva, September 1, 1920. 16 pp. Etudes et documents, Serie B, No. 1.*

A review of this report is included in an article on pages 200 to 213 of this issue of the REVIEW.

—— —— *Seventh congress of the Belgian cooperative office. Geneva, September 25, 1920. 10 pp. Studies and Reports, Series H, No. 2.*

This report is briefly noted on pages 104 and 105 of this issue of the REVIEW.

—— —— *The conditions of labor and production in the Upper Silesian coal field. Geneva, December 10, 1920. 20 pp. Studies and Reports, Series B, No. 3.*

A review of this report is included in an article on pages 200 to 213 of this issue of the REVIEW.

NEW ZEALAND.—*Government Statistician. Prices. An inquiry into prices in New Zealand, 1891–1919. Wellington, 1920. 191 pp.*

This report revises and brings up to date previously published data on the cost of living in New Zealand and also includes index numbers of producers and export prices. Besides the chapters giving ruling retail and wholesale prices, 1891 to 1919, and index numbers for the same period, there are chapters on Purchasing power of money, War increases, and Household budget inquiries.

POLAND.—*L'Office Central de Statistique de la République Polonaise. Revue mensuelle de statistique. Année 1920. Tome 1, fascicule 1–3. Varsovie, 1920. 118 pp.*

This first number of the Monthly Statistical Review states that it is planned to cover in this publication theoretical statistical works, critical analyses of information gathered by the Statistical Office, original information, statistical reports (foreign scientific movements, notices, etc.), bibliography of statistics, proceedings and digests, and accounts of the work of the Central Statistical Office. With the exception of the account in French of the scope of the Review the text is entirely in Polish.

ROUMANIA.—*Direcțiunea Generală a Statisticei. Statistica Cladirilor și a Locuințelor din Romania intocmită pe baza recensământului general al populațiunii din 19 Decembre 1912. Bucharest, 1920. 89 pp.*

The results of a housing census taken by the Roumanian Central Statistical Office on the occasion of the general census of December 19, 1912 (Greek style, January 1, 1913).

SWEDEN.—*Arbetstidskommittén. Arbetstiden inom industri och hantverk m. m. i Sverige vid år 1917. Stockholm, 1920. 146 pp. Sveriges officiella statistik. Socialstatistik.*

This is a report of a special committee on hours of labor.

—— *Kommerskollegium. Industri berättelse för år 1918. Stockholm, 1920. 169 pp. Sveriges officiella statistik. Industri och bergshantering.*

This census of Swedish manufactures shows that there were 10,518 establishments in the Kingdom in 1918, in which were employed 424,562 persons. Of the latter 39,282 were salaried persons and 385,280 were wage earners. The census included only establishments employing 10 or more persons.

—— *Socialstyrelsen. Olycksfall i arbete år 1916. Stockholm, 1920. 67 pp. Sveriges officiella statistik. Socialstatistik.*

Statistics of labor accidents for the year 1916.

SWITZERLAND.—*Eidgenössisches Volkswirtschafts departement. Berichte der eidgenössischen Fabrikinspektoren über ihre Amtstätigkeit in den Jahren 1918 und 1919, Aarau, 1920, 186 pp.*

A table showing factory and nonfactory industrial accidents and compensation paid in Switzerland in 1917 and the first quarter of 1918, taken from this report, appears on page 153 of this issue of the REVIEW.

—— (CITY OF BERN).—*Arbeits- und Wohnungsamt und Versicherungskasse gegen Arbeitslosigkeit. Verwaltungsbericht für das Jahr 1919.* [*Bern, 1920.*] *24 pp.*

The report for the year 1919 of the employment and housing offices and of the unemployment insurance fund of the Swiss city of Bern. The following table illustrates the activities of the employment office during the year 1919 as compared with 1918:

EMPLOYMENT STATISTICS OF THE MUNICIPAL EMPLOYMENT OFFICE OF THE CITY OF BERN, 1918 AND 1919.

	Vacant situations.		Applicants.		Situations filled.			
					Number.		Per cent of applicants.	
	1918	1919	1918	1919	1918	1919	1918	1919
Men	10,419	7,766	11,678	9,481	8,212	5,730	70.3	60.4
Women	6,139	6,218	3,519	3,352	2,693	2,381	76.5	71.3
Total	16,558	13,984	15,197	12,833	10,905	8,121	71.8	63.3
Female day laborers and laundresses	4,289	3,901	4,236	3,857	4,236	3,857	100.0	100.00
Grand total	20,847	17,885	19,433	16,690	15,141	11,978	77.9	71.8

During the year 1919 the employment office disbursed 552,562.74 francs ($106,644.61, par) for unemployment relief to 1,909 unemployed persons. Of this amount 332,289.34 francs ($64,131.84, par) was contributed by the State, 77,502.38 francs ($14,957.96, par) by the canton, 35,840.73 francs ($6,917.26, par) by employers, and 106,930.29 francs ($20,637.55, par) by the municipality of Bern.

The housing office received 565 offers of houses and unfurnished apartments for rent; 305 of these were rented through the housing office. It also received 1,316 offers of furnished rooms for rent and 231 of unfurnished rooms. The number rented was 592 and 138, respectively. Average rents of apartments of various sizes in 1919 as compared with those prevailing in 1914 were as follows:

AVERAGE RENTS OF UNFURNISHED APARTMENTS IN BERN, SWITZERLAND, 1914 AND 1918.

[1 franc at par=19.3 cents.]

Year.	Average rents of apartments consisting of—						
	1 room.	2 rooms.	3 rooms.	4 rooms.	5 rooms.	6 rooms.	7 and more rooms.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
1914	270	450	740	980	1,300	1,800	2,360
1919	352	495	989	1,930	2,703	2,300	4,669

The membership of the municipal unemployment insurance fund was 715 at the end of 1919 as compared with 836 at the end of the preceding year, a decrease of 121. During the year 387 members, or 54.1 per cent of the total membership of the fund, received unemployment allowances totaling 43,507 francs ($8,396.85 par). First-class members received an allowance of 4 francs (77.2 cents, par) per day and second-class members one of 3 francs (57.9 cents, par). In addition they were allowed 50 centimes (9.7 cents, par) for each child up to four children. The contributions of members amounted to 14,598.50 francs ($2,817.51, par) for the year 1919, the municipal subsidy to 20,000 francs ($3,860, par), and the State subsidy to 24,597.83 francs ($4,747.38, par). Nearly all the insured were building trades workers.

URUGUAY.—*Dirección General de Estadística. Anuario estadístico. Libro XXVII. Montevideo, 1919. 560 pp.*

In this volume, the yearbook of Uruguay, comparative vital, migration, financial, agricultural, and commercial statistics are given covering specified years ending with 1917. The tables concerning industrial accidents are summarized on pages 150 to 152 and those relating to employment on page 128 of this issue of the MONTHLY LABOR REVIEW.

—— *Oficina Nacional del Trabajo. Boletín, Enero, Febrero, Marzo y Abril de 1920. Montevideo, 1920. 44 pp.*

This bulletin of the National Labor Office contains statistics on the observance of the rest day in industry, employment and wages of women and children, and cost of living; also the text of decrees concerning the laws relating to the prevention of industrial accidents and to old-age pensions.

—— —— *Estadística del trabajo y de las subsistencias.* Annario correspondienté a 1919. *Montevideo, 1920. 108 pp. Charts.*

The statistical yearbook for 1919, published by the National Labor Office, contains statistical tables and other data on industrial accidents, migration of labor, labor supply and demand, prices of food and other necessities, strikes and lockouts, observance of a rest day in industry, and employment and wages of women and children. The index number for 25 food articles in December of each year rose from 100 in 1913 to 116 in 1916, 126 in 1918, and 170 in 1919. For a summary of the data on industrial accidents see pages 150 to 152 of this issue of the MONTHLY LABOR REVIEW.

Unofficial.

AMERICAN FEDERATION OF LABOR. *Railway employees department. Official proceedings, fifth biennial convention, Kansas City, Mo., April 12-21, 1920. Washington, D. C., John Scott, secretary-treasurer, 1920. 335 pp.*

—— *Union label trades department. Proceedings, thirteenth convention, Montreal, Quebec, June 3-4, 1920. Washington, D. C., John J. Manning, secretary-treasurer, 1920. 82 pp.*

AMERICAN FEDERATION OF LABOR. *Arkansas branch. Proceedings of the fourteenth convention, Fort Smith, October 4–8, 1920. Little Rock, L. H. Moore, secretary-treasurer, 1920. 67 pp.*

—— *Georgia branch. Proceedings of twenty-second annual convention, Savannah, April 21–24, 1920. Savannah, J. A. McCann, secretary-treasurer, 1920. 44 pp.*

—— *Illinois branch. Proceedings, thirty-eighth annual convention, Galesburg, October 18–23, 1920. Chicago, Victor A. Olander, secretary-treasurer, 1920. 76 pp.*

—— *Indiana branch. Proceedings of the thirty-sixth annual convention, Evansville, August 25–28, 1920. Indianapolis, Adolph J. Fritz, secretary-treasurer, 1920. 226 pp.*

—— *Kansas branch. Proceedings of the fourteenth annual convention, Salina, May 10–12, 1920. Leavenworth, Charles Hamlin, secretary-treasurer, 1920. 116 pp.*

—— *Kentucky branch. Book of laws and proceedings, sixteenth annual convention, Henderson, September 13, 14, 15, 1920. Louisville, Peter J. Campbell, secretary-treasurer, 1920. 124 pp.*

—— *Massachusetts branch. Proceedings of the thirty-fifth annual convention, Lynn, August 2–6, 1920. Boston, Martin T. Joyce, secretary-treasurer, 1920. 160 pp.*

—— *Michigan branch. Proceedings of the thirty-first annual convention, Flint, September 21–24, 1920. Detroit, John J. Scannell, secretary-treasurer, 1920. 97 pp.*

—— *Minnesota branch. Official year book, 1920. St. Paul, 1920. 75 pp.*

—— —— *Proceedings of the thirty-eighth convention, Rochester, July 19, 20, 21, 1920. St. Paul, G. W. Lawson, secretary-treasurer, 1920. 94 pp.*

—— *New Hampshire branch. Proceedings of the nineteenth annual convention, Portsmouth, July 20, 21, 22, 1920. Franklin, Charles H. Bean, jr., secretary-treasurer, 1920. 75 pp.*

—— *New Jersey branch. Proceedings of forty-second annual convention, Newark, October 4, 5, and 6, 1920. Newark, Henry F. Hilfers, secretary, 1920. 49 pp.*

—— *Oklahoma branch. Official proceedings of the seventeenth annual convention, Okmulgee, September 20–23, 1920. Tulsa, George B. Johnson, secretary-treasurer, 1920. 88 pp.*

—— *Pennsylvania branch. Proceedings of the nineteenth annual convention, Altoona, May 11–14, 1920. Harrisburg, C. F. Quinn, secretary-treasurer, 1920. 163 pp.*

AMERICAN GAS ASSOCIATION. *Committee on accident prevention. Accident prevention.* [*Philadelphia, 1920.*] *15 pp. Charts.*

This report of the 1920 committee covers the period from September 1, 1919, to September 1, 1920, and includes an analysis of 1,100 accidents to employees reported by 35 artificial-gas companies located in 15 States and employing 14,420 persons at the time of reporting. It is stated that the fatal accident ratio rose from 0.02 of 1 per cent, or 2 fatalities per 10,000 persons employed, to 0.062 of 1 per cent, or 6 fatalities per 10,000 employees, due to one catastrophe which caused the death of 5 employees. There were in all 9 fatalities during the period. Several charts are presented showing the number of cases due to various causes, the distribution by days of the week, and by hours of the day, age, effects, and days of disability. Two of these charts show analyses of reports of cases received during the past two years, a total of 2,100 cases, including 12 fatalities, and in two others there have been combined the experiences of the American Gas Institute and the American Gas Association committees to date, a total of 12,100 cases, of which 39 were fatal.

ASSOCIATION OF BRITISH CHAMBERS OF COMMERCE. *Proceedings and resolutions adopted * * * April 21st and 22d, 1920.* [*London, 1920.*] *172 pp.*

In its resolutions the association went on record as favoring a temporary extension of the working hours to meet the existing deficiency in production, a secret ballot by the trade-unions, and an inquiry to determine whether the present labor exchange system fulfills its original objects and warrants its increasing cost, and opposing any further reduction in hours of labor.

ASSOCIATION OF BRITISH CHAMBERS OF COMMERCE. *Executive council. Report presented at the annual meeting, April 21, 1920.* [*London, 1920.*] *100 pp.*

Some of the subjects included in this report are Trade Disputes Act, Industrial courts constitution, Unemployment donation grant, State insurance and compensation for accidents, Industrial unrest, and Nationalization of coal mines.

BEMAN, LAMAR T. (COMPILER). *Selected articles on the compulsory arbitration and compulsory investigation of industrial disputes. New York, The H. W. Wilson Co. 1920. lxxi, 303 pp. Debaters' handbook series.*

Contains briefs, a bibliography, and selected articles for and against compulsory arbitration and investigation of industrial disputes.

BUSS, ELSE. *Die Frauenarbeit im Dienst der preussisch-hessischen Staatseisenbahnen und ihre Entwicklung während des Krieges. Göttingen, 1919. viii, 105 pp.*

A dissertation for obtaining the degree of doctor of political science at the University of Göttingen. Woman labor in the service of the Prussian-Hessian State railroads and its development during the war forms the subject of the dissertation. The most important data and facts contained in this study are discussed in an article in the present issue of the MONTHLY LABOR REVIEW, pp. 129 to 134.

CALIFORNIA, UNIVERSITY OF. *Division of vocational education. An analysis of department store occupations for juniors. Berkeley, 1920. 48 pp. Part-time education series, No. 3. Bulletin No. 2.*

This study of five department store junior positions is the first of a series designed to assist teachers in part-time schools to meet the requirement of the part-time education act that "a portion of the four hours per week of compulsory attendance shall be utilized in giving (a) to persons already engaged in skilled occupations the opportunity to better qualify themselves for the same, (b) to persons looking forward to entering skilled occupations the opportunity to prepare themselves for their chosen work."

CARPENTER, C. U. *Increasing production and decreasing costs. New York, The Engineering Magazine Co., 1920. 432 pp.*

A chapter of this book, which deals mainly with methods and costs of production and the best physical adaptation of the plant, is devoted to wage systems and their effect upon labor. Methods of applying different systems of payment are described with suggestions as to difficulties in their application and results which may be expected.

COMMONS, JOHN R. *Races and immigrants in America. New York, The Macmillan Co. 1920. 242 pp.*

This is a new edition the original of which appeared in 1907. The different elements in our population, such as the colonial, the Negro, and the nineteenth century immigration additions, are discussed and there are chapters on industry, labor, city life, crime and poverty, and amalgamation and assimilation. There has been little change, the introduction states, in the original text except the bringing down to date of the statistical information.

EBERSTADT, RUDOLF. *Handbuch des Wohnungswesens und der Wohnungsfrage. Berlin, 1920. x, 735 pp.*

The fourth revised and enlarged edition of one of the best known handbooks on housing and the housing problem. The volume discusses the development of urban building from ancient to modern times, the development of the prices of urban real estate, housing conditions, town planning, forms of houses, building ordinances, housing inspection, building credit settlements, rural housing, housing work by the State, employers, and public welfare organizations, etc.; in fact, every phase of the housing problem with special consideration of housing in Germany and more summary consideration of housing in England, Austria, Hungary, Switzerland, France, Belgium, Holland, Denmark, Sweden, Norway, the United States, and Australia. To each chapter of the volume is appended a bibliography on the subject with which the chapter deals. An appendix to the volume contains the text of the Prussian housing law of March 28,

1918, and a discussion of the housing policy of Germany and foreign countries during the period of transition from a war to a peace régime.

FÉDÉRATION NATIONALE DES TRAVAILLEURS DES CHEMINS DE FER. *Compte rendu du 1er congrès national, June, 1918. Paris, Imprimerie Nouvelle (Association Ouvrière), 1918. 207 pp.*

An account of the proceedings of the First National Congress of Railroad Workers held at Paris in June, 1918.

FILENE, CATHERINE (EDITOR). *Careers for women. Boston, 1920. vii, 576 pp.*

A compilation of articles setting forth the opportunities offered women and girls in various lines of work, together with the training necessary for each career. It is designed as a guide to high school and college girls in choosing and preparing for their vocations.

FLATOW, GEORG. *Das Recht der Übergangszeit. Berlin, 1919. 147 pp.*

A compilation by an official of the National Ministry of Labor of all labor and social legislation enacted in Germany during the period of transition from the war to the peace régime.

JARRETT, MARY C. *The mental hygiene of industry. New York, The National Committee for Mental Hygiene, Inc., 1920. 18 pp. Reprint No. 88 from Mental Hygiene, Vol. IV, No. 4, October, 1920.*

Report of progress of work carried on under the auspices of the Engineering Foundation of New York. A brief bibliography on the subject is appended.

LIEFMANN, ROBERT. *Arbeitslöhne und Unternehmergewinne nach dem Kriege. Stuttgart, 1919. 27 pp. Flugschriften zur Schaffung sozialen Rechtes, Heft 8.*

An essay on the problem of workmen's wages and employers' profits after the war. After raising the question whether the last hour of capitalism had arrived in Germany and answering it in the negative, the author discusses wages and employers' profits during the war, the limits of wages, the economic effect of excessive wage increases, prices and wages in the socialistic State, and finally the present tasks of employers and workers in the rehabilitation of Germany.

MELLOR, WILLIAM. *Direct action. London, Leonard Parsons, 1920. 156 pp.*

The argument of this book is based on the theory of the class struggle and the idea that "capitalism has completed its mission, and, if the world is to be saved, capitalism must go." As means toward this end the author advocates industrial unionism, sabotage, and the sympathetic strike, and regards the committee of action as the first organization created in the history of the labor movement which can be effective in the attaining of labor's revolutionary aim.

MILHAUD, EDGARD. *La marche au socialisme. Paris, Bernard Grasset, 1920. 303 pp.*

The questions of the unequal distribution of wealth, the exploitation of the proletariat, unemployment, individual enterprise and the trusts, the war, and the economic organization are discussed. The author advocates expropriation with compensation.

—— *Les fermiers généraux du rail. Paris, Bernard Grasset, 1920. 379 pp.*

This book is an argument for the industrialized nationalization plan of the General Confederation of Labor for the operation of the French railroad.

NATIONAL CONFERENCE OF SOCIAL WORK. *Proceedings at the 47th annual session, held in New Orleans, La., April 14–21, 1920. Chicago, 1920. 524 pp.*

Among the subjects discussed at the general sessions were: The spirit of social service, The relation of the church to social work, Creating a demand for health, The growing demand for the coordination of national social work, and Need for and uses of a standard minimum quantity budget.

The section meetings covered 10 main divisions, namely, (1) Children, (2) Delinquents and correction, (3) Health, (4) Public agencies and institutions, (5) The family, (6) Industrial and economic problems, (7) The local community, (8) Mental

hygiene, (9) Organization of social forces, and (10) The uniting of native and foreign-born in America.

NATIONAL SAFETY COUNCIL. *Safe practices. No. 41. Hand tools. Chicago, 168 North Michigan Avenue, 1920. 16 pp. Illustrated.*

PATTISON, *H. A. Occupations for the tuberculous. Sacramento, 1919. 10 pp.*

A reprint of an address delivered at the Southwestern Tuberculosis Conference. It is stated that there are four ways of providing employment for the tuberculous: (1) In and about the sanatorium itself; (2) in the normal channels of commerce and industry; (3) in the productive workshops established especially for these cases in the large centers of population; and (4) in combined agricultural and industrial colonies developed for the tuberculous and their families.

POISSON, ERNEST. *La république coopérative. Paris, Bernard Grasset, 1920. 256 pp.*

The principles of consumers' cooperation form the basis of the economic system which, if extended to every phase of wholesale and retail business, would form the cooperative republic. This would in the author's opinion put an end to the growing antagonism between the forms of production and the method of appropriating wealth since there would no longer be economic classes but only economic categories according to the different classes of producers within the general economic category of consumers.

ROBBINS, HAYES. *The making of to-morrow. The art of industrial right living. New York, E. P. Dutton & Co. [1920]. 176 pp.*

The problems which labor and employers are facing are discussed from the viewpoint of both with the object of suggesting a basis for a fair and peaceful settlement of the many disputed questions. The author believes that developments of the future will follow along the lines of the present economic system and that general tendencies among all classes are neither reactionary nor radical but are more and more shaping themselves toward essential justice.

SCHLOSSER, FR. *Die Zukunft der Jugendfürsorge. Berlin, 1919. 48 pp.*

A brochure discussing the future of welfare work for children and juveniles and the text of a bill regulating their care.

—— *Jugendfürsorgegesetz nebst Gesetz zur Ergänzung des Arbeitsscheuengesetzes. Berlin, 1918. 60 pp.*

A digest and the full text of the Government bill relating to the care of children and juveniles.

SHEFFERMAN, NATHAN W. *Employment methods. New York, The Ronald Press Co., 1920. 573 pp.*

This book is in the nature of a summary of the existing material on employment management.

SOUTHARD, E. E. *The movement for a mental hygiene of industry. New York, The National Committee for Mental Hygiene, Inc., 1920. 22 pp. Reprint No. 74 from Mental Hygiene, Vol. IV, No. 1, pp. 43–64, January, 1920.*

This is a preliminary report of a research being conducted under the auspices of the Engineering Foundation of New York.

TRADES UNION CONGRESS. *Report of proceedings at the 52d annual trades union congress, Portsmouth (England), on September 6–11, 1920. London, 32 Eccleston Square, S. W. 1, 1920. 432 pp.*

A brief account of this congress was given in the MONTHLY LABOR REVIEW for November, 1920, page 213.

ZENTRALVERBAND DEUTSCHER KONSUMVEREINE. *Jahrbuch, 1920. Hamburg, 1920. 2 vols.*

Some of the more important figures contained in this yearbook of the Central Union of German Consumers' Societies are given in this issue of the MONTHLY LABOR REVIEW, pages 108 to 110.