U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
CHILDREN'S BUREAU
GRACE ABBOTT, Chief

THE WELFARE OF CHILDREN IN BITUMINOUS COAL MINING COMMUNITIES IN WEST VIRGINIA

By

NETTIE P. McGILL

Bureau Publication No. 117

WASHINGTON
GOVERNMENT PRINTING OFFICE
1923

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CONTENTS.

TABLES.

ILLUSTRATIONS.

LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, December 5, 1922.

SIR: There is transmitted herewith a report entitled "The Welfare of Children in Bituminous Coal Mining Communities in West Virginia."

The investigation upon which this report is based was made under the direction of Ellen Nathalie Matthews, director of the industrial division of the Children's Bureau. The field work was directed by Ethel M. Springer and the report written by Nettie P. McGill, both of the staff of the industrial division of the bureau.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

Hon. JAMES J. DAVIS,
Secretary of Labor.

THE WELFARE OF CHILDREN IN BITUMINOUS COAL MINING COMMUNITIES IN WEST VIRGINIA.

INTRODUCTION.

The present inquiry into the welfare of children in bituminous coal mining communities [1] was made with the purpose of studying conditions incident to life in a mining town which might in any way affect the child, in order to ascertain, if possible, what it means to a child to be brought up in such a community so far as his health, his opportunities, and his general well-being are concerned. The basic character of the industry lends significance, from an industrial as well as a social point of view, to any study of conditions the improvement of which might be expected to make coal mining more attractive to the miner and the miner's family.

The study was made in Raleigh County, W. Va., a State second only to Pennsylvania in the amount of bituminous coal mined. In 1918, of the total number of men in the United States engaged in the production of bituminous coal 15 per cent—89,530 men—were employed in the mines of West Virginia; of the total value of coal mined, that of the West Virginia product was 15 per cent, or $200,659,368.[2] Raleigh County is among the larger producing counties, being surpassed in the amount of coal mined by only three other counties—McDowell, Logan, and Fayette. It was selected for study as typical, on the whole, of many of the bituminous coal mining districts of the Appalachian Mountain system, which are found in seven States—Pennsylvania, Maryland, Virginia, Kentucky, West Virginia, Tennessee, and Alabama. Moreover, at the time of the survey, in the summer of 1920, it was free from serious labor disturbances, such as were taking place in certain sections of the State. Some of the coal fields in the county were unionized, others were not; and communities in both union and nonunion territory were included in the survey.

Raleigh County lies in the southern part of the State, wholly within the Allegheny Plateau. It is extremely rough country, the valleys being narrow, hemmed in by steep slopes, which range in height from

[1] This is the second study of conditions surrounding children in mining districts made by the Children's Bureau. The results of the first study were published in Child Labor and the Welfare of Children in an Anthracite Coal-Mining District, U. S. Children's Bureau Publication No. 106, Washington, 1922.

[2] Lesher, C. E.: Coal in 1918. Part A, Production, pp. 699, 701, 708, and 810. U. S. Geological Survey, Washington, 1920.

2,000 to more than 3,500 feet above sea level; areas of flat or undulating plateau with rolling upland and broad valleys, which are about the only areas of the county under cultivation, are small. Drainage is into the Guyandot, Coal, and New Rivers through numerous small streams or creeks, along which the mining settlements have sprung up.

Agriculture and lumbering are the only industries besides coal mining, and neither is of great importance in the county.

Prior to the opening of the coal mines, settlement was slow. Most of the population lived on rough mountain farms, and consisted of the descendants of the hunters and trappers from Virginia, North Carolina, and Maryland who had made the first settlements at the end of the eighteenth century. It was not until about 1900, with the construction of a branch line of the Chesapeake & Ohio Railroad, followed in 1907 by the building of the Virginian Railroad, that the industrial development of the county began. The Cabin Creek branch of the Chesapeake & Ohio offered an outlet to the coal mines of the northwestern part of the county, while the Winding Gulf branch of the Virginian Railroad opened important fields in the southern part. A considerable portion of the county, however, is still without adequate transportation facilities.

The only town of any size is Beckley, the county seat, with a population of 4,149.[3] It is located in the north-central part of the county and is the trading center of the farming districts and the coal fields. The only other settlements are small mining villages, the largest with probably not more than 1,200 inhabitants. The population, even in the mining communities where foreigners have begun to come in, is still predominantly native, 15 per cent, as compared with 6 per cent of that of the State as a whole, being colored.[4]

The present study included 11 representative mining villages, of which some were typical of the smallest and most backward settlements, others of the larger, older, and better-developed communities. The largest had a population of approximately 1,200, the smallest about 200 inhabitants. All were within 15 miles of Beckley, principally in the eastern half of the county, the most inaccessible of the settlements being excluded for practical reasons. Every home in which there was a child under 18 years of age was visited. Wherever possible the mother or the father, or both, were interviewed, otherwise the nearest relative. In addition to the schedule study, certain phases of child welfare were covered by supplementary interviews and surveys. These included an inquiry into community conditions;[5]

[3] Fourteenth Census of the United States, 1920. Vol. III, Population, p. 1111.

[4] Fourteenth Census of the United States, 1920. Vol. III, Population, pp. 1100, 1108.

[5] Including a survey of a mining community which was in many respects a model one and which would have been included in the schedule study had it been more easily accessible from Beckley, the headquarters of the Children's Bureau agents.

a brief survey of school facilities in the school districts in which were situated the mining settlements visited; and an inquiry into conditions among miners' families living outside mining communities, either in the open country or in some small settlement not owned by a mining company. The information gathered from the families scheduled and by personal observation was supplemented through interviews with superintendents and physicians of the mining companies, union officials, school authorities, and other prominent local persons.

In all, 645 families, with 1,965 children, were interviewed. The great majority (59.4 per cent) of the families were native white, and a large proportion (25 per cent) were colored. Unlike the anthracite and the older bituminous fields, the West Virginia coal mines are worked mainly by natives, many of whom are also natives of the State. Less than one-fourth of the men employed in 1920 at the mines and coke ovens of the State, and an even smaller proportion of those working in Raleigh County mines, were of foreign birth—chiefly Italian, Polish, Hungarian, Greek, and Spanish.[6] Of the families visited, 93 (15 per cent) had foreign-born fathers. Of these fathers, 17 were natives of the British Isles—recalling the early days of mining in this country, when the workers were mainly English, Welsh, and Irish. But the majority represented the newer immigrations from southern and eastern Europe. The greatest number (34) were Poles by birth; others were chiefly Hungarian, Lithuanian, Italian, and Spanish. Practically all the foreign-born fathers were able to speak English.

As might be expected in communities whose reason for being is the coal industry, almost nine-tenths of the fathers or other chief breadwinners were employed by mining companies. Those who were not lived in the community either by virtue of the fact that some other member of the family worked in the mines or because their callings were useful or necessary to the mining population. Thus, among heads of households not working for the mining companies were a storekeeper or two, a teacher, a barber, and a telegraph operator. Not quite three-fourths of all the fathers were engaged in the mining industry itself, practically all in underground occupations. Among those who were employed by mining companies but not in executive positions or in occupations peculiar to mining were electricians, carpenters, blacksmiths, clerks, physicians, and deputy sheriffs.

[6] Annual Report, West Virginia Department of Mines, 1920, pp. 12, 254, 255.

TABLE I.—*Occupation of chief breadwinner, by type of employment.*

Occupation.	Chief breadwinners, June 30, 1920.						
	Total.	Employed by mining companies.					Not employed by mining companies.
		Total.	On surface.		Underground.		
			Number.	Per cent.[1]	Number.	Per cent.[1]	
Total	639	567	157	27.7	410	72.3	72
Mining occupations	470	470	67	14.3	403	85.7	.....
Superintendent, assistant superintendent, manager	10	10	7	.....	3	.....	.....
Bosses and foremen:							
Driver boss	3	3	1	.....	2	.....	.....
Fire boss	4	4	.....	.....	4	.....	.....
Foreman, assistant foreman	26	26	3	.....	23	.....	.....
Tipple boss	3	3	3	.....	.....	.....	.....
Operatives:							
Brattice man	4	4	.....	.....	4	.....	.....
Laborer, surface	42	42	42	.....	.....	.....	.....
Laborer, underground	26	26	.....	.....	26	.....	.....
Machine man, runner, cutter	16	16	.....	.....	16	.....	.....
Miner	248	248	.....	.....	248	100.0	.....
Motorman	32	32	4	.....	28	.....	.....
Pumper, pipeman	11	11	.....	.....	11	.....	.....
Rock man	3	3	.....	.....	3	.....	.....
Timberman, rodman	4	4	1	.....	3	.....	.....
Trackman	26	26	2	.....	24	.....	.....
Trip rider	7	7	.....	.....	7	.....	.....
All other	5	5	4	.....	1	.....	.....
Other occupations	169	97	90	92.8	7	7.2	72
Agriculture and forestry	10	7	7	.....	.....	.....	3
Clerical	8	7	7	.....	.....	.....	1
Domestic and personal service	27	1	1	.....	.....	.....	26
Manufacturing and mechanical	72	62	56	90.3	6	9.7	10
Blacksmith	11	11	11	.....	.....	.....	.....
Carpenter	16	13	13	.....	.....	.....	3
Electrician	18	17	11	.....	6	.....	1
Engineer	9	7	7	.....	.....	.....	2
Machinist	5	4	4	.....	.....	.....	1
Other	13	10	10	.....	.....	.....	3
Public service	7	6	6	.....	.....	.....	1
Professional	10	5	4	.....	1	.....	5
Trade	10	6	6	.....	.....	.....	4
Transportation	25	3	3	.....	.....	.....	22

[1] Not shown where base is less than 50.

The population of these developing bituminous coal mining communities, unlike that of the typical anthracite district, is a floating one. The average life of the mine is short, and a miner after living but a few years in one place may be compelled to move on to another because the mine in which he has been employed is worked out. Furthermore, production varies from year to year, expanding or contracting with industrial prosperity or depression, and during periods of nonproduction the workers drift from mine to mine wherever work can be found. Comparatively few of the fathers in the families interviewed were found to have been working for the same mining company for any considerable length of time—only 28 per cent had been employed by the same mining company five years or more, and almost one-third (30.7 per cent) had been less than one year with the company employing them at the time of the interview.

Whereas in the anthracite district studied by the Children's Bureau 92 per cent of the families interviewed had lived in the district for five years or more,[7] only about one-fourth (26 per cent) of the chief breadwinners in the present study had been living in the same community for at least five years.

TABLE II.—*Length of residence of family in present community, by color and nationality of chief breadwinner.*

Color and nationality of chief breadwinner.	Families.												
		Length of residence in present community.											
	Total.[a]	Under 1 year.		1 year, under 3.		3 years, under 5.		5 years, under 10.		10 years, under 15.		15 years and over.		Not reported.
		Number.	Per cent.[b]	Number.	Per cent.[b]	Number.	Per cent.[b]	Number.	Per cent.[b]	Number.	Per cent.[b]	Number.	Per cent.[b]	
Total	639	220	34.4	156	24.4	96	15.0	113	17.7	36	5.6	15	2.3	3
White	[c]477	158	33.1	121	25.4	71	14.9	92	19.3	22	4.6	10	2.1	[c]3
Native	383	132	34.5	92	24.0	58	15.1	70	18.3	20	5.2	10	2.6	1
Foreign born	93	26	.....	29	.....	13	.....	22	.....	2	.....	.....	.....	1
Polish	34	7	.....	11	.....	8	.....	7	.....	1	.....	.....	.....	.....
Hungarian (Magyar)	9	3	.....	2	.....	1	.....	2	.....	1	.....	.....	.....	.....
Lithuanian	9	2	.....	3	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
English	8	1	.....	3	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
Scotch	8	3	.....	2	.....	1	.....	1	.....	.....	.....	.....	.....	1
Italian	7	4	.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Spanish	6	1	.....	4	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Other	12	5	.....	2	.....	2	.....	3	.....	.....	.....	.....	.....	.....
Colored	162	62	38.3	35	21.6	25	15.4	21	13.0	14	8.6	5	3.1	.....

[a] Excluding 6 families in which there were no chief breadwinners.
[b] Not shown where base is less than 100.
[c] Including 1 family the nativity of whose chief breadwinner was not reported.

[7] Child Labor and the Welfare of Children in an Anthracite Coal-Mining District, p. 7, U. S. Children's Bureau Publication No. 106. Washington, 1922.

THE HOMES OF THE CHILDREN.

THE MINING TOWN.

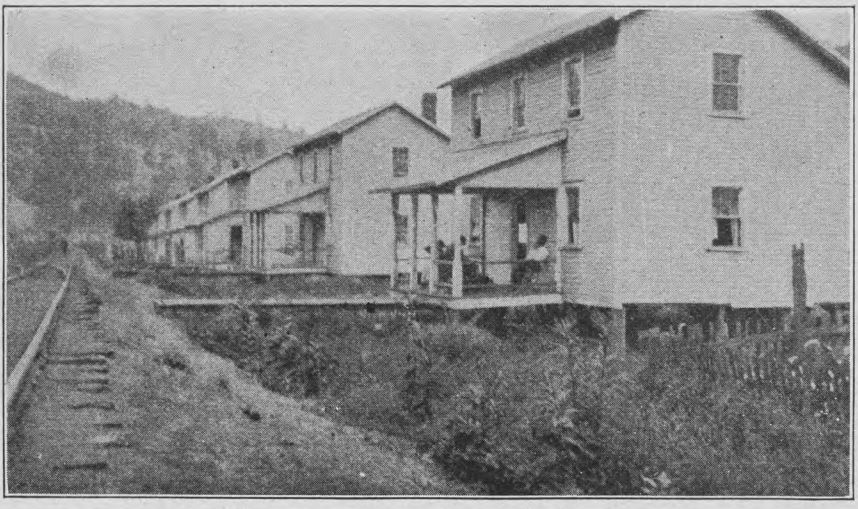
The child of the coal miner in the West Virginia mountains lives very often in what is practically a frontier settlement. It is remote and isolated, shut in by high, wooded hills, a straggling line of low houses in the wilderness. The camps visited during the survey were only from 3 to 13 miles from Beckley—the county seat and the nearest incorporated town of any size—but the distance in miles gives no idea of their inaccessibility. Railroad service was infrequent and uncertain. For example, the single daily train from Beckley to one of the camps, only about 8 miles distant, took over two hours for the

ONE OF THE MOST INACCESSIBLE AND PRIMITIVE OF THE MINING SETTLEMENTS.

run under the most favorable conditions and was frequently delayed. Most of the camps were from one-half mile to several miles away from rough county roads, which were reached from two settlements by walking over a mountain, and from two others by mounting in a "hoist" drawn by cables to the top of a steep hill. Uncertainty as to the probable lifetime of the mine makes for cheaply and hastily constructed houses, primitive sanitation, and other hardships—both sanitary and cultural—of pioneer life.

Not only isolation and the temporary nature of the settlement but other factors, also, combine to prevent the development of the mountain mining town along the lines of the ordinary small town or village.

Coal mining is the sole industry, and the coal company owns and controls the town. The coal-mining company and the coal-land company own the town site and the whole surrounding territory, controlling in some cases the roads leading into the town. Practically all the houses and, as a rule, the stores and other buildings, are company owned. Sometimes even the church, if there is one, and the schoolhouse are built by the company, which often supplements or pays in full the salaries of the pastor and the teacher. Whether conditions are good or bad depends upon the policy of the coal company and not upon the will of the inhabitants. If the policy of the company is to provide attractive houses and clean and wholesome surroundings, it is in an exceptionally good position to demand and secure immediate response to its program. If, on the other hand, company

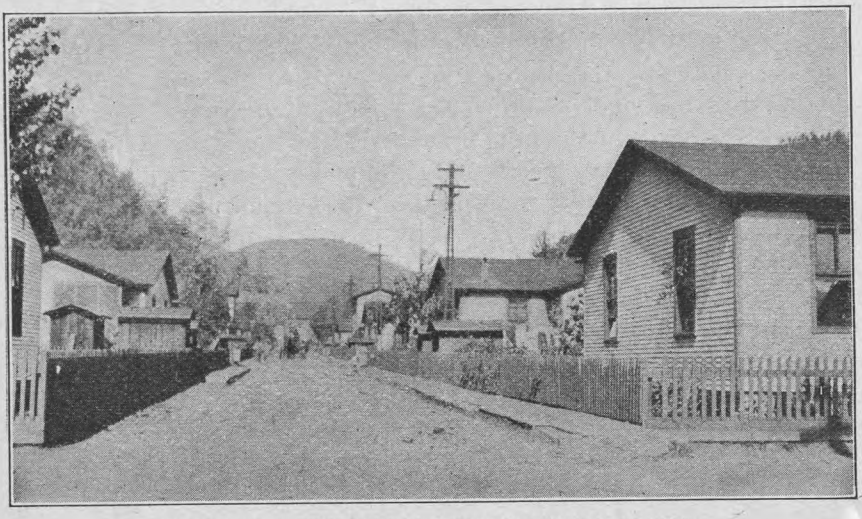


HOUSES LOCATED ALONG RAILROAD TRACKS.

standards are below those of the community, the inhabitants may not take steps to secure clean streets, for example, or a safe water supply. They have no redress from conditions which may be intolerable, except to move into another camp.

The West Virginia coal miner does indeed move frequently. Although the irregularity of mining operations accounts for much of the shifting, another element is no doubt the hope which the miner or his wife cherishes of bettering their living conditions. Of 464 families in the present survey who reported the number of removals which they had undergone, one-third had moved at least once every two years. Some of the families found it impossible to remember the number of times they had moved. (One mother declared that she moved "every time the moon changed.") In five of the settlements visited half the families interviewed had been in residence less

than one year, the percentage of removals per month being much higher in the less attractive camps than in the others. One family had moved twice within eight months preceding the survey. "We moved from the last place," said the mother, "because dead hogs were left lying around in the street." The labor turnover in the



THE MOST ATTRACTIVE OF THE MINING CAMPS.

Level streets, concrete sidewalks, well-kept buildings and fences, were unusual features.

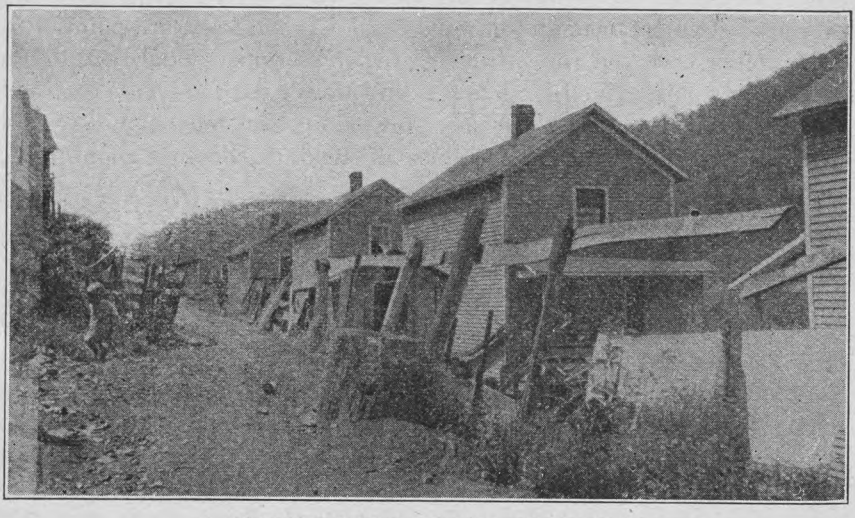
most attractive town was said by the superintendent of the mining company to be negligible; there was usually a waiting list, and newcomers almost invariably had to wait for a house—the father of the family coming in first, the family moving in when a house became vacant.

TABLE III.—*Average number of removals since marriage, by color and nativity of chief breadwinner.*

Color and nativity of chief breadwinner.	Families.								
		Average number of removals since marriage.							
	Total.[1]	None.	More than once a year.	Once a year.	Less than once a year, but once in 2 years.	Less than once in 2 years, but once in 3 years.	Less than once in 3 years, but once in 4 years.	Less than once in 4 years.	Not reported.
Total	639	52	50	7	101	61	61	132	175
White	[2] 477	31	42	6	84	47	49	93	[2] 125
Native	383	26	37	4	76	37	39	65	99
Foreign-born	93	5	5	2	8	10	10	28	25
Colored	162	21	8	1	17	14	12	39	50

[1] Excluding 6 families in which there were no chief breadwinners.
[2] Including 1 family the nativity of whose chief breadwinner was not reported.

The ordinary small mining settlement is uninviting in appearance. Apparently no consideration other than proximity to the mining operations had influenced the choice of site for the towns included in the survey. They lay usually in a narrow hollow between two high ridges, the houses being in some camps located on both sides of the railroad track or of a little stream running through the valley. In one town there was but little room at the side of the track for the pedestrian to use if a train went by, as the tracks were on an embankment, and between the embankment and the houses was a ditch, usually filled with water; foot bridges were built from the



A NEGRO SECTION OF ONE SETTLEMENT.

Most of the camps had rough and irregular roads and no sidewalks.

railroad embankment to the front doors of the houses.[1] In other camps the houses were built on steep hillsides where it was difficult to get a foothold, especially in wet weather when the hillsides became slippery with mud. In some cases the hillside paths were littered with the remains of old buckets, tubs, and tin cans. The roads were usually rough and irregular, and in wet weather turned to black mud and puddles. There were no sidewalks, as a rule, and only such footpaths as had been worn by use. For the most part the houses were a uniform hue—usually a dark gray or dull brown, though in some camps the companies have literally "painted the town red." In one place, also, four or five houses had been freshly painted in as many different colors. The houses occupied by company superintendents and other executives offered an acceptable relief from the monotonous sameness of the miners' houses. They were usually fair-sized dwellings with porches, lawns, trees, and shrubbery.

[1] See illustration, p. 7.

In some settlements waste matter entered the creeks flowing through the center of the town, privies were tumble-down, and incredible amounts of garbage and rubbish lay on the ground. Chickens, ducks, geese, and hogs wandered about, adding to the general disorder and unwholesomeness.

That the mining settlement may be prepossessing, even picturesque, in appearance was proved by the aspect of one just outside the area included in the schedule study.[1a] In this settlement the roads were level and well kept, the streets lighted, the sidewalks of cement. Houses, outbuildings, and fences were in excellent repair. The power house in the center of the camp was covered with vines and surrounded with lawns and flower beds. The houses were painted in light colors with red roofs, and offered a pleasing variety in design as well as color. Well-kept lawns and flower gardens were inclosed in painted picket fences. Vines grew along the fences and trailed over the porches. Lying at the base of the dark, wooded mountains, the town looked like a pretty toy.

HOUSING.

Usually the only houses to be had in the towns belong to the mining companies and the families must rent and live in them whether they like them or not. More than nine-tenths of the families interviewed lived in houses rented from the companies. Twenty-five others lived in company houses without paying rent: For example, in some cases the wife of a miner who had been killed, or the woman who ran the camp boarding house, was given free housing by the company; more rarely others—in one instance a telegraph operator, in another a barber—were allowed to live in company houses without paying rent, as an inducement, no doubt, to settle in the town. Only six families rented houses not owned by mining companies and only nine—about 1 per cent—owned their own houses. These were outside the boundaries of two camps, but virtually formed a part of the respective communities. In or near all the remaining camps there was not one family owning its own house.

It was customary on taking a house to sign a lease, though at least one company merely required the tenant to "sign up" for a house in order that the rent might be deducted from his pay. One form of lease included the following clauses: (1) Notice of five days necessary by either party; (2) eviction without notice if tenant quits employ of company; (3) rent at $2 a day if tenant continues to occupy house after quitting work. One or two families said that these terms were not enforced. It was not uncommon for men to sign the lease without knowing what was in it. Several stated that they had not read it.

[1a] See Note 5, p. 2.

One Austrian Polish miner said, "Super told me to sign paper—no read English. Don't know what it said." Another foreign-born miner observed, "They handed the lease out through a little pigeonhole at the office and didn't give you time to read it. You know they are not educated in this town like they are in cities."

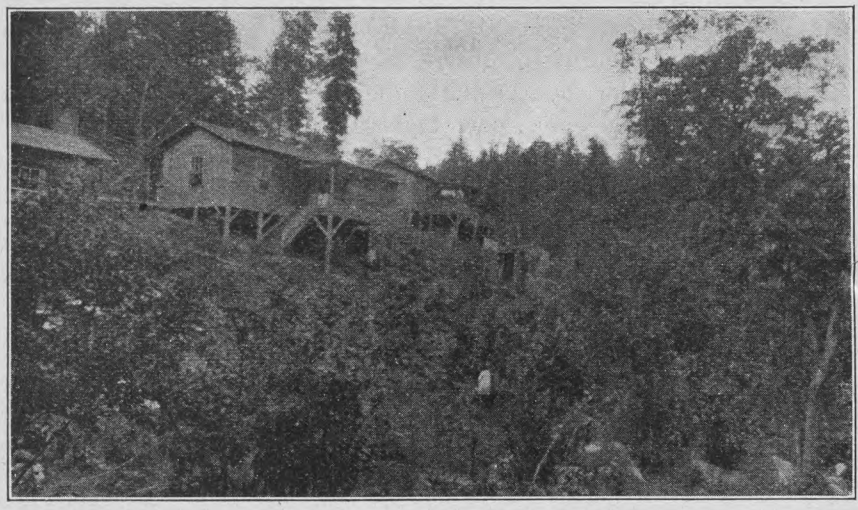
The usual rental, deducted by the company before the miner received his pay, was from $5 to $7.50 a month; $10 or more was seldom paid, except for houses containing at least five rooms. In one camp, according to the superintendent, old houses rented for $1.75, new ones for $2, a room.

When not absolutely alike in every detail, as whole lanes of them often were, the miners' houses were built on the same general plan—detached or semidetached one or two-story structures, containing usually three or four rooms. They were invariably of wood, some being clapboarded, others of upright boards with or without weather-stripping; erected without cellars, they stood usually on piles, in many cases with an open space beneath. Most of them were generally lacking in the essentials of a comfortable dwelling; rooms were small and few in number; they were inconvenient, insanitary, ill-ventilated, and cold. As the houses were built of the cheapest material, usually not weatherboarded, and in many cases not plastered or even ceiled, the fireplaces which as a rule were the only means of heating besides the cookstove could not keep them comfortably warm. Some were said to be "like paper" when the wind struck them. The occupants of a number of the houses had tacked newspapers or old magazine covers over the rough board walls—one family had papered with samples of wall paper—in order to keep out the cold. The flooring was often only a single layer of boards, sometimes with cracks an inch or more wide, placed over open foundations through which the cold air circulated freely. Knot holes and cracks in the wall were not uncommon. Not infrequently the houses were damp as well as cold, as they were built close to the ground and the space beneath the house was not always kept dry; water from a near-by spring ran under one house. The open foundation also offered a refuge for animals, from which vermin and unhealthful odors easily entered the house. Many families found it, also, a convenient place for rubbish of every description—an old bedstead in which children and animals were seen playing at the time of the agent's visit was stored under one house, inviting disease and fire.

Many of the houses were in a bad state of repair, with leaking roofs, loose windows, and sagging doors. The roof of one house leaked in every room, and water and snow came in under the doors; in another it was necessary to put pans around to catch the water. The weather-stripping was falling off some of the houses. Where

they had been papered the paper, old and discolored, was frequently hanging in ribbons.

In such houses as these the housewife has few conveniences—an inefficient heating system, no inside water supply or toilet, no bath. Electric light, found in all except one or two of the camps, was practically the only modern convenience in most of the miners' houses. The lack of household conveniences greatly increases the housewife's work and makes it harder for her to give her children the attention that they should have. Running water is a minimum essential for comfort. The camp described on page 12 had running water in each house, with white enameled sinks and pipes for drainage connected with sewers, proving that such conveniences are not



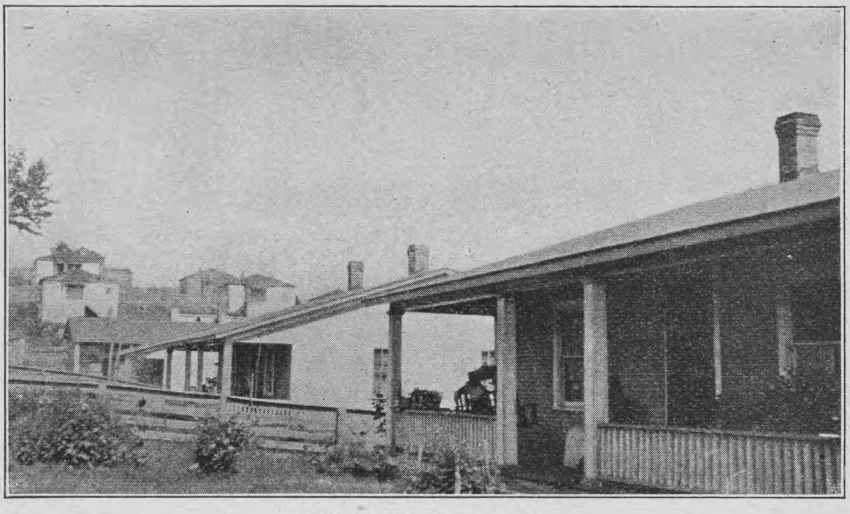
A COMMON TYPE OF HOUSE.

Many of the houses are built on piles on rough, uneven ground.

impossible of achievement in the mountain mining town. The need of a bath in the miner's home is a very real one, especially if there is no "wash and change" house at the mouth of the mine. Without a bathroom, the miner's daily bath is likely to be taken under uncomfortable and inconvenient circumstances. Water—a small amount at best—must be heated on the kitchen stove, and in the small, crowded houses strict privacy is difficult to secure. In all the 11 camps only 52 of the families interviewed—usually those of the mine executives—had baths in their houses; so that only 136 of the 1,928 children enjoyed what in these days is considered a necessity.

There was little variety in the houses to meet the needs of individual families. When the families were large or even of average size insufficient space necessitated overcrowding. Almost half the

families lived in 4-room houses and practically two-thirds in houses having 4 rooms or fewer. Of all the families visited 16 per cent were living in houses with an average of 2 persons or more per room—a proportion larger by half than that found in the Shenandoah anthracite district previously surveyed by the Children's Bureau. Indeed, room congestion in the mining towns included in the present study seemed quite as serious as in crowded city districts. In 40 per cent of the homes there were 3 or more persons to each sleeping room, and in at least 1 family in every 7 there were from 4 to 9 persons to each bedroom. In 3 native white families 8 or 9 persons, usually parents and young children, slept in one room. There was less overcrowding, however, among native families, both white and



NEWLY BUILT HOUSES.

The modern houses have closed-in foundations and are clapboarded and painted.

negro, than among families in which the father was foreign born. This may perhaps be due to the custom, more prevalent among immigrant than among native families, of taking lodgers. One-fourth of all the families keeping lodgers averaged 2 or more persons to a room, whereas only 13 per cent of those who kept no lodgers were thus crowded.

In one-fifth of the homes visited there were lodgers. Of these 132 families, 100 lived in houses containing 3 or fewer bedrooms and numbering in their households from 3 to 14 persons. Three families had only 3 bedrooms for 14 persons, including lodgers; 2 families, each of 5 members, including lodgers, had only 1 bedroom. Forty-nine families keeping lodgers had only 2 bedrooms, with the number of persons in the household ranging from 3 to 10. Many of these families were ones in which the children were young, but others had

boys and girls from 13 to 16 years of age. A 16-year-old girl in a Swiss family felt keenly the fact that the male lodgers in her family must pass through her room to reach their own. The practice of taking lodgers in small quarters exposes growing children, especially, not only to the discomfort and unhealthfulness of overcrowding but also to the serious social evils which may result from a lack of privacy.

TABLE IV.—*Number of persons in household, by number of rooms in house.*

Number of persons in household.	Total.[1]	Families living in houses containing specified number of rooms.							
		2	3	4	5	6	7	8 and over.	Not reported.
Total	639	12	103	298	75	86	15	44	6
Persons in household:									
2	8	3	2	1					2
3	94	2	26	48	3	9	1	2	3
4	132	3	29	57	15	22	2	4	
5	116	4	23	52	16	11	4	5	1
6	95		7	50	13	14	3	8	
7	67		6	36	10	8	1	6	
8	48		5	24	8	8	1	2	
9	31		2	16	3	5		5	
10	17		1	8	4	2	1	1	
11	12		1	6	1	2	2		
12	5		1			1		3	
13	2					2			
14	6				2	2		2	
15 and over	6							6	

[1] Excluding 6 families in which there were no chief breadwinners.

It should be pointed out that the rents paid for these houses may perhaps be too low to permit of supplying the miner with a decent, to say nothing of a comfortable and attractive, dwelling. On the other hand, it should be remembered that the miner is obliged to occupy the house provided, even though he might be able and willing to pay more for a better one. In this connection, Joseph H. White, of the United States Bureau of Mines, in Houses for Mining Towns, says:[2]

> They [the company officials] determine, within certain limits, what proportion of a man's wages shall be spent on house rent. This consideration should restrain fanciful and unnecessarily expensive building; the other extreme should likewise be avoided. True economy should be distinguished from cheapness. Ugly, insanitary, uncomfortable shacks should not be built even if, because of their cheapness, there is a demand for them from tenants. The obligation of the industry to society as a whole as well as to the tenant ought to forbid this. A cheerful, strong, healthy, virile race will not rise out of the filth and squalor of cheap hovels.

SANITATION.

The water supply.

Very few families had running water in the house. The majority were supplied with water from a central source, piped to hydrants more or less conveniently located. In the best camps one hydrant

[2] White, Joseph H.: Houses for Mining Towns, p. 6. U. S. Bureau of Mines Bulletin No. 87. Washington, 1914.

supplied only 3 or 4 families, but in some the number of families averaged 6, and in one a single hydrant was used by 11 families. Other camps had no central supply, water being obtained from wells by means of pumps, 15 or 20 families sometimes using the same pump.

The source of the supply was various and not always such as to insure safe and abundant water. In one camp the water, obtained from a drilled well some 400 feet deep, was safeguarded against impurities by a system of filtration and chemical treatment. In others, water was piped direct to the hydrants from springs and creeks. In one camp in which the water had been obtained from a creek into which sewage from the houses having plumbing and the contents of many privies drained typhoid fever had been prevalent; recently the company had bored a 400-foot well and was planning to extend the hydrant system so that every house should have a hydrant within 50 yards. Regular analysis of the water was uncommon, but one camp reported that a sample was sent once every three months to the State hygienic laboratory, and two others reported annual analysis. Sometimes the water supply was scant as well as of doubtful purity. For instance, most of the 12 drilled wells supplying the people of one settlement were said to be out of order at the time of the survey—in July. In another camp one of the mothers reported that she was obliged to use spring water for all purposes as the hydrant supply had been cut off for a week.

Many families preferred to use water from shallow wells or even from tainted springs and creeks because, they said, the hydrant water was "rusty" or "thick." As in most rural communities where they are common, springs furnished a favorite source of drinking water even when the hydrant water was used for other purposes. A much-prized spring in one camp was at least 200 yards up a mountain side from the nearest house, and probably a quarter of a mile from the farthest. Unless the spring is concreted to prevent local contamination and is periodically examined the water is likely to be unsafe, and much of the spring water used was not fit to drink. Many springs were contaminated by chickens and stock, or by dishwater, drainage, and garbage; many were situated in hollows on a lower level than surrounding privies. One privy standing above the house on a steep slope, at the foot of which was a spring used by some of the families, had not been emptied for almost a year, the contents draining down the slope; three of the children had had typhoid fever since their family had occupied the house.

Toilets.

Fifty-four families, chiefly those of men holding executive positions with the mining companies, had water-closets in the house and one family had a water-closet in the yard. Most of the families—

nine-tenths—had only privies, and seven households visited in four different camps had no toilet of any kind. Eight per cent of the families were obliged to share their privies with other families, sometimes as many as four or more. The privies in one camp were situated along the road and never locked, so that any passer-by could and did use them. One woman said that when she had first moved to the camp she had cleaned hers up, but that the next day it was as bad as ever. Many privies were ramshackle, with doors lacking and pits broken. One was tied to a tree to keep the high waters of the creek from washing it away; another, blown over by the wind, had merely been propped up against a tree by the men sent to repair it, no hole being dug nor box provided.

The privies were commonly of the dry, open-back, surface type to which chickens, hogs, and flies had easy access, especially as they were not screened. They were seldom and insufficiently cleaned; cleaning once a year appeared to be the standard, though in one camp privies were said to be cleaned at the request of the families, and in at least one or two others they were never cleaned except by the occupants of the houses. In one camp it was the custom to move the privy instead of cleaning it, digging a new hole and covering the old waste matter with dirt. One mother reported an entirely novel method of cleaning the family toilet—being tied to a tree just over the creek it was upturned and cleaned when the water of the creek rose, and restored to its upright position when the waters subsided. Certain precautions were taken by the company in one or two camps—once or twice a year, according to one superintendent, the pits beneath the privies were dug deeper and the waste buried, disinfectant being used; in another camp, the waste matter was shoveled out, piled outside the privy, and sprinkled with lime, which, however, was washed away, it was said, by the first heavy rain.

Odors from privies and sewage were very offensive. In some places sewage filled the creeks winding through the center of the towns or drained into hollows and stood with surface water in stagnant pools. One family whose house faced a ditch carrying part of the town sewage reported that they were unable to sit on the front porch, and another said that "when the wind blows a certain way you have to shut the door," because of the unwholesome and disagreeable odors.

Disposal of refuse.

In none of the settlements visited was garbage or other refuse regularly removed by the company, though in one camp the company would take cans and other rubbish, if collected in barrels, to a dump some distance away. Garbage was commonly fed to the hogs, or dumped by the families into the creek or hollows near their homes,

though some of the executives' families had theirs hauled away at their own expense and disposed of outside the village. Garbage, tin cans, broken crockery, and other rubbish littered almost every road in some of the camps; in some, the almost stagnant creeks contained cans, wooden crates, bottles, and even old furniture, shoes, and clothing. In one camp a dead cat had been left lying in the road for five days, though it was said that the nuisance had been reported to the authorities repeatedly.

Chickens, hogs, and other domestic animals are kept almost as commonly as on the farms from which many of the miners come, though in the relatively crowded little mining settlement they are a constant source of danger unless careful regulations are in force. Apparently no attempt was made in the camps visited to restrain stock from spreading the contents of privies and contaminating the water supply, or to treat accumulations of manure in such a way as to prevent the breeding of flies.

Under the primitive sanitary conditions prevailing, flies abounded. Mosquitoes also were numerous; for tin cans and bits of crockery filled with water, uncut weeds, open ditches containing stagnant water, and undrained swamps, were to be found in practically all the settlements. Nevertheless, the necessity for screening was not generally recognized; less than one-fifth of the houses occupied by the families interviewed were screened. Supplying screens at cost at the company store might prove helpful in educating the mining town to the importance of this protection against fly- and mosquito-borne diseases. In the camp referred to on page 10 screens were supplied with the houses.

CHILDREN IN SCHOOL.

SCHOOL ATTENDANCE.

The West Virginia compulsory school attendance law, as amended in 1919,[1] required children between the ages of 7 and 14 [2] to be in school during the entire school term, making exceptions, however, in cases of extreme poverty, or when a child was physically or mentally unable to attend or lived 2 miles or more from the schoolhouse.[3]

Included in the present study were 936 children between 7 and 18 years of age. Of these, 78 had not reached the compulsory school age at the beginning of the school year preceding the survey, and had not entered school. Thirteen others, though between 7 and 18 years of age, had never gone to school; of these, 6 were mentally or physically unable to attend, and 4 had no school to attend, or none within a reasonable distance. Seven hundred and thirty-four children were enrolled in school. These included practically all children between 7 and 14 years of age, as might be expected from the law, but what is more surprising in an industrial community, it included also more than four-fifths (84.7 per cent) of all the children between 14 and 16, and over three-fifths of those between 14 and 18. Most of the children had entered at 6 years of age, but a few—apparently for no very good reason—had reached their teens before beginning to go to school.

Although the law requires each school district to appoint at least one attendance officer, little attention seemed to be given to enforcing regular attendance. Twenty-four children of compulsory school age, i. e., under 14, had not attended a single day during the school year just completed at the time of the survey, though 14 of them were reported by the parents as still in school. Only 71 per cent of the pupils for whom attendance records were secured had atttended so much as 90 days, or three-fourths of the legal minimum term.[4] This record is to be compared with that of a township in the bituminous coal mining regions cited by the U. S. Bureau of Education [5] as enforcing the compulsory attendance law unusually well, in which 83 per cent of the pupils enrolled had attended more than three-

[1] West Virginia Acts of 1919, ch. 2 (amending and reenacting Barnes' Code, ch. 45, secs. 122 to 128).

[2] Sixteen if not employed.

[3] Children were also exempted under conditions making attendance impossible or hazardous, or for other reasons accepted as valid by the county or district supervisor or superintendent of schools.

[4] Attendance records were secured from teachers' registers by bureau agents.

[5] Deffenbaugh, W. S.: Schools in the Bituminous Coal Regions of the Appalachian Mountains, p. 7. U. S. Bureau of Education Bulletin, 1920, No. 21.

fourths of the term of 160 days, and over half had attended almost every day.

The minimum school term fixed by the West Virginia law was only 120 days,[6] and all except two of the 11 camps visited reported the minimum term. Sometimes the mining companies supplement district funds in order to lengthen the school term, a practice which can not of course be recommended in lieu of adequate school support by public taxation, though it has the merit of securing for the children a much-needed extra month or two of schooling. Funds had been thus supplemented in one camp, the school of which was attended also by the children living in another settlement. One of the company superintendents stated that the company had agreed to keep the school open an additional month, paying all salaries, provided the teachers maintained an 80 per cent attendance; but that the plan had not been successful, as attendance beyond the minimum school term was not required by law.

TABLE V.—*School attendance of children between 7 and 18 years of age, by sex.*

School attendance during school year, 1919–20.	Children between 7 and 18 years of age, June 30, 1920.					
	Total.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	936	.....	459	.....	477	.....
Total reporting	602	100.0	299	100.0	303	100.0
Not in school	103	17.1	50	16.7	53	17.5
In school	499	82.9	249	83.3	250	82.5
1 day, less than 10	1	0.2	.....	.....	1	0.3
10 days, less than 20	5	0.8	2	0.7	3	1.0
20 days, less than 40	7	1.2	3	1.0	4	1.3
40 days, less than 60	15	2.5	6	2.0	9	3.0
60 days, less than 80	42	7.0	24	8.0	18	5.9
80 days, less than 100	133	22.1	60	20.1	73	24.1
100 days, less than 120	256	42.5	134	44.8	122	40.3
120 days, less than 140	29	4.8	14	4.7	15	5.0
140 days, less than 160	3	0.5	2	0.7	1	0.3
160 days, less than 180	8	1.3	4	1.3	4	1.3
Not reporting	256	.....	120	.....	136	.....
Under age [1]	78	.....	40	.....	38	.....

[1] Not 7 years of age, Sept. 30, 1919.

A good deal of the absence reported by the children in these mining villages was such, apparently, as to call for the provision of more adequate school facilities as well as for a more rigorous enforcement of the law. Some of the schools were so crowded that many of the younger children, though of compulsory school age, could not be accommodated and were turned away. Two of the smaller communities had no schools at all and two others had no schools for colored children; many of the children in these towns had to walk at least a

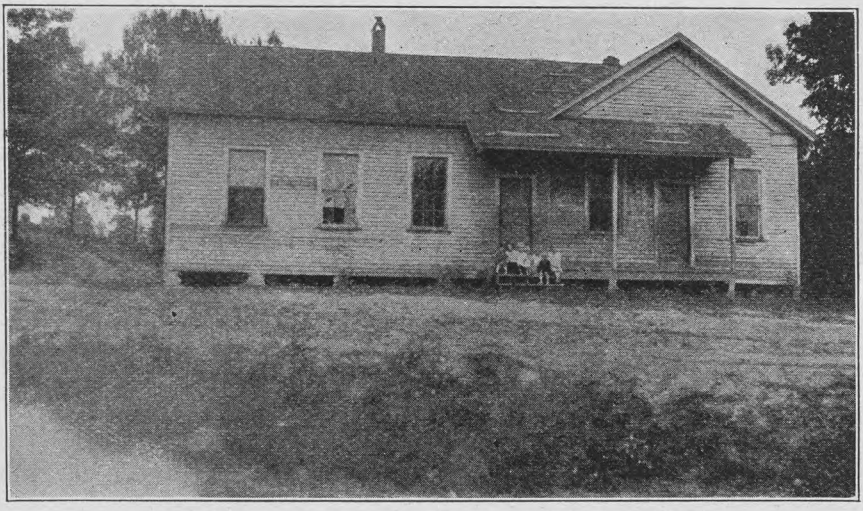
[6] To be extended 10 days per year for four years, becoming 160 days in 1923–24 and thereafter. West Virginia Acts of 1919, ch. 2 (amending and reenacting Barnes' Code, ch. 45, sec. 54).

mile and sometimes two miles to another camp over roads which in winter or muddy weather were practically impassable, so that they could attend, as one father expressed it, only on "picked days." Several parents complained that the road to the nearest schoolhouse was dangerous. One father who had not sent his children to school until they had reached the age of 16, remarked that he "wasn't going to have his children butchered up by the railroad even to get an education."

SCHOOL FACILITIES.

The schoolhouse and its equipment.

In the school districts in which are located the camps included in the survey, 28 schools were visited. Schools in the mining towns as



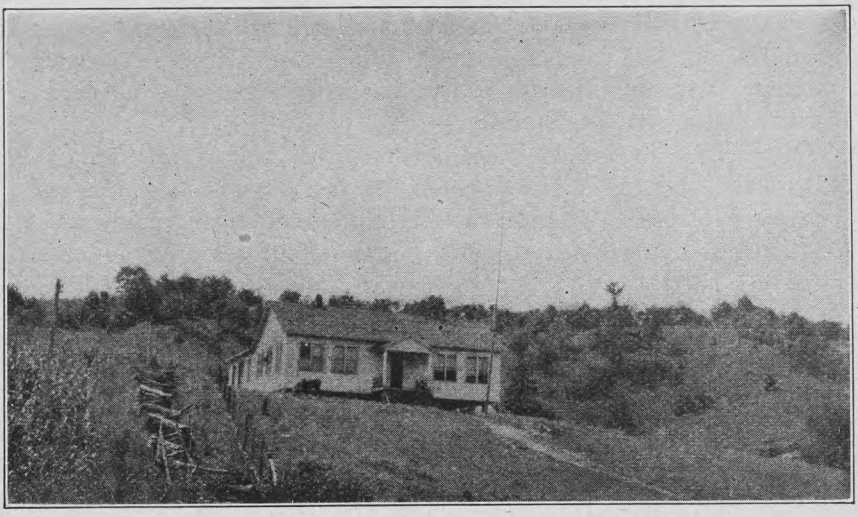
THE TYPE OF SCHOOLHOUSE FREQUENTLY PROVIDED.

well as those in the distinctly rural communities were rural in type, many being one-room, one-teacher schools, offering only five or six elementary grades.

The recently constructed buildings were fairly substantial and attractive, and though not always conforming to the best modern standards in certain details, such, for example, as side lighting, compared favorably with rural school buildings being erected in other States.

In many of the mining camps the mining companies had contributed in some way to the school—erecting buildings, furnishing equipment, or increasing teachers' salaries. Although some of the companies were generous in their contributions, others did little or nothing; in the latter instances all too often the public-school authorities likewise had provided inadequately in the expectation that the companies would supply what was needed. Thus some of the poorest schools

were in buildings furnished by the mining companies; for example, in three camps the school for colored children was held in a company-owned miner's cottage or in an old church building furnished by the company. Many of the schools located in mining camps were seriously lacking in equipment. On the other hand, some of the rural schools visited were modern and well equipped, proving that the school authorities could provide adequately if they felt the obligation to do so. Many schools, both in the open country and in the mining camps, were of the old-fashioned, inconvenient, uncomfortable type of building. Of the 28 school buildings visited, 12 had no hall or vestibule, and 21 no cloakrooms, coats and hats being commonly hung on nails either in the hall or the classroom or piled up on benches and chairs in the latter. Only one schoolhouse, a new



ONE OF THE MOST ATTRACTIVE SCHOOLHOUSES.

company-built structure, was steam heated. The others, even the newer ones, were heated by unjacketed stoves in the classrooms. Only 6 had any janitor service, except such as teachers and pupils themselves provided.

It was, however, in equipment rather than in the building that the majority of these schools were most inadequate. One substantially built school had neither desk nor chair for the teacher, only benches for the children, and a makeshift blackboard, which was at the back of the room. One-fourth of the schoolrooms had too few seats for the average number of pupils attending, and at least five had no seats at all, or from three to seven single seats for classes of from 18 to 55 pupils. Mothers complained that their children had to sit on the floor. In one camp 25 wooden boxes for the children to use as seats had been supplied by a grocer. Aside from desks, chairs, and black-

boards, which in many schools were inadequate, practically nothing was furnished by school authorities. Books and supplies had to be furnished by the children themselves, and many a teacher was seriously handicapped by lack of materials. Maps, pictures, charts, library books, and even a dictionary were rarely found, and one school reported that its equipment consisted of "nothing but a bell."

Only one school had a playground equipped with play apparatus, and although many of the school yards were of good size, nowhere were there any organized play activities. In a few instances there was not even a suitable yard. One school, for example, was located near the mining tipple, between railroad tracks, exposed to coal dust and noise from both.

Half the schools had no water on the premises. Several teachers said that they instructed the children to drink at home and not ask for water when in school. The common cup or dipper was in use in some schools, but teachers seemed to be making an effort to enforce the law [7] regarding individual drinking cups, at least requiring a cup for the children of each family.

Of the 28 schools, 3 had no toilet facilities, and only 1 had a toilet within the building. Three schools having privies made no separate provision for boys and girls, though required to do so by a regulation of the State department of health,[8] and at four other schools a single structure partitioned in two was used by both sexes.

Teachers.

Except in rare instances the children of the mining camps were taught by poorly trained teachers. Teachers' salaries in the towns included in the study ranged from $360 to $690 for the school year of six months, although some of them had been supplemented by the mining companies. Of 71 white teachers reporting their education in three of the school districts in which were located the mining camps visited, 42 reported that they had never gone beyond the eighth grade; though of 17 colored teachers reporting, all had had at least part of a high-school course. Many of the teachers had little experience to offset their lack of training. The teacher whom, according to one mother's story, the children "fight, curse, and knock down" is no doubt an extreme example, but unquestionably many of the teachers were too young and inexperienced to maintain ordinary classroom discipline, much less to provide the skillful teaching necessary if children are to learn anything in a short term in schools seriously overcrowded. Some of these untrained teachers are obliged to handle classes of from 45 to 60 or more pupils—one teacher had 73 children enrolled, another 81, another 100—of half a dozen nationali-

[7] West Virginia Acts of 1913, ch. 23, sec. 1.

[8] Rules and Regulations in regard to School Buildings, Equipment, and Grounds, p. 13. State Department of Schools, Charleston.

ties and in half a dozen grades. It is hardly surprising that, as some of the mothers said, the teachers did not "get around to" their children.

The lack of suitable rooming and boarding places in the camps makes it more difficult than it might otherwise be to obtain teachers of the right sort. A solution of the rooming and boarding problem lies in the provision of "teacherages" or teachers' homes which are now found in many communities and in some mining towns. An act[9] of the West Virginia Legislature passed in 1920 now makes it possible for the school board of one independent school district to provide such homes. The Children's Bureau was told by school authorities that the act had been passed at the urgent instigation of some coal operators who had found it difficult to induce teachers to come into the mining camps.

The curriculum.

Many of the schools in the mining camps do not offer a full elementary course, and in others all eight grades are taught by one teacher. The fact that in many cases a child must go to the county seat to attend the seventh or eighth or even the sixth grade probably accounts in part for the large number who drop out before completing the elementary-school course. Only one camp included in the survey gave any high-school work and that did not extend beyond the first year. The nearest high school was at Beckley, from 3 to 13 miles distant from the various camps.[10] One 17-year-old girl who wished very much to go to high school lived at a settlement only a few miles from Beckley, but the trains did not run at suitable times, and the girl's mother was afraid to have her walk back and forth along the road alone.

The school curriculum was confined chiefly to instruction in reading, writing, and arithmetic, and included no manual training, drawing, music, or physical training. In only two schools had even so much as a sewing class been introduced. No vocational courses were offered children under 16.[11]

The schools were in no way fitted to follow up the unusual opportunity which was theirs in the presence in school of so large a proportion of the boys and girls over 14 years of age. Because of their isolation the children of the mountain mining community especially need opportunities in school to try out various lines of work, and they should certainly be able to obtain practical training at least in the kinds of work carried on within and near the community, including home economics, home gardening, and agriculture.

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[9] West Virginia Acts of 1920, Second Extraordinary Session, ch. 3.

[10] See p. 6.

[11] In two of the largest camps visited evening industrial classes for adults under the Smith-Hughes Act had been held for 30 evenings during the winter preceding the survey.

That it is possible to bring color and inspiration as well as practical worth-while training into the school life of the children in mining, as in other industrial towns, is illustrated by the following accounts of mining-town schools given by the United States Bureau of Education:[12]

Ellsworth, Pa., is a purely mining town located about 24 miles south of Pittsburgh. The schools are organized [to include] a kindergarten, a high school, and a home-economics and an industrial-vocational school.

The physician employed by the company is the school physician. The company nurse is also at the service of the schools. The nurse gives a course in home economics, in sanitation, and in the care of children. There is an evening class on care of children for the adult women. About 30 are enrolled in the course. The home-economics teacher has a class of women in cooking and sewing two evenings a week. There are evening classes for men in mathematics and English and in subjects pertaining to mining.

Much attention is given to directed or supervised play for children below the seventh grade, two 35-minute periods a day being given to it. A special supervisor is employed.

The program is arranged on a departmental plan, so that instruction in music, drawing, play, and construction may be given by special teachers.

* * * * * * *

One of the most interesting educational experiments in the bituminous coal region of the Appalachian system is conducted by the Tennessee Coal, Iron & Railroad Co. in Jefferson County, Ala. There are 21 of these schools. The company furnishes buildings, employs a superintendent and special teachers, and supplements the funds of the county for running the schools. The work is done in complete cooperation with the county school board, which apportions funds to the mining-town school on the same basis as to other schools. The superintendent of the schools in the mining towns is an assistant county superintendent, but is paid entirely by the company.

Special emphasis is placed on the work in physical education carried on in the schools by the regular teachers supervised by a specialist in the subject. Cooking and sewing are also stressed and are taught in the welfare cottages located near the schoolhouses, with a special director in charge. These cottages are duplicates of those built by the company for its employees and are furnished simply but in good taste with such furnishings as the workmen can afford. They serve as demonstration cottages for the community, as well as classrooms for the children. Schoolhouses are built by the company and fitted into the scheme of landscape artistry adopted. Sites are carefully selected. The architecture harmonizes with the village scheme, to which the schoolhouse and grounds often add the finishing touch. Buildings are particularly attractive and conform to the best modern ideas of school architecture, both outside and inside. The grounds are laid out with trees, shrubbery, school gardens, inclosed tennis and basket-ball courts, and other equipment for recreation. The majority of the buildings visited have auditoriums, cloakrooms, supply closets, and other school conveniences. There are adjustable desks, supplementary reading material, and good working equipment in all schools.

The school housekeeping and general upkeep are worthy of special notice and may well serve as a model for other schools in and out of the county. Janitors are furnished in all cases, and the work is supervised by the teachers. Floors are clean and well kept. Blackboards and windows are washed with soap and water regularly.

[12] Deffenbaugh, W. S.: Schools in the Bituminous Coal Regions of the Appalachian Mountains, pp. 22–23, 30–31. U. S. Bureau of Education Bulletin, 1920, No. 21.

The walls are decorated in good colors, and the interior of the rooms presents a pleasant appearance.

The salaries furnished by the county for teachers are supplemented sufficiently by the company to enable the superintendent to secure professionally trained and experienced persons. Social work is required by the company, and special stress is placed on personality and fitness for this additional service. The classroom work is of splendid quality. The teaching staff shows good organization, enthusiasm, loyalty, and a high degree of professional spirit. As an example of this, the May Day program of the colored schools held at Westfield, May 3, may be cited. The program consisted of a pageant, introducing setting-up drills, folk dances, and the like. Children marched and drilled with soldierlike perfection. They showed splendid training, all of which was given by the regular teachers—none of whom had had previous experience or training in this kind of work—under the direction of the supervisor of physical education. The interest of the community was shown by an attendance of probably 2,000. The program was carried out without a hitch, and order on the ground was perfect throughout the day.

This is one example of the organization and supervision which prevails throughout the system. As a whole it is an object lesson in efficiency which may well be studied by other mining communities. It shows conclusively what can be done by the expenditure of reasonable funds, business management, and professional service. Conditions are not different in any essentials from those of the surrounding territory. What can be accomplished here can be accomplished elsewhere with similar management and expenditure.

If a private corporation can get value received from the money spent on schools as just described in the added efficiency and happiness of its employees, surely a community, a county, or a State will benefit at least in the same proportion from similar methods in school improvement. These schools demonstrate conclusively that what is advocated in this respect is possible of achievement if sufficient funds are provided; that education is a good business investment; that schools in mining towns can be as good as those in cities; that mining-town people appreciate good schools and good buildings; and that children under trained teachers do good work and are happy in doing it.

Where the mining settlements are small, and sufficiently near each other, the consolidated school offers a solution of many school problems. The only camp included in the present survey which offered any part of a high-school course shared its school with two other settlements.

SCHOOL PROGRESS.

The least that can reasonably be expected of the schools is that they should teach normal children to read and write. In the families visited, however, 71 children 10 years of age and older, approximately 1 in 13, were illiterate. All except 13 of these children had been in school during the term preceding the survey; only 3, however, of the 13 children who had reached the age of 15 without being able to read and write had persisted in attending school.

The children's progress in school had been very slow. Half those who had reached their fourteenth birthday,[13] for example, had com-

[13] In the discussion of school progress of children still in school, the ages of the children are as of Sept. 1, 1920. For children who had left school (p. 27), the age at leaving school is considered.

pleted at most only the fifth grade, and it was not at all uncommon to see big boys and girls in their teens in the first and second grades. Of the 181 school children between 14 and 18, usually considered the high-school age, only 8 had entered high school. In fact, two-thirds of all the children in school were from one to eight grades below those considered normal for their years.[14] Obviously, a large proportion of these children could not reach more than the fourth or fifth grade, at best, before reaching the end of the compulsory school period, and it is well known that few children more than a year or two older than their classmates will remain in school unless legally obliged to do so. The percentage of children over age for their grades is very much larger in the mining camps included in the present study than that reported for children in other mining communities. For example, of 5,634 children between the ages of 5 and 17 attending schools in bituminous coal mining regions studied by the United States Bureau of Education[15] 45 per cent (as contrasted with the 67 per cent found in this study) were retarded, a proportion that has been characterized by the United States Bureau of Education as "excessive"; among children 13 to 16 years of age in an anthracite mining community surveyed by the Children's Bureau, 35 per cent had not reached grades considered normal for their ages.

TABLE VI.—*Retardation of children between 8 and 18 years of age still in school, by age[a] of child.*

Age.[a]	Children between 8 and 18 years of age still in school.							
	Total.	Retarded.				Normal.	Advanced.	Not reported.
		Total.	1 year.	2 years.	3 years and over.			
Total	721	483	172	131	180	213	17	8
8 years, under 9	103	26	26	.....	.....	71	4	2
9 years, under 10	85	49	41	8	.....	33	3	.....
10 years, under 11	89	61	27	26	8	25	3	.....
11 years, under 12	93	64	25	19	20	26	2	1
12 years, under 13	90	63	17	19	27	25	2	.....
13 years, under 14	80	68	10	24	34	11	.....	1
14 years, under 15	66	48	11	15	22	14	2	2
15 years, under 16	64	59	11	14	34	4	.....	1
16 years, under 17	36	32	4	4	24	3	1	.....
17 years, under 18	15	13	.....	2	11	1	.....	1

[a] Age as of Sept. 1, 1920.

[14] A child who is 6 or 7 on entering the first grade, 7 or 8 on entering the second, 8 or 9 on entering the third, and so on, is regarded as being in a grade normal for his age.

[15] Deffenbaugh, W. S.: Schools in the Bituminous Coal Regions of the Appalachian Mountains, p. 9. U. S. Bureau of Education Bulletin, 1920, No. 21.

TABLE VII.—*Retardation of children between 8 and 18 years of age still in school, by color and nativity of chief breadwinner.*

Retardation.	Children between 8 and 18 years of age still in school.									
	Total.		Color and nativity of chief breadwinner.							
			Native white.		Foreign-born white.		Negro.		Not reported.[1]	No chief breadwinner.[1]
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.		
Total	721	100.0	451	100.0	90	100.0	174	100.0	3	3
Retarded	483	67.0	300	66.5	55	61.1	123	70.7	2	3
1 year	172	23.9	112	24.8	26	28.9	34	19.5	.....	.....
2 years	131	18.2	77	17.1	15	16.7	38	21.8	.....	1
3 years and over	180	25.0	111	24.6	14	15.6	51	29.3	2	2
Normal	213	29.5	133	29.5	31	34.4	48	27.6	1	.....
Advanced	17	2.4	12	2.7	2	2.2	3	1.7	.....	.....
Not reported	8	1.1	6	1.3	2	2.2	.....	.....	.....	.....

[1] Per cent distribution not shown where base is less than 50.

The children of the bituminous coal miners in the communities studied are at a special disadvantage in their school work because of the frequent moving from camp to camp which characterizes the workers engaged in the industry in West Virginia.[16] A smaller amount of retardation was found among children whose parents had moved on an average less than once in three years than among those whose parents had moved once in three years or oftener; and the smallest amount was found among children whose parents had not moved at all during the lifetime of the children. Another factor contributing to slow progress in school is doubtless the comparatively low cultural level of the families included in the study as represented by the rate of illiteracy among them; thus 12.5 per cent of the mothers and 13.6 per cent of the fathers or other heads of households were unable to read and write, as compared with 8.2 per cent of the population of West Virginia 21 years of age and over.[17] But the principal reasons for the large proportion of children in these mining communities who had failed to reach standard grades are, without doubt, to be found in school conditions—the short terms and poor attendance, overcrowded rooms, inexperienced teachers, and inadequate equipment offering serious obstacles to normal progress.

SCHOOL LEAVING.

In spite of the tendency shown by the children in the West Virginia mining communities to remain in school well into their teens, 111 children between the ages of 12 and 18 in the families visited had

[16] See p. 7.

[17] Fourteenth Census of the United States, 1920. Vol. III, p. 1102.

definitely left school. Of these, 30 had left before reaching their fourteenth birthday, 8 under 11 years of age; on the other hand, 43 had remained in school from one to three years longer than the law required. Proportionately more girls than boys had left school at 14 or earlier, probably because the girls could be useful at home helping with the housework and taking care of the babies, whereas boys could do little or nothing until they were old enough to work in the mines. A few children had left before the end of the compulsory school period because their earnings were needed by the family, a few because the school was too far from their homes, or because there was no school or no teacher. Others had left merely because they disliked school, and two 13-year-old girls had abandoned the schoolroom for the purpose of getting married.

Children in the less prosperous families tended to leave school at earlier ages than those whose families were in more comfortable circumstances. While it is possible that in the poorer families the standards of education desired for the children were lower and the ambitions of the children themselves more easily satisfied, financial reasons, no doubt, played an influential part in early school leaving in these families. Thus, in the group of families in which the heads of households, a few of whom were widowed mothers, had each earned during the schedule year less than $850, about one-fifth of the children had left school. In no other income group was the proportion of children who had left school so large. After the income of the chief breadwinner of the family reached $1,450, a perceptible drop occurred in the proportion of children leaving school at early ages; among the families in which the income was $1,850 or over, every child had remained in school until he was at least 14 years of age.

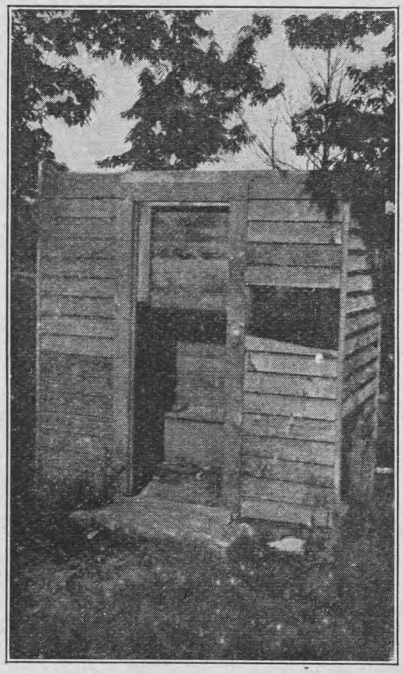
TABLE VIII.—*Age at leaving school, by annual earnings of chief breadwinner.*

Age at leaving school.	Children between 7 and 18 years of age who had left school.									
	Total.	Per cent distribution.	Annual earnings of chief breadwinner.							
			Less than $850.	$850, less than $1,050.	$1,050, less than $1,250.	$1,250, less than $1,450.	$1,450, less than $1,850.	$1,850 and over.	Not reported.	No chief breadwinner.[1]
Total	111	100.0	19	10	14	14	18	8	19	9
Under 11 years	8	7.2	3	1	.....	1	.....	.....	3	.....
11 years, under 12	5	4.5	2	1	1	.....	1	.....	.....	.....
12 years, under 13	4	3.6	.....	.....	1	2	.....	.....	.....	1
13 years, under 14	13	11.7	3	2	1	1	1	.....	3	2
14 years, under 15	24	21.6	4	.....	5	5	2	2	4	2
15 years, under 16	27	24.3	5	4	3	.....	5	4	4	2
16 years, under 17	14	12.9	.....	2	2	2	5	.....	1	2
17 years, under 18	2	1.8	.....	.....	.....	1	.....	1	.....	.....
Not reported	14	12.6	2	.....	1	2	4	1	4	.....

[1] Including children in families in which there was no chief breadwinner for part of year.

The part played by family need in causing children to leave school may perhaps be indicated by the frequency with which going to work was given as the chief reason for leaving school. In the families having no chief breadwinner or one who had earned less than $1,250 a year, 22 out of the 45 children who had left school had left to go to work; whereas only 9 of the 40 children leaving school in households whose heads had earned $1,250 or more had left in order that they might work.

Going to work was the reason for leaving school given by most of the boys; to help at home was the reason most commonly given by the girls. Two-thirds of the boys leaving school had left to go to work, whereas only 6 per cent of the girls gave going to work as their chief reason for leaving. Relatively more colored children than children in white families with either native or foreign-born fathers had left school for work. Dissatisfaction with school as the chief reason for leaving was, strangely enough, given by a much larger proportion of girls than of boys, but "going to work" was probably only an excuse with many boys to escape from the irksomeness and boredom of the schoolroom. Possibly, on the other hand, the adolescent girls found the unattractiveness of the schools, the poor sanitary arrangements, and the meager equipment harder to bear than did their brothers. In fact, several girls were very scornful in their comments on the schools, one 15-year-old girl saying that her friends would not attend because the school was in such a bad condition. Dissatisfaction with school as the chief reason for leaving was confined almost exclusively to white children of native fathers. More girls than boys left school because of the fact that the nearest schoolhouse was in another camp or too far from their homes. Possibly the dangers involved for girls in walking the lonely roads may account in part for this.



A SCHOOL PRIVY—DRY, OPEN-BACK TYPE.

TABLE IX.—*Reason for leaving school, by annual earnings of chief breadwinner and sex of child.*

Reason for leaving school, and sex of child.	Children between 7 and 18 years of age who had left school.									
	Total.	Per cent distribution.[1]	Annual earnings of chief breadwinner.							
			Less than $850.	$850, less than $1,050.	$1,050, less than $1,250.	$1,250, less than $1,450.	$1,450, less than $1,850.	$1,850, and over.	Not reported.	No chief breadwinner.[2]
Both sexes	111	100.0	19	10	14	14	18	8	19	9
Went to work	42	37.8	9	5	6	4	3	2	8	5
Needed at home	19	17.1	2	3	3	4	6	.....	1	.....
Ill health	6	5.4	.....	2	2	.....	1	1	.....	.....
No school, or school too far	6	5.4	2	.....	.....	1	.....	2	.....	1
Dissatisfied with school	9	8.1	.....	.....	1	3	3	.....	1	1
All other reasons	20	18.0	3	.....	1	2	3	2	7	2
Reason not reported	9	8.1	3	.....	1	.....	2	1	2	.....
Boys	59	100.0	11	6	7	5	8	5	13	4
Went to work	39	66.1	7	5	6	4	3	2	8	4
Ill health	2	3.4	.....	1	.....	.....	1	.....	.....	.....
No school, or school too far	1	1.7	.....	.....	.....	.....	.....	1	.....	.....
Dissatisfied with school	3	5.1	.....	.....	.....	1	1	.....	1	.....
All other reasons	8	13.6	2	.....	.....	.....	2	2	2	.....
Reason not reported	6	10.2	2	.....	1	.....	1	.....	2	.....
Girls	52	.....	8	4	7	9	10	3	6	5
Went to work	3	.....	2	.....	.....	.....	.....	.....	.....	1
Needed at home	19	.....	2	3	3	4	6	.....	1	.....
Ill health	4	.....	.....	1	2	.....	.....	1	.....	.....
No school, or school too far	5	.....	2	.....	.....	1	.....	1	.....	1
Dissatisfied with school	6	.....	.....	.....	1	2	2	.....	.....	1
All other reasons	12	.....	1	.....	1	2	1	.....	5	2
Reason not reported	3	.....	1	.....	.....	.....	1	1	.....	.....

[1] Not shown where base is less than 50.
[2] Including children in families in which there was no chief breadwinner for part of the year.

Even children who are not obliged by poverty or other circumstances at home to leave school as soon as the law permits are more likely, of course, to leave at the earliest possible moment if they are older than the children in their grade, or if they have been obliged to repeat the same school work year after year. Doubtless many of the children who said that they had left school for the purpose of going to work or to help at home might have remained in school if they had not become discouraged by repeated failures and slow progress. The discipline and work of the lower elementary grades is unfitted to the needs of a child of 14 or 15 years even if he has not demonstrated his ability to do school work of a higher grade. It requires a faith in the benefits of elementary education which the average parent does not possess, to say nothing of a strong parental hand, to keep children in school under these circumstances. The oft-repeated statement that the more retarded children tend to drop out of school at the earliest possible moment is supported by the facts in the case of the children leaving school in the West Virginia mining camps. Of the 111 children between 8 and 18 years

of age who had left school, only 16 per cent had been in grades that were normal or advanced for their ages, as compared with 32 per cent of those who had stayed in school. (This difference may be partly explained by the higher proportions of older children in the former group.) Of 42 children for whom records were available who had left school to go to work, 30 were retarded; of 19 who were "needed at home," 9 were retarded; of the 6 who mentioned ill health as the chief reason for leaving school, only 1 was in the standard grade for her age; of the 9 so dissatisfied with school that they had left, all were retarded; of the 6 who had left because the schoolhouse was too far from their homes, 3 were retarded, 2 in average grade, and 1 two years advanced. This child was the only one who had made more than normal progress in school who had not continued to attend. Naturally, children who are retarded 3 or 4 years or more leave school markedly ill-equipped, even though they may have remained in school until they are 14, 15, 16, or even 17 years of age. Almost all left with less than the elementary education which a child of 14 is supposed to have acquired. Of the 92 children reporting the grade which they had completed before leaving school, only 8 had completed the eighth grade; almost three-fourths had left school at or before the completion of the sixth grade, the largest number after completing the fourth grade. Five children had never gone beyond the first grade; and 13, or about 1 in every 9 of those leaving school, were unable to read and write. Only 1 of these 13 children said that he had left school to go to work, indicating that it was not economic necessity that was chiefly responsible for their starting out in the world illiterate. Only 1 child among those who had left school had ever attended high school.

TABLE X.—*Retardation of children between 12 and 18 years of age who had left school, by age at leaving school.*

Age at leaving school.	Children between 12 and 18 years of age who had left school.[1]							
	Total.	Retarded.				Normal.	Advanced.	Not reported.
		Total.	1 year.	2 years.	3 years and over.			
Total	[2] 110	70	11	24	35	17	1	22
8 years, under 9	1	.....	.....	.....	.....	1	.....	.....
9 years, under 10	3	1	.....	1	.....	1	.....	1
10 years, under 11	3	1	1	.....	.....	1	1	.....
11 years, under 12	5	2	1	.....	1	2	.....	1
12 years, under 13	4	3	.....	2	1	1	.....	.....
13 years, under 14	13	10	1	6	3	3	.....	.....
14 years, under 15	24	18	2	5	11	5	.....	1
15 years, under 16	27	20	2	7	11	3	.....	4
16 years, under 17	14	13	3	2	8	.....	.....	1
17 years, under 18	2	2	1	1	.....	.....	.....	.....
Not reported	14	.....	.....	.....	.....	.....	.....	14

[1] No children who were under 12 at the time of the study had left school.
[2] Excluding 1 child who was only 7 years of age at leaving school.

CHILDREN AT WORK.

In the average industrial town the child of 14 or 15 who seeks employment is usually limited in his choice of work to that which requires little or no skill, offers no future in itself, and provides no training for a more responsible position; nevertheless if he is willing to run errands, carry messages, or do simple mechanical tasks in store or factory he need seldom be without a job. The mountain coal camp of the bituminous field, on the other hand, has few opportunities for work of any kind to offer boys and girls under 16. Mining was practically the sole industry in all the camps covered in this survey, and at the time of the survey a boy could not legally work in the mines in West Virginia until he was 16 years of age.[1] No manufacturing plants had been located in or near any of the settlements to take advantage of the labor supply furnished by the wives and daughters of the miners, as is the case in the older and larger communities of the less isolated anthracite field. A small establishment just outside one of the camps, bottling soft drinks, was the nearest approach to a factory located in the vicinity of any of the settlements; it hired only a few men. In such mining camps the company store, with not more than two or three clerks at the most, gives practically the only opening for a mercantile occupation. Domestic service is but little in demand. The superintendent's wife or the clubhouse manager may hire occasional help, or a housewife with illness in the family may engage a half-grown girl temporarily, but practically all the women do their own housework, even the washing and ironing, unassisted. After her meager school days are over there is little for the girl to do until she marries except to "help around the house"; while for the boy, even after he has reached the age of 16, the future holds practically nothing but the mine.

For these reasons, the problem of child employment in the bituminous mining camps is not an important one numerically. Only 153 children under 18 years of age in all 11 camps had ever done any paid work; 84 of these had worked only after school and during vacations, so that only 69 children had had regular full-time employment. These children represent but 10.7 per cent of the children between 10 and 18 and only 3 per cent of those between 10 and 16 included in the survey; contrasted with the latter figure is the 8.5 per cent given in the census of 1920[2] as the proportion of children

[1] West Virginia Acts of 1919, ch. 17, sec. 2.

[2] Occupations of Children, 1920, p. 5. U. S. Bureau of the Census, Washington, 1922.

between 10 and 16 years of age gainfully employed in the country as a whole. In Connecticut and Massachusetts, States whose diversified industries probably favor early wage earning, 24.8 and 26.4 per cent, respectively, of all the 14- and 15-year-old children were gainfully employed in 1920.[3] In 1915–16, in Boston, a city with large commercial and business, as well as industrial, interests, nearly three-tenths of the child population were becoming regular workers before their sixteenth birthday.[4] Of the children of these ages in the bituminous mining camps, only 8 per cent had begun regular work. More nearly comparable to the West Virginia settlements in opportunity for employment, perhaps, are the mining towns of the anthracite coal fields, since in the latter as in the former communities life revolves around the coal mines. But in the anthracite mining region with its coal breakers and near-by factories, opportunities are not so restricted as in the isolated mountain camp. Thus, in the Shenandoah anthracite mining district of Pennsylvania, previously studied by the Children's Bureau, 46 per cent of the 14- and 15-year-old boys and girls had begun regular work,[5] more than five times as many proportionately as had gone to work in the bituminous mining camps. Even when 16-year-old children, as well as those 14 and 15 years of age, are included, 70 per cent of the boys and 39 per cent of the girls in the Shenandoah district had begun regular work, as compared with only 29 per cent of the boys and only 8 per cent of the girls of these ages included in the present study.

Although 69 children under the age of 18 years had definitely left school to engage, if only for a brief period, in some regular occupation, at the time of the survey only 55 boys and girls were actually employed at regular full-time work. Only one of these children was less than 14 years of age—a 12-year-old boy assisting his father in timber cutting, regarded as an agricultural pursuit and hence exempt from the provisions of the State child labor law; only 2 others—both illegally employed in the mining industry—were as young as 14.

During the years in which the working children of the present study were beginning their industrial life (approximately 1913 to 1920), legislation, either State or Federal or both, regulating the employment of children under 16, was in effect.

The West Virginia child labor law, as amended in 1915, [6] forbade the employment of children under 14 in factories, and of boys under 16 and girls of any age in coal mines,[7] except during the period when

[3] From figures furnished by courtesy of the U. S. Bureau of the Census.

[4] Woodbury, Helen Sumner: The Working Children of Boston, pp. 13–14 U. S. Children's Bureau Publication No. 89, Washington, 1922.

[5] Child Labor and the Welfare of Children in an Anthracite Coal-Mining District, p. 14. U. S. Children's Bureau Publication No. 106.

[6] West Virginia, Hogg's Code 1913, ch. 15H secs. 469, 470, 485, 495 (all as amended by acts of 1915, ch. 10); secs. 530–533; West Virginia Acts of 1915, ch. 10, sec. 33.

[7] Application of law limited to coal mines in which five or more persons were employed in a 24-hour period.

school was not in session, when boys of 14 might work in coal mines. Enforcement was especially defective in respect to work in mines, inasmuch as the law did not require the same employment certificate as for factory work, but only the parents' affidavit as to the age of a child seeking work. Federal legislation, however, beginning September 1, 1917, afforded boys in mining towns a somewhat greater measure of protection than that provided by the State law: The first Federal child labor law[8] in effect forbade the employment of any child under 16 at any time not only in but also around mines. But when this law was declared unconstitutional in June, 1918, West Virginia boys were again permitted to enter the mines at the age of 14, during summer vacations. By the time the Federal child labor tax law became effective (April 25, 1919), imposing a tax of 10 per cent on the net profits of any mine employing children under the age of 16,[9] a new State child labor law had been enacted (in effect May 11, 1919), prohibiting the employment of any child under 14 in any gainful occupation except agriculture and domestic service or of any child under 16 in mines,[10] and containing excellent provisions with respect to employment certificates.[11] The influence of legislation was no doubt the principal factor in reducing the number of boys under 16 working in mines in West Virginia by 75 per cent during the decade 1910–1920, although the number of persons of all ages engaged in mining in the State increased in this period by 75 per cent.[12]

VACATION AND AFTER-SCHOOL WORKERS.

Some children in the mining communities, as everywhere, begin their industrial experience by doing odd jobs before and after school hours and on Saturdays, and by working during vacations, though such work is less common among children in the mining settlements than it is among those of the ordinary industrial town, owing to the fact that even temporary work is scarce. Not including any regular workers, some of whom had worked out of school hours before taking a full-time position, 84 children—about one-eighth of all the children between 10 and 18 years of age—had held from one to five after-school or vacation jobs. Only 21 of these children had ever done any work during the months when school was in session. These after-school jobs consisted for boys in carrying wood or water for neighbors, selling or delivering papers, and blacking boots; girls did housework

[8] The law prohibited the shipment in interstate commerce of the product of any mine in which, within 30 days prior to the removal of said product, children under 16 had been employed (39 Stat. 675).

[9] 40 Stat. L. 1138 declared unconstitutional by the U. S. Supreme Court, May 15, 1922.

[10] Since the Federal child labor tax law was declared unconstitutional (May 15, 1922) the work of children under 16 on or about coal tipples, on or about tracks between the drift mouth and head-house or tipple, or places where mine cars are switched or moved by power-driven machinery, or where trips of cars are made up, has been prohibited under a ruling of the State Commissioner of Labor, the State Commissioner of Health, and the State Superintendent of Schools.

[11] West Virginia Acts of 1919, ch. 17. The law also exempted boys 12 years of age or over employed on special permit in mercantile establishments and business offices outside school hours.

[12] Computed from Occupations of Children, 1920, pp. 10, 11. U. S. Bureau of the Census, Washington, 1922.

or cared for children, as a rule, but one girl had a paper route and another tended a soda fountain. All except 2 of the 84 children had done vacation work. The first vacation job reported by over two-fifths of the 52 boys had been in the mining industry. The proportion of vacation workers working in and around the mines was much smaller than that of the regular workers. More boys were occupied during vacations with a variety of odd jobs, such as doing chores about the town, carrying papers, delivering groceries, and carrying water for road builders; but 1 boy had worked steadily on a farm and another had been a railroad section hand. Of the 32 girls reporting vacation jobs, 24 had done housework or cared for babies; of the remaining 8, 3 had worked outside the mining community, 2 in a five-and-ten-cent store, the other in a laundry; 1 other had been a salesgirl; 1 had done errands for a lumber company, and 3 had had newspaper routes.

Most of the temporary workers were at the time of the survey at least 14 years old, though 25 were between 10 and 14. At the time of the survey, in the summer of 1920, only 42 children were actually vacation workers, 14 of whom were under 14 years of age. Most of the children under 14 years of age did part-time work, such as serving papers, running errands, or doing chores or housework; but one 11-year-old boy was carrying water for a road gang, and another boy, aged 13 years, was loading coal within the mines. Of 16 children employed for vacation work in or around the mines at the time of the survey, 5 had not yet reached their sixteenth birthday, though in the summer of 1920 the State law forbade employment in mines below that age, and the Federal child labor tax law in effect prohibited work both in and around mines. Three of the 5 boys under 16 years of age worked underground.

Many children—35 of the 84 who had done vacation or after-school work but had held no regular positions—had taken jobs in order to earn spending money; but almost as many (27) had wanted something to keep them busy during vacation, or had wanted to "try their hand" at a job or had been urged to do so either by an outsider who was anxious to get some work done or by a parent who wished his child to "learn something," earn a little money, and "keep out of mischief"—for which the six months' vacation customary in the mining districts offered abundant opportunity. Two high-school boys, 16 and 17 years of age, were working in the mines in order to earn money to continue their education. Twenty children—about one-fourth—said that they worked during vacation in order to help out at home; more than half those who did vacation work because their earnings were needed by the family were children whose fathers had earned less than $1,050 during the schedule year or whose fathers were dead. Eight per cent of all the children 10-

years of age or over in families whose chief breadwinner had earned less than $1,050, reported that their chief reason for working during vacation was that their families needed their earnings; whereas only 4 per cent of the children of the same ages in families in which the breadwinner's income had been between $1,050 and $1,450, and less than one-half of 1 per cent of the children in families in which the breadwinner had earned at least $1,450, said that they had done vacation work because of actual need.

TABLE XI.—*Reason for going to work given by vacation and after-school workers, by earnings of chief breadwinner.*

Annual earnings of chief breadwinner.	Children working after school and during vacations.						
	Total.	Reason for going to work.					
		Family need.	Spending money.	To be occupied during vacation.	Wanted to work.	Instigation of others.	Not reported.
Total	84	20	35	11	4	12	2
Less than $850	7	4	1	.....	.....	2	.....
$850, less than $1,050	11	7	2	.....	.....	1	1
$1,050, less than $1,250	10	3	4	.....	1	2	.....
$1,250, less than $1,450	10	2	4	2	.....	2	.....
$1,450, less than $1,850	19	.....	9	6	1	2	1
$1,850, less than $2,250	7	.....	5	2	.....	.....	.....
$2,250, less than $2,850	2	1	1	.....	.....	.....	.....
$2,850, less than $3,450	2	.....	2	.....	.....	.....	.....
$3,450 and over	2	.....	2	.....	.....	.....	.....
Not reported	13	2	5	1	2	3	.....
No chief breadwinner	1	1	.....	.....	.....	.....	.....

Only 8 children were able to give the amount of their after-school and vacation earnings for a year, and these varied widely: A boot-black and a water carrier had each made $10; a 15-year-old girl doing laundry work throughout the year and serving a paper route for 9 months, in addition to 3 or 4 weeks' housework during vacation, had earned $665; a 14-year-old railroad section hand had received about $80 for his month's work during the summer; a boy of 16 who had worked for a building contractor for 2 months, driven a wagon for the company store for 3 months, and acted as school janitor during the 6 months that school was in session, had made $338; other children who had run errands and served newspapers had made from $100 to $145. None of the boys working in the mines reported their total earnings from vacation work. Most of them were paid at a daily rate, which for trapper boys, who constituted the majority of the boy mine workers, was about $3.

All except 3 of the temporary workers were still in school. Three girls had left, one 17-year-old girl because, she said, the school was "not fit to go to"; another girl aged 14 because "there was so much work to do at home." Of the children still in school, 66 (81 per cent) had failed to reach standard grades for their ages.

REGULAR WORKERS.

Of the 69 regular workers only 14 were girls. Nine of them had entered some type of domestic service, and of the remaining 5 all had found their first work outside the mining community, usually in factories, either before moving to their present home or on leaving home for the purpose of finding work. Only one of these girls was at work at the time of the survey. Of the 9 girls who had begun as domestic workers, 4 had married before reaching the age of 17 and were no longer gainfully employed. Thus in the summer of 1920 only 5 girls in all 11 mining camps, excluding those who were working only during vacation, were actually employed at full-time work. Although this work is termed "regular" in order to distinguish it from the work done by children only during vacation and outside school hours, it was by no means regular in the ordinary sense of the word, as the accounts of the working lives of individual children given on pages 44–46 indicate.

TABLE XII.—*Occupation in first regular position, by age at beginning regular work.*

Occupation in first regular position.	Children between 7 and 18 years of age who had worked regularly.							
	Total.	Age at beginning regular work.						
		10 yrs., under 12.	12 yrs. under 14.	14 yrs., under 15.	15 yrs., under 16.	16 yrs., under 17.	17 yrs., under 18.	Not reported.
Total	69	4	7	16	13	11	5	13
Mining occupations:								
Laborer, surface	6			2	1		2	1
Laborer, underground	8	1	1		2			3
Rodman	1						1	
Trackman	1						1	
Trip rider	4				1	2		1
Trapper	24		4	11	5	3		1
Other occupations:								
Agriculture and forestry	1	1						
Clerical	1					1		
Domestic and personal service	9	1	1	2	2	1	1	1
Manufacturing and mechanical	7	1		1	2	2		1
Professional	1							1
Trade	1					1		
Transportation	1		1					
Not reported	4							4

Just as the girls find nothing to do aside from housework, so their brothers when the time comes for them to work must turn to the mine. Of the 55 boys who had begun regular work, 44 had found their first work in the mining industry. The others had been variously employed: One, for example, had become a carpenter's assistant, another had helped a roofer, a third was a clerk in the company store. Two other boys had first gone to work before the family had moved to the mining camp, one in a tobacco factory, the other in a printing office.

As has been said, there are no breakers at the surface of the bituminous mines, such as absorb most of the boy labor in anthracite districts. Hence, the boys who go to work in the West Virginia mines are chiefly underground workers. The majority (24) of the 44 boys included in the present study whose first regular work had been in or about the mines were "trappers," sitting or standing all day in the darkness opening and closing the doors which regulate mine ventilation in order to allow the coal cars as they came along the tracks to pass through; others were trip riders, couplers, or other underground laborers. Only 6 of the 44 boys who had first gone to work in the mining industry were surface workers. A majority (28) were under 16 years of age when beginning regular work in the mines; 9 were 15, 13 were 14, 5 were 13, 1 was only 10 years of age. At the time of the survey five 14- and 15-year-old boys were at work inside the mines. Although some of the boys who had entered the mines before the age of 16 had entered at a time when neither Federal nor State law forbade work in mines under the age of 16, at least 18 [13] of the 28 had gone to work illegally. Some of the 18 had begun work when the State law required only the parents' affidavit that the boy was 16, or, during the period when school was not in session, that he was 14.

The present State child labor law, which since the Federal child labor tax law was declared unconstitutional is now the only protection offered children going to work in the mines, requires the same certificate for mine work as for other employment; but under the present law, as under the former one, inspection is in the hands of the State mine inspectors. The intention of the law is clearly to protect children under 16 from the hazards of underground work; the real problem in West Virginia, as in the 28 other States having this standard and in the 4 having a higher standard for work in mines, is one of enforcement. On the inadequacy of enforcement by mine inspectors the Children's Bureau has previously commented.[14] "The mine inspector is, in theory, at least, especially trained for the highly technical work of safety inspections * * *. Most of the time of a child labor inspector must be spent, not inside mines and factories, but in outside investigation of the ages of the children. It is quite wasteful of the skill of a safety engineer to plan that he shall spend time in visits to certificating offices, homes, health departments, etc., in order to establish the age of a child. That most mine inspectors will not give the necessary time for this work is to be expected."

The hazards of underground work are well known. Every year hundreds of deaths, and thousands of accidents of a nonfatal but more

[13] Assuming the school session to be October to March, inclusive.

[14] Administration of the First Federal Child-Labor Law, p. 82. U. S. Children's Bureau Publication No. 78. Washington, 1921.

or less serious nature, are caused by falling slate, rock, and coal; gas, powder, and shot explosions; charged wires, mine cars, and locomotives; and cave-ins and fallen supports. In the coal fields of West Virginia alone 1,895 men were killed in the mines in the five-year period 1916–1920, approximately 1 of every 225 workers.[15]

Of 52 boys who had at some time worked regularly in a mining occupation, 10 had sustained some injury while at work, and 1 boy had been twice injured. Four of the boys were under the age of 16 when the accident occurred, and at least 2 of them were working illegally. The accidents reported by the boys had incapacitated them for from one to seven weeks. The injuries included split fingers, bruised, lacerated, and burned legs, injured knees, injured backs, broken limbs, and hernia. Only 4 of the 10 injured children had received compensation, according to statements made by the boys' families, although all except one boy had been disabled for at least eight days, the minimum period specified in the West Virginia workmen's compensation act as entitling an injured employee to compensation.[16] One 14-year-old boy working illegally as a miner's loader had suffered an injury to his back due to a fall of slate. He had been incapacitated for six weeks but had received no compensation. Another boy, aged 16, a trip rider in the mines, had been thrown from his car, breaking his leg; although he had been incapacitated for seven weeks he had received no compensation. The amounts paid in the 4 cases receiving compensation ranged from $7.98 paid to a 15-year-old coupler, working illegally, who had been run over by a motor and disabled for four weeks, to $25 paid to another coupler, aged 16, whose leg had been burned, incapacitating him for three weeks. An attempt to safeguard children against illegal employment in dangerous occupations has been sought in one State—Wisconsin—through a provision of the workmen's compensation law, requiring treble compensation to be paid in the case of minors illegally employed, and making the employer primarily liable for the additional amount.[17]

In general, during the early years of industrial life children are likely to change from one position to another until they have become adjusted to the discipline of work. Thus, it is quite common for children who have been at work only a few months to have held several positions and to have had longer or shorter periods of unemployment. In addition to the industrial restlessness which characterizes the average untrained young worker, the nature of the only work open to the boys and girls of the small isolated mining towns results in considerable enforced idleness. Of the 35 children who had been regular workers for at least one year, 5 had each held but one position; on

[15] West Virginia Department of Mines, Annual Report, 1920, pp. 16, 344.
[16] See p. 69.
[17] Wisconsin Statutes, secs. 2394–7, 2394–9 (7), 2394–9 (8).

the other hand, 29 had each held from two to six jobs, for the most part in the same industry.[18] In mining, the boys, like the men, must suffer periods of enforced idleness;[19] in the casual housework open to the girls a few days' work is often succeeded by weeks and even months of involuntary unemployment. Only 4 children reported that they had worked without loss of time throughout the year; while 31 of the children at work at least a year had had some unemployment, the periods reported being from 15 to 193 days.

In the mining industry the standard working day for boys as well as men was eight hours. A few boys had done occasional overtime work during the year, but practically all these were over 16 years of age and so did not come under the maximum hours provision of the State child labor law or Federal child labor tax law. These laws fixed a maximum eight-hour day—the State law for all occupations except agricultural pursuits and domestic service, the Federal law for factories; and both prohibited any employment of children under 16 in mines. As would be expected, girls doing housework reported long hours. Few States have attempted to regulate the hours of work in domestic service, even by implication, and the West Virginia child labor law specifically exempts such work from its provisions.

Few of the children employed were able to state the amount of the wages which they had received. Twenty-one boys engaged in mining occupations during the year preceding the inquiry reported that they had earned from $102 to $2,000. The boy earning the first amount was a 16-year-old teamster for a mining company, who had been employed as a teamster "off and on" for three years; the latter amount, the largest earned by any of the workers, was received by a 17-year-old boy who worked as a wireman, a skilled occupation. Of the 21 boys, 16 had earned at least $850. No worker outside the mining industry reported earnings amounting to as much as $1,050, though 3 had earned between $850 and $1,050. Two girls in domestic service reported that they had received $216 and $260, respectively, for their year's work, and one 17-year-old waitress in a restaurant, whose weekly wage had been $10, estimated that in wages, board, and tips she had received during the year approximately $800. Five dollars a week and board was the usual rate paid girls in domestic service.

Wages received by boys who enter the mines are sufficiently large to seem of very great importance in many of the families, especially in those where the father is dead. Although a miner's widow, unless she has a son working in the mines to justify her occupying one of the company houses, is likely to move away from the mining community soon after the death of her husband, nevertheless 51 families,

[18] One boy did not report the number of positions held.

[19] See p. 67.

8 per cent of the total included in the survey, had lost the father by death. That the death of the father plays an important part in sending the boys and girls to work is indicated by the fact that of the 69 regular workers 14, or one-fifth, were fatherless,[20] whereas according to average mortality rates only 10.4 per cent of them would have lost their fathers by death.[21]

The compensation law of West Virginia in effect at the time of this study allowed the widow $20 a month until death or remarriage, and in addition $5 per month for each child under 15 years of age, to be paid until the child reached the age of 15.[22]

Under the mothers' pension law of West Virginia, no mother receiving benefits from the compensation act was entitled to relief; [23] other widows with children under the age of 13 might receive a maximum of $25 a month under that law provided they had lived two years in the county in which they applied for the pension. The miner's widow, however, is likely to benefit little if any from the mothers' pension law. Inasmuch as it is difficult for her to find work in the mining community, and as she can not support her family on the $25 which is the maximum allowed under the law, she is obliged to move from the mining town; and if her new residence is in a different county two years must elapse before she becomes eligible to the pension. Only one of the widowed mothers in the present study reported that she was receiving a mother's pension. Several, however, were in receipt of benefits under the compensation act.

TABLE XIII.—*Reason for going to work given by regular workers, by age at beginning regular work.*

Reason for going to work.	Children between 7 and 18 years of age who had worked regularly.							
	Total.	Age at beginning regular work.						
		10 years, under 12	12 years, under 14	14 years, under 15	15 years, under 16	16 years, under 17	17 years, under 18	Not reported.
Total	69	4	7	16	13	11	5	13
Family need	32	1	4	7	6	6	2	6
Spending money	10	1	.....	1	4	1	1	2
Inadequacy and unattractiveness of school	8	2	.....	3	1	2	.....	.....
Through with school	5	.....	1	3	.....	1	.....	.....
Wanted to work	6	.....	1	2	1	1	.....	1
Instigation of others	2	.....	1	.....	.....	.....	1	.....
Not reported	6	.....	.....	.....	1	.....	1	4

[20] Fathers of 5 of the 14 had been killed in the mines.

[21] Estimated from the mortality during periods corresponding to the ages of the children (10 to 17 years) given for males aged 30 in the U. S. Life Tables, 1910. The estimate is purposely slightly overstated in assuming a rather high average age of fathers at the births of their children and in assuming that the mortality of males applies to married males.

[22] West Virginia Acts of 1913, ch. 10 (as amended by acts of 1915, ch. 9, and acts of 1915, first extra session, ch. 1), sec. 33 (as amended by acts of 1919, ch. 131).

[23] West Virginia Acts of 1917, ch. 46, sec. 11.

Thirty-two of the 69 working children in the families interviewed—13 of whom were fatherless[24]—gave family need as their chief reason for having gone to work. Of the 44 working children in families in which the chief breadwinner's income had been less than $1,450, or in which there had been no chief breadwinner during at least a part of the year, 24 said that they had gone to work because their wages were needed at home; whereas of the 11 working children in families reporting that the chief breadwinner had earned at least $1,450, only 2 children had been driven to work by the need of helping support themselves or their families. Certainly, children of families in the lower income groups showed a greater tendency to go to work, for whatever cause, than did those in families in which the father's wage was more nearly adequate to support a family. Thus, of 287 children aged 10 years or more in families whose head had earned less than $1,450 during the schedule year, 24, or 8 per cent, had gone to work; whereas of 229 children of the same ages in households whose heads had earned $1,450 or more only 5, or 2 per cent, had gone to work. While poverty may not have been the chief direct cause for going to work on the part of these children, low incomes were certainly at least a contributory cause. Ten children in addition to those who said that their principal purpose in going to work had been to help out at home said that they had gone to work in order to earn "spending money"; in the homes of most of these children also straitened circumstances if not actual want had caused them to become wage earners, though in some cases, no doubt, a lack of appreciation of the benefits of further education had been the chief factor in sending children from school to work, instead of the comparatively trivial reason given by the children.

If the number of children going to work in the mining camps in the districts studied is so small as not to constitute a very serious situation, the lack of education of the children who go to work is deplorable. The United States has been called a "nation of sixth graders" because of the large proportion of children who stop school upon completing the sixth grade. The children of the bituminous mining camps were below this average. Not one of the 57 regular workers who reported the school grade which he had last attended had entered high school; and only 5, or less than one-tenth, had completed even the eighth grade. A large majority had left school before entering the seventh grade, and over half had completed only the fourth or a lower grade before leaving school for work. A few had received insufficient education because of the unusually early age at which they had left school. But even the children who began regular work between the ages of 14 and 18, when it might be supposed that they had completed the eighth grade at least, were

[24] Three fathers had been killed in the mines.

singularly ill equipped educationally. No 14-year-old child had gone beyond the sixth grade; of the 10 children 15 years of age reporting grade completed and age at going to work only 3 had gone beyond the sixth, and only 2 had completed the eighth grade; of the 10 children 16 years of age, 1 had finished the seventh and 1 the eighth grade; of the 3 children 17 years of age none had gone beyond the sixth grade. The West Virginia child labor law, as amended in 1919,[25] requires all candidates for work permits to have had at least a sixth-grade education. While this provision will doubtless prove beneficial in increasing the amount of schooling received by boys in the mining communities, it is not as likely to raise the standard of education among the girls, inasmuch as most of the latter either do not go to work at all or enter domestic service, for which no employment certificate is required.

TABLE XIV.—*School grade completed by regular workers, by age at beginning regular work.*

School grade completed.	Children between 7 and 18 years of age who had worked regularly.								
	Total.	Age at beginning regular work.							
		10 yrs., under 11.	11 yrs., under 12.	13 yrs., under 14.	14 yrs., under 15.	15 yrs., under 16.	16 yrs., under 17.	17 yrs., under 18.	Not reported.
Total	69	2	2	7	16	13	11	5	13
None	3	1					1		1
First	2				1			1	
Second	5		1	2			2		
Third	6		1	2	2				1
Fourth	13			1	6	1	3	1	1
Fifth	7				4	2			1
Sixth	12				3	4	2	1	2
Seventh	4			2		1	1		
Eighth	5					2	1		2
Not reported	12	1				3	1	2	5

An improvement in the schools themselves will be an effective means of holding children in school until they have received at least an elementary education. That the schools were not satisfying the boys and girls of the community, and were even a factor in their preferring to take their meager chances at work, is shown by the fact that 8 of the 69 working children mentioned dissatisfaction with school as their chief reason for going to work, and 11 others—making in all 27 per cent of the regular workers—gave as their principal reason what may perhaps amount to the same thing as dissatisfaction with school, namely that they "had wanted to work," or were "through," meaning in the latter case that they had completed the highest grade in the local school. In the absence of indus-

[25] West Virginia Acts of 1919, ch. 17.

trial and commercial openings to tempt young girls and boys into wage earning, the schools have an unusual opportunity to hold children until they have received not only an elementary education but some prevocational and vocational training as well.

Moreover, in the long and oft-recurring periods of unemployment which many of the young workers know, the schools have not only the opportunity, but also the responsibility, of giving worth-while training. The problem of the unemployed child is, it is true, a difficult one in school administration. The West Virginia school attendance law requires children under 16 to be in school unless they are at work. [26] As it affects children under 16, the problem is not so urgent in mining communities; as has been pointed out, a large proportion of the children under 16 do remain in school. In the mining camp, it is the child between 16 and 18 who needs especial attention in this respect. Those children who have left school but are temporarily out of work require special classes to meet their needs, and with the establishment of continuation schools for working children such special classes could be provided.

An amendment [27] to the West Virginia education law, passed in 1921, authorizing the establishment of continuation schools, requiring their establishment under certain conditions, and requiring children between 14 and 16 years of age to attend, [28] and the possibility of Federal aid under the Smith-Hughes Act, now offer an excellent opportunity for the much-needed vocational training.

How great is the need of solving the problem of the child who is neither at work nor in school is indicated by the fact that of the 111 children who had definitely left school, only 69 had ever done regular work, and only 55 were actually employed at the time of the survey.

The following typical stories of the circumstances under which the children in the mining communities surveyed had gone to work, and the conditions of their work, so far as it was possible to learn about them from the families, present in a very concrete way what the foregoing analysis has attempted to show—the lack of opportunity, the meager background, and the enforced idleness which make up the lot of wage-earning children in the mountain mining camps.

A 17-year-old boy of native white parentage had gone to work as a trapper boy in the mines at the age of 12 during vacation only. At 15 he left school, having completed the eighth grade, and went to work because his family needed his help. In the two years during which he had worked regularly in the mines he had been a coupler, a trip rider, and a motorman. One year before the survey his father had been killed

[26] For exemptions, see p. 18, where the law is given in detail.

[27] West Virginia Acts of 1921, ch. 4 (amending and reenacting acts of 1919, ch. 2, sec. 129).

[28] Children required to attend when schools are established are those between 14 and 16 who are not regularly attending school or who are regularly and lawfully employed in some occupation or service. The law exempts those who have completed the eighth grade and those who would be exempted from day-school attendance under the terms of the compulsory school attendance law.

in a mine explosion; the boy had then become the chief wage earner in the family, in which there were six children under 16 years of age. His mother received $45 a month as compensation, and kept a lodger. With the boy's earnings of $983 the total family earnings for the year had been $1,153.

A Polish boy of 16 had been working in the mines about a year and a half. Because he did not like school he had left at the age of 8, after completing the first grade, and without learning either to read or to write, and until he was almost 15 had neither attended school nor worked. "Mine boss saw him running around streets," said his younger sister, "so he asked why mamma don't make him work. So papa made him go into mine."

A colored girl had gone to school until she was 15, but had completed only the fourth grade. After a while she began to do laundry work for private families because she was "tired of staying at home and doing housework." Her father's earnings during the schedule year had amounted to more than $1,550, and there was only one other child in the family.

John, the son of native white parents, had left school when 14 years of age to go to work, his father's earnings being small—$731 during the schedule year—and the family large. He had not gone to work, however, until some months later. He then became a trapper boy, and during approximately two years in which he had been working in the mines he had had only eight months' employment.

A 15-year-old colored boy, whose father had been killed by a fall of slate, had left school after completing the sixth grade in order to go to work. He worked three months coupling cars in the mines but found the work too heavy; he then worked as an underground laborer, but at the end of eight days the work became slack and he was laid off. Later, he had worked again for two weeks as an underground laborer, leaving because the pay was too little. He then became a section hand on the railroad and worked for three months, but had "trouble with the boss" and left. At the end of eight months, having held four jobs, he was without work.

A 14-year-old girl had left school on finishing the fourth grade, because her mother was ill and needed her help with the four younger children. In the three years during which she had been out of school she had been a regular worker at three different times, for three months in all, doing housework for a married sister and receiving $4 a week. Her father was earning between $1,450 and $1,850 a year.

A 14-year-old Polish boy had been working in the mines three months, having gone to work at the age of 13 on completing the fourth grade because he "just wanted to." He was earning $3.18 a day as a trapper boy. His work was illegal because at the time both State and Federal[29] child labor laws prohibited employment in mines under the age of 16.

A Polish boy had gone to work as a loader's helper in the mines when not quite 14 years of age. At his mother's death his father had made him go to work, although he would have preferred remaining in school, where he had completed the seventh grade. At the time of the survey he was coupling cars in the mine. He was undersized, and disliked the work. He was planning to leave the mining camp, as soon as he had saved enough money, and go to work in a store.

A 16-year-old white boy whose father was dead and whose mother took in washing had been working for about three years, having left school at the end of the second grade to go to work because his father was ill. He had been a teamster, a laborer on

[29] The Federal child labor tax law, which constituted in effect a prohibition. See p. 34.

the roads, and a laborer in a sawmill. Two days before he was interviewed he had secured a job as teamster with a mining company. During three years he had worked in all less than five months, having been discharged from each of his first three jobs because he was discovered to be under age.

Edgar, aged 10, a white boy of native parentage, had left school without completing the first grade because he preferred going to work. He liked to go with his father, who was engaged in cutting down timber for a mining company. At the time of the survey he had been working more than two years. Although unable to read or write, he could not be reached by the child labor law, which exempted agricultural pursuits from its provisions. The State compulsory school attendance law, however, if it had been enforced in his case, should have kept him in school.

An English boy had begun working in the mines at the age of 14, but had been obliged to discontinue his work owing to the first Federal child labor law. He then went to school for two years, completing the sixth grade. At the age of 16 he again went to work as a laborer in the mines; but after four months, finding the work too hard, he got a job driving a delivery wagon for the company store. At the end of 8 months, he left to "earn more money," and returned to the mines. He had been at work as a trip rider for 6 months. His father's earnings for the year had been only $941, for although he received $5.55 a day as a brattice man in the mines he had been out of work 108 days on account of strikes and shutdowns, and 9 days on account of illness.

Esther, a native white girl, left school on completing the second grade and went to work as a general houseworker at 11 years of age because her father had been killed in the mines and her family needed her earnings. For four years she had worked for a number of families in succession, and at the age of 15 had married.

Mary, a native white girl, finished the sixth grade when she was 14 years of age and left because the "school was no good, there was no regular teacher, and she couldn't learn anything." She left the mining community to go to work as a mother's helper, and had been employed for more than a year at $5 a week, room and board.

Another girl in the course of two years "at work" had held five jobs as a houseworker, none more than one month at a time. She had left two places at the end of a few weeks because she had not liked the work, and two others because the "family had no more need of her." She had left school in the first grade because her father, a Russian Pole, did not "believe in schooling." Although she had come to the United States when 6 years of age, she had not entered school until she was 14.

A Polish boy in a family in which the father's earnings for the schedule year had been $776, began work loading coal in the mines when only 10 years of age. He had been afraid in the mines at first and had worked with his father, his earnings being included in his father's pay check. He had not wanted to go to school because he was tall for his age and disliked being with the "little boys." He had worked as a loader one year, leaving because he wished "an easier job" and becoming first a trapper, then a trip rider, then a motorman in the mines. At the time of the survey he had been working for seven years, all except about two and a half years illegally. He had earned during the year covered in the study $784—somewhat more than his father's earnings, as the latter had been out on account of straining his back lifting slate.

A native white boy whose father, a foreman in the mines, earned approximately $2,200 a year, had gone to work at 15 years of age because no high school was available. He became a trapper boy but left the job in about 16 months because he secured work that he liked better. At the time of the survey he had held his job as an electrician's helper for 7 months.

MEDICAL CARE AND HEALTH.

GENERAL HEALTH CONDITIONS.

It is unnecessay to point out the close relation between the health of children and the sanitary conditions in the communities where they live. So long as such conditions as are described on pages 14–17 continue to exist, typhoid fever and other diseases connected with an impure water supply and the careless disposal of waste matter are likely to be a menace. No accurate figures showing the prevalence of typhoid fever in the county or in the State are in existence—West Virginia is not included in either the birth- or the death-registration area of the United States—but the rate in the State is known to be unusually high.[1] Following a survey of sickness among 6,000 families of bituminous coal miners and 16,000 anthracite miners' families, a well-known life-insurance company makes the following statement regarding the prevalence of infectious diseases:[2]

> It will be noted that the rates for all causes combined, as well as for the great majority of the individual causes, are very much higher among bituminous miners' families. There are several factors concerned in this difference, chief among which is perhaps the fact that there are included in the bituminous group some families from the mining sections of West Virginia where sanitary conditions are known to be bad. The difference in the typhoid fever rates in this connection is striking. The infectious diseases of childhood (including measles, scarlet fever, whooping cough, and diphtheria), influenza, tuberculosis, rheumatism, diseases of the nervous system, and disabilities connected with the puerperal state are all much more prevalent in the bituminous miners' families surveyed than in the anthracite.

Although the West Virginia State Board of Health was at the time of this study invested with ample authority to control contagious and infectious diseases, the law failed to provide for adequate reporting, so that in the absence of exact knowledge of the extent and distribution of the various diseases the board was handicapped in the formulation of an intelligent program for their control.

In Raleigh County the health officer was a part-time official whose work appeared to be but little related to the mining communities. Inasmuch as the control of all municipal affairs in the unincorporated mining settlements is in the hands of the mining companies, insanitary conditions can be corrected by systematic efforts toward improvement made by the companies. What can and has been done in the way of sanitary betterment in company-controlled communities where con-

[1] Clark, Taliaferro: Public Health Administration in West Virginia, p. 232. U. S. Public Health Service, Reprint No. 252, from the Public Health Reports, 1915.

[2] Frankel, Lee K., and Dublin, Louis I.: Sickness Among Coal Miners and Their Families, pp. 1, 13, 14. Metropolitan Life Insurance Company, New York, 1917.

ditions originally were very similar to those in the mining settlements of Raleigh County, is described by the United States Bureau of Mines in a bulletin on sanitation at mining villages in the Birmingham district, Alabama.[3] The cooperation of the workers has been an important factor in the improvement which has been brought about in these towns. The bulletin states:

> This presupposes the education of the individual, the same difficult task that has been met by many mining companies in their efforts toward greater safety in and about mines. And to teach the white inhabitants of these camps hygiene and sanitation is not easy. In the isolated and mountain settlements whence many of them come they are accustomed to a life of freedom from restraint. They do not readily perceive the necessity of a different manner of living when confined in comparatively close-built communities. A similar education of the negro miners is no simpler task.

PRIVIES WHICH DRAIN INTO A STREAM RUNNING THROUGH THE SETTLEMENT

It has been imperative that the work of improvement should be carried along with all the difficulties in mind and fully appreciated. The companies could not go ahead roughshod. They have been compelled to advance a little at a time, content if their steps did not have to be retraced; to remedy the worst dangers and to permit the less serious ones to become evident to their men; to plan for to-morrow satisfied if the move of to-day was secure. They could not antagonize the persons on whose aid the whole scheme depended, even if those persons were the beneficiaries, and they had to draw their lines of restriction slowly, and always with a delicate finger on the pulse of public opinion.

MEDICAL CARE AND NURSING.

The population of the mountain mining village is usually too small to attract competitive medical practice; hence physicians are employed by the companies and paid by assessments deducted from the employees' pay. In the camps surveyed single men were assessed

[3] Woodbridge, Dwight E.: Sanitation at Mining Villages in the Birmingham District, Ala. U. S. Bureau of Mines, Washington, 1913.

from $0.75 to $1.25 a month, married men from $1.50 to $2, in return for which they and their families were entitled to the services of the doctor except in surgical and confinement cases, for which an extra charge was made. Some companies turned over the total assessment to the physician, but one gave a straight salary of $4,200 regardless of the amount collected in fees, and a few deducted 10, or even 20, per cent in payment for collecting the money from the workers' wages. Some of the physicians cared for several communities; none had more than 150 or 200 families under his care, and the territory covered was seldom more than a narrow strip from 1 to 3 miles long. The nearest independent physicians were at Beckley, and not easily available for the inhabitants of the more isolated of the settlements.

Experience has shown that any arrangement whereby an employer provides services for which employees must pay is likely to create dissatisfaction. It was therefore to be expected that, although some "company doctors" received nothing but praise, unfavorable criticism of the care given by others was frequently voiced. Typical charges were that repeated requests had to be made before any response from the physician was received; that follow-up calls were never made except upon request; and that doctors often gave "absent treatment" in the form of pills sent the patient, without any real knowledge of the nature of his illness. If employees were permitted a voice in the selection of the physician, and if an account were made of the moneys received and expended in medical care (such as are required in such arrangements between employers and employees in at least one State [4]), there would probably be less dissatisfaction on the part of the workers and their families. The type of care given would depend less than under the present system on the conscientiousness of individual physicians and the attitude taken by the company.

Whether from lack of time or from lack of a realization of its value to the community, no company physician had attempted any educational propaganda looking to the prevention of disease and the preservation of health.

Hospital care was also arranged for through the mining companies, a monthly assessment of from 50 to 90 cents being deducted from each worker's wages. Employees and their families were thus entitled to hospital care in any illness that was not contagious. The hospital receiving the funds collected by the company was in some cases selected by the workers, in others by the company itself without reference to possible preferences of employees.

Three hospitals were available. The nearest and the one generally used by the families of the workers was at Beckley. It was a private hospital with a reported capacity of 125 beds, apparently ample

[4] Oregon. See Oregon Acts of 1917, ch. 393.

accommodation for the demands made upon it. It accepted maternity cases and at the time of the survey was equipping an entire floor to accommodate 12 maternity patients. The hospital maintained no clinic or out-patient department.

In the settlements included in the survey, only one public-health nurse was at work. She served two camps. A fifty-fifty arrangement between two mining companies and a burial fund to which each mine worker contributed 45 cents a month brought in a sum of $200 a month. Out of this amount, the nurse was paid $190 for salary and expenses, the remaining $10 being deposited to the credit of a "welfare fund."

MATERNITY CARE.

The physicians employed by the mining companies cared for confinement cases for a fee ranging from $7 or $10 to $25. Practically all the mothers included in the present survey had been attended by a physician at their last confinement in a mining community. A few—3 per cent—had had a midwife, and 4 others had had no professional attendant.

The necessity for careful supervision of the mother's health before confinement was not generally recognized. Urinalysis was rare and pelvic measurements were unknown. Less than 1 mother in 10 reported urinalysis during pregnancy, and only about 1 in 3 had even seen the attendant before confinement. "These women don't know anything about things of that sort," one of the physicians remarked to a bureau agent, "so I seldom bother."

Care during and after confinement was somewhat more customary than prenatal supervision. The majority of the mothers, however, had received only 4 or fewer visits after the birth of a baby. Of the 392 women reporting on this point, only 98 had received a daily visit for at least 7 days—26 per cent of the white mothers and 23 per cent of the colored—although a minimum standard of adequate maternity care requires at least 7 after-care visits from the attending physician.[5]

One of the chief causes of the low standards of maternity care existing in the mining communities, as in the country at large, is the ignorance of mothers regarding the dangers connected with childbirth and regarding the need for proper hygiene and skilled care during pregnancy and confinement. Recognition of this fundamental factor in the loss every year of many thousands of women in childbirth led to the passage in 1921 of the Federal maternity act,[6] under which Federal aid is extended to States accepting the provisions of the act and adopting a program of popular instruction in the hygiene of maternity and infancy. The act has been accepted

[5] See Minimum Standards for Child Welfare, U. S. Children's Bureau Publication 62. Washington, 1919.
[6] Session Laws 67th Congress, 1st session 1921, ch. 135, Public, No. 97, approved November 23, 1921.

by the Governor of West Virginia, pending the meeting of the State legislature, and plans for the work have been submitted to the Federal Government. It is to be hoped that the program will include the mothers of the mountain mining camps whose restricted opportunities in school, early age at marriage, and isolation, render them particularily in need of instruction if their children's health and their own is not to be needlessly sacrificed.

INFANT MORTALITY.

An infant mortality rate, as usually computed, is the number of deaths of infants under 1 year of age per 1,000 born alive within a given period. It was not practicable to ascertain for the communities covered in the present study the number of children born within a given period and the number of these who had died before the completion of their first year; so that an infant mortality rate, as generally understood, can not be stated for the mining settlements. An infant mortality rate based on the total number of births in any mining community to the mothers of the families interviewed was, however, determined. This rate is 94 per 1,000 infants born alive. Based as it is on births occurring over a number of years it is not strictly comparable to a rate based on births within any one year. Inasmuch as infant mortality rates have during recent years shown a tendency to decline, it might be expected that the rate found for the mining communities would be larger than the rates for the United States birth-registration area [7] for the years 1915–1920. It would appear, however, from Table XV, that the former on the whole compares rather favorably with the latter.

TABLE XV.—*Infant mortality rates in urban and rural areas, United States birth-registration area, 1915–1920.*[1]

Year.	Deaths under 1 year per 1,000 live births in the birth-registration area.		
	Total area.	Cities of 10,000 population and over.	Rural.
1915	100	103	94
1916	101	104	97
1917	94	100	88
1918	101	108	94
1919	87	89	84
1920	86	91	81

[1] Birth Statistics, 1920, p. 26. U. S. Bureau of the Census, Washington, 1922.

The rate found for the mining communities is higher, however, than the average for rural parts of the birth-registration area, despite

[7] West Virginia was not in the United States birth-registration area at the time of this study.

the fact that in point of population at least the camps may be considered rural communities. Among the conditions in the camps less favorable to infant life than those in the open country may be mentioned the difficulty of procuring fresh milk, greater overcrowding within the houses, and poor sanitation, with a relatively congested population. Unfavorable atmospheric conditions, regarded by some authorities on the subject of infant mortality as a very important factor, do not as yet, it would appear, present a problem in these particular mining settlements, inasmuch as the air has not become vitiated to any great extent by coal dust and smoke.

The infant mortality rate for babies of foreign-born white mothers is higher in the mining communities, as in the United States birth-registration area, than that for children of native white mothers—122 as compared with 98. That the rate for children of negro mothers (55) is the lowest, is surprising in view of the fact that in the birth-registration area it is the highest.

FAMILY DIET.

Diet is of such importance in relation to health that an effort was made to secure information concerning the kind of food which children in the families interviewed were accustomed to receive, though no exhaustive study of dietaries was practicable. The foods eaten on the day preceding the interview were ascertained from each family; if the diet on the preceding day had differed, in the opinion of the family, from the ordinary one, information regarding that of a more typical day was requested. No attempt was made to learn wherein, if at all, the diet of the children differed from that of the family, but judging from the statement of two-thirds of the mothers that they were in the habit of giving their children the family diet before the latter had reached the age of 2 years, usually not later than the tenth month, it seems likely that what appeared on the family table was in general what the children ate. Neither was any attempt made to ascertain the quantity of food received, whether adequate or inadequate. The information secured merely indicates in a somewhat general way whether or not the essential food elements, such as milk, butter, eggs, fruit, vegetables, bread, and meat, were being included in the diet of most of the families.

Only three-fourths of the families were accustomed to using fresh milk every day. In the 151 families not having milk were 225 children under 7 years of age, or more than one-fifth of the total number of children of their ages. Since milk supplies adequate protein, vitamines, and minerals, lack of it in the diet is a serious loss for any child, and for children whose diet was undoubtedly restricted in other respects it was particularly unfortunate that they were receiving no milk. Whether or not young children in the families reporting

that milk was in daily use received the amount commonly regarded as the minimum for health for children between the ages of 2 and 7, that is, one pint, is not known. It was said that milk was hard to procure. Only about one-third of the families interviewed owned cows, possibly because pasturage on the steep mountain sides was poor. A family who owned no cow could sometimes purchase milk from neighbors, but the mother could not be sure, in such a transaction, that either the milk or the utensils used in handling it were clean.

Certain other valuable kinds of food were missing from many of the diets reported. Thus, 12 per cent of the families reported that they used no butter, the most easily digested of fats and a particularly valuable source of vitamines, especially when a large quantity of whole milk is lacking in the diet. Potatoes, supplying energy and valuable minerals, and usually a staple article, were not in daily use by close to one-third of the families. Most surprising of all is the lack of protein in any form in one-third of the family diets. That is, 211 families reported that on the day preceding the interview they had had no meat, eggs, fish, cheese, or other food—with the possible exception of milk—containing an appreciable amount of protein. The taste for meat is so general, especially where the diet is somewhat monotonous, and the miner's work is so heavy, that this lack in the diet is surprising; it is probably due to difficulty in procuring fresh meat, eggs, or fish in local stores.

More families reported vegetables than any other important food. Practically all had had some fresh vegetable on the table on the day for which information regarding diet was given. The majority of the families interviewed—seven-tenths—had gardens, though many, discouraged by the steep hillsides on which their houses are located, the rocky or swampy ground, and the expense of fencing, did not attempt one. The plots were usually too small to produce more than a limited amount and variety of vegetables and fruits. Most of the families raised only beans, corn, potatoes, tomatoes, and cabbage. Beets, onions, and lettuce were less commonly found in the gardens, and carrots and spinach, to mention only two of the most valuable of the common vegetables, were seldom or never grown. Very little fruit was grown; watermelons were raised in 10 gardens, cantaloupes in 6, raspberries, rhubarb, and apples each in 2, and five other fruits in as many gardens. It is therefore not surprising that less than half the families (45 per cent) had included fresh fruit in their typical day's diet.

The time of year at which the study was made—July and August—probably accounts for a more favorable picture as regards the use of fruits and vegetables than was actually the case. These were the months when the gardens were yielding. During the remainder of

the year canned goods from local stores had to be depended upon. In the absence of knowledge of the importance of a daily use of fruits and vegetables in the children's diet, it is probable that those eaten during the winter months were negligible in variety and quantity.

That the dietaries were not more adequate for growing children was no doubt due in part, at least, to the ignorance of the mothers regarding what food elements were essential. The mother in the mountain mining camp is at a great disadvantage in learning to feed her family scientifically. Because of her isolation she rarely, if ever, sees an exhibit or demonstration or hears a lecture on any subject pertaining to her home or her children, nor has she as a schoolgirl received any instruction in the principles of diet and hygiene. A program of popular instruction in these and allied subjects under a home demonstration agent and a county public-health nurse would no doubt be welcomed by many of the mothers.

Gardens need to be improved and enlarged (possibly the companies might allow the use of unoccupied land outside the camp limits for gardens) and here the agricultural agent could render valuable service. At the time of the Children's Bureau study the county had no agricultural agent. A public-health nurse had been engaged for the county, but at the time of the study had not entered upon her duties.

CHILDREN'S HEALTH CONFERENCES.

Children's health conferences in charge of a physician from the Children's Bureau were conducted in nine mining communities in Raleigh County, seven of which had been included in the survey. The chief object of the conferences was to acquaint mothers with the physical condition of their children and with methods of improving their children's health, but it was hoped also to arouse interest in periodic examinations and health supervision of young children by some public agency.

The conferences met with a cordial response from company and union officials, teachers, clergymen, and others. Ample publicity was secured through the local press; posters announcing the conference were placed in prominent places; notices were read at church services, union meetings, and motion-picture shows; and local persons visited mothers to notify them of the conference, make appointments, arouse their interest in having their children examined, and supply them with popular literature prepared by the Children's Bureau on the subject of the care of young children. The Children's Bureau motion-picture film, "Our Children," was exhibited (admission free) in several camps through the courtesy of the managers of the motion-picture houses.

The conferences were held in various places in the camps—company physicians' offices, schoolrooms, motion-picture theaters, etc. Each child was weighed, measured, and examined by the Children's Bureau physician, and the mother given a record of his condition

with suggestions for his improvement; when necessary the mother was urged to take the child to her own physician for treatment. No sick children were admitted, and no medicine or treatment was given by the Children's Bureau physician.

Three hundred and sixteen children of all ages up to 16 were examined. Many were brought by their fathers, who showed as keen interest in their children's physical condition as did the mothers. Many were brought a considerable distance for examination. One mother walked 1½ miles with five children and was much disappointed when she heard that it was impossible to have more than two examined on account of the large number who were awaiting their turn. One man walked a long way with three children of his own and three of a neighbor only to find that those who had secured appointments in advance had to be given preference. Having secured an appointment, however, he returned. Sometimes the company physician came with patients whom he wished to have examined, and teachers brought entire classes. The defects found, summarized in Table XVI, demonstrate great need of preventive work.

TABLE XVI.—*Defects found in children given physical examinations, by age of child.*

Defect or disease.	Children showing defect or disease.							
	Total.		Children under 2 years.		Children 2–6 years.		Children 7 years and over.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total	316	100.0	41	100.0	84	100.0	191	100.0
Total without defects	16	5.1	6	14.6	5	6.0	5	2.6
Total with defects	300	94.9	35	85.4	79	94.0	186	97.4
Defects:								
General—								
Anemia	18	5.7	3	7.3	6	7.1	9	4.7
Poor or very poor nutrition	156	49.4	16	39.0	43	51.2	97	50.8
Fat excessive [1]	2	.6	.....	.....	.....	.....	2	1.0
Head—								
Open fontanelle in child over 18 months	2	.6	2	4.9	.....	.....	.....	.....
Eyes—								
Vision defective (wears glasses)	1	.3	.....	.....	.....	.....	1	.5
Eye diseases—								
Granulated lids	14	4.4	.....	.....	2	2.4	12	6.3
Conjunctivitis	15	4.7	.....	.....	4	4.8	11	5.8
Stye	2	.6	.....	.....	.....	.....	2	1.0
Strabismus	3	.9	1	2.4	.....	.....	2	1.0
Blepharitis	2	.6	.....	.....	1	1.2	1	.5
Ptosis	1	.3	.....	.....	.....	.....	1	.5
Corneal ulcer	1	.3	.....	.....	.....	.....	1	.5
Cataract (right), congenital	1	.3	.....	.....	1	1.2	.....	.....
Wart on lid	1	.3	.....	.....	.....	.....	1	.5
One blue, one brown eye	1	.3	.....	.....	.....	.....	1	.5
Ears—								
Otorrhea	1	.3	.....	.....	.....	.....	1	.5
Deafness	1	.3	.....	.....	.....	.....	1	.5
Mouth—								
Decayed teeth	201	63.6	1	2.4	50	59.5	150	78.5
Malocclusion	28	8.9	.....	.....	4	4.8	24	12.6
Gingivitis	2	.6	.....	.....	.....	.....	2	1.0
Pyorrhea	16	5.1	.....	.....	.....	.....	16	8.4
Alveolar abscess	11	3.5	.....	.....	1	1.2	10	5.2
Alveolar process exposed	1	.3	.....	.....	.....	.....	1	.5
Teeth chalky	8	2.5	.....	.....	1	1.2	7	3.7
Teeth irregular	1	.3	.....	.....	.....	.....	1	.5

[1] Children normal except for this defect.

TABLE XVI.—*Defects found in children given physical examinations, by age of child*—Contd.

Defect or disease.	Children showing defect or disease.							
	Total.		Children under 2 years.		Children 2-6 years.		Children 7 years and over.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Defects—Continued.								
Mouth—Continued.								
Tongue speckled (black)	2	.6					2	1.0
Stomalitis	1	.3	1	2.4				
Herpes (lips)	3	.9			1	1.2	2	1.0
Excoriated lips	1	.3					1	.5
Dirty	27	8.5			2	2.4	25	13.1
Extraction of permanent tooth	1	.3					1	.5
Nasopharynx—								
Adenoids	31	9.8	1	2.4	7	8.3	23	12.0
Tonsils—								
Enlarged only	38	12.0	1	2.4	16	19.0	21	11.0
Diseased only	40	12.7			11	13.1	29	15.2
Enlarged and diseased	28	8.9			3	3.6	25	13.1
Mouth breathing	24	7.6	1	2.4	8	9.5	15	7.9
Nasal obstruction	32	10.1	1	2.4	8	9.5	23	12.0
Nasal discharge	14	4.4	5	12.2	6	7.1	3	1.6
High-arch palate	19	6.0			3	3.6	16	8.4
Bifurcated palate (congenital)	1	.3			1	1.2		
Soft palate clipped	1	.3					1	.5
Long palate	1	.3					1	.5
Thyroid	2	.6					2	1.0
Congested throat	2	.6					2	1.0
Excoriated nares	1	.3					1	.5
Glands—								
Hypertrophied (without associated infection)	31	9.8	6	14.6	9	10.7	16	8.4
Hypertrophied (with associated infection)	105	33.2	2	4.9	28	33.3	75	39.3
Circulatory system—								
Heart disease	5	1.6			1	1.2	4	2.1
Respiratory system—								
Respiratory diseases	4	1.3	1	2.4	1	1.2	2	1.0
Skin—								
Infected sores	31	9.8	1	2.4	11	13.1	19	9.9
Hives	14	4.4	6	14.6	7	8.3	1	.5
Exzema	4	1.3	2	4.9	2	2.4		
Hypertrichosis	2	.6			1	1.2	1	.5
Scabies	1	.3					1	.5
Acne	7	2.2					7	3.7
Abscess or boils	3	.9					3	1.6
Pediculosis	1	.3					1	.5
Eruption—undiagnosed	3	.9	2	4.9	1	1.2		
Sore foot (accident)	1	.3			1	1.2		
Birth mark	3	.9	3	7.3				
Abdomen—								
Distention	16	5.1	3	7.3	10	11.9	3	1.6
Hernia	9	2.8	3	7.3	5	6.0	1	.5
Bony and muscular system—								
Pronation	77	24.4	1	2.4	11	13.1	65	34.0
Beaded ribs	4	1.3	1	2.4	3	3.6		
Harrison's groove	1	.3	1	2.4				
Pigeon breast	6	1.9					6	3.1
Depressed sternum	1	.3					1	.5
Asymetrical chest	1	.3					1	.5
Flaring ribs	4	1.3			3	3.6	1	.5
Enlarged epiphyses	6	1.9			2	2.4	4	2.1
Round shoulders	37	11.7	1	2.4	3	3.6	33	17.3
Winged scapulae	104	32.9	1	2.4	22	26.2	81	42.4
Lordosis	8	2.5	2	4.9			6	3.1
Knockknee	12	3.8	1	2.4	4	4.8	7	3.7
Bow legs	4	1.3	2	4.9			2	1.0
Pigeon toe	15	4.7			9	10.7	6	3.1
Deformed leg (rachitic)	2	.6			1	1.2	1	.5
Deformed tibia (rachitic)	2	.6					2	1.0
Hip disease	1	.3					1	.5
Nervous system—								
Tic	1	.3					1	.5
Speech defect	1	.3					1	.5
Genitalia—								
Prepuce adherent	2	.6	1	2.4	1	1.2		
Prepuce contracted	4	1.3	4	9.8				
Congestion—milky discharge	1	.3	1	2.4				
Mental condition—								
Retarded mentality	2	.6			1	1.2	1	.5

Apart from the advice given in individual cases such conferences are of value in bringing to light the particular health problems of a community, such as the need for instruction in the hygiene of pregnancy and confinement or of advice as to the care and feeding of children, the need for physical examinations of school children, and the importance of educating the community in matters of hygiene and sanitation. Many of these needs a public-health nurse would be able to meet.

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SOCIAL LIFE AND RECREATION.

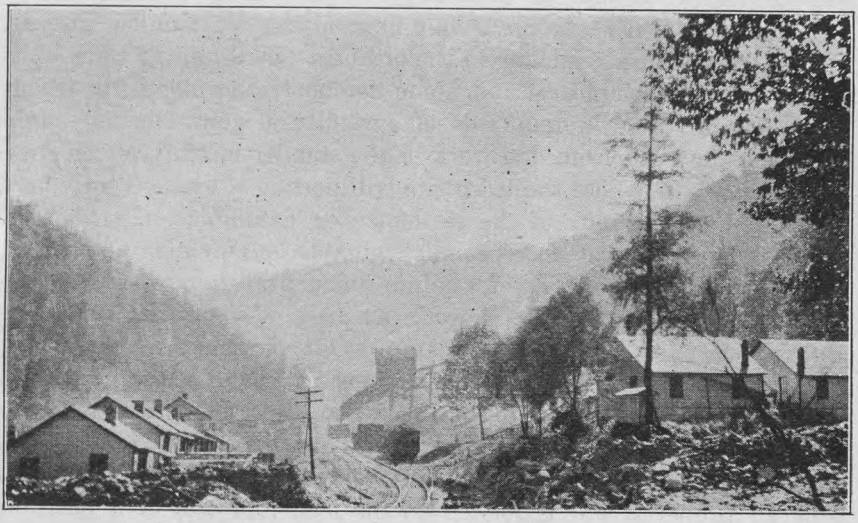
In the smaller mining settlements, such as those included in the present study, no community life exists, and recreational facilities for either children or adults are few. One of the camps had nothing in the way of diversion, and one had nothing except a pool room. Even neighborly sociability is discouraged by the fact that the population is so unstable. As one lonely woman remarked, "You don't know any of your neighbors; they move in to-day and out to-morrow." Beyond the daily tasks, people in these isolated communities have little to do or to think about.

The almost intolerable monotony of existence is relieved in some of the settlements by motion pictures. Of the 11 camps included in the survey 6 had motion-picture houses showing pictures usually two or three times a week, or had easy access to a theater in another community; and 2 other camps were planning to build a theater in the near future. The only other commercial amusement in any of the settlements was the pool room, found in 3 camps.

In the way of noncommercial recreation or community activities practically nothing had been provided. There existed no social agency in most of the communities which could supply the necessary leadership. The schools had not recognized their responsibility in leading the way to a richer community life. Only one of the camps had a church with a regular pastor and regular weekly services for both white and colored, and even there at the time of the survey the people were dependent upon visiting ministers, as the pastor had resigned. In one community a Sunday school was held at irregular intervals. More than half the camps had no church service, and one community shared the services of a neighboring camp. Of the four which did have some sort of religious services, one had none for white people, one had "preaching" irregularly, and another had services only occasionally.

It would appear that the mining companies had taken the lead in providing whatever social or recreational activities existed. The largest of the settlements had what was known as an "institute," an organization of mine executives somewhat on the order of a chamber of commerce, which in addition to backing the motion-picture house promoted from time to time other recreational and educational projects. During the winter preceding the survey, for instance, the institute had arranged for an extension course on mining, which was held once a week for six months; it had also supported a baseball team for one season. Three other camps had baseball fields provided by the coal company. These were in good condition and much used.

Boys had the use of the baseball diamonds when the men did not want them. Little or no recognition of the play needs of children was indicated. Only one camp had a playground, company owned and equipped, which had fallen practically into disuse, apparently for lack of the right kind of leadership. The lack of playgrounds is the more unfortunate in that some of the camps have no open spaces where children may safely play. The mining camp, though in the country, is not of it. Railroad tracks run through the settlement, the ground is rough and uneven, yards are small and houses crowded close together. Thus, even those elementary activities which children delight in and which are so necessary a part of their development, such as running and climbing, leaping, throwing, wrestling, must necessarily be restricted. A few attempts by company officials to



LACK OF PLAY SPACE.

organize a boy-scout or a camp-fire group had not been particularly successful, though one boy-scout troop, disbanded at the time of the survey because the leader had left the camp, was said to have been flourishing at one time. One of the mining companies, in order, it was said, to stimulate the interest of the children in church activities, had during the summer preceding the survey engaged a "welfare worker" who held daily classes for children, teaching them hymns, telling them Bible stories, and teaching handicraft. In the case of children who are out of school half the year, and of boys and girls who have left school but are often without employment, the problem of a profitable and happy use of leisure is a very real one.

The use of the school as a social center is to be recommended for the mining town no less than for the rural community. At present

the schoolhouses in the mining settlements commonly stand closed and unused for six months of the year. Only one school was reported as being ever used, even during the winter, for any community meeting—in this case a weekly "singing school." Until the schools are considerably improved, they can hardly be expected to take the lead in creating and supplying a demand for a richer family and community life. The increased salaries and better training for teachers, and the longer school terms, provided for under the West Virginia education law of 1919 [1] should bring about such an improvement. It is to be hoped that this law will result also in an enrichment of the school curriculum to include, at least, music, drawing, and gymnasium work. Out of work of this type might very naturally develop exhibits, public drills, games, contests, and pageants which would be not only a source of entertainment and diversion but also a starting point in arousing community interest, now so conspicuously lacking in the ordinary small mining town.

The county agricultural and home demonstration agent, in recent years a vital force in hundreds of agricultural communities, could do similar and much-needed work in the smaller mining settlements, at least in those where the town site will permit of gardens, or where land outside the limits of the settlement is available for gardening. The garden interest is an especially valuable one for men who spend their days in the darkness of a mine; incidentally, gardening might discourage the keeping of domestic animals, a somewhat questionable practice in the crowded camp. Out of the garden interest, clubs with helpful and stimulating programs for boys and girls, and for women, also, would no doubt develop in the course of time.

The influence of the mining company's attitude, policy, and assistance is not to be underrated. The company, inasmuch as it controls all property and is looked to for leadership, is in a position to do a great deal toward making the mining town attractive in its social and community life, as in other respects. While it is desirable that social and recreational activities should grow out of the needs and aspirations of the community rather than that they should be imposed from above, nevertheless the mining company through sympathetic and tactful leadership might well play the rôle of the private organization which demonstrates the value of a program to the public before the latter is able or willing to undertake it.

[1] West Virginia Acts of 1919, ch. 2.

INDUSTRIAL CONDITIONS AFFECTING CHILD WELFARE.

ANNUAL EARNINGS OF CHIEF BREADWINNERS.

It is conceded that economic conditions which permit the average worker to maintain his family in health, decency, and simple comfort are fundamental to child welfare. In bituminous mining certain factors, such as short time and irregularity of operation, which until recently have not been generally understood, seriously affect the worker's ability to provide adequately for the needs of his family, in spite of the fact that daily earnings are often comparatively high.

In most of the families interviewed in the present study the father was the head of the household and the principal breadwinner. In 23 families, however, the mother was the chief breadwinner, and in 23 others the head of the household was some person other than the father or mother, the responsibility in 4 of the families devolving upon a child less than 18 years of age. Wage data were secured from the father himself, wherever possible, otherwise from the mother or the most responsible member of the family who could be interviewed. The family's statement was in many cases verified by semimonthly pay slips issued by the mining companies which many of the mine employees were in the habit of keeping.

Of 514 chief breadwinners who reported that they had been heads of their respective households during the entire year preceding the inquiry and who reported the amount of their earnings 414, or four-fifths, had earned less than $1,850; 204, or two-fifths, had earned less than $1,250; and 69, or 13 per cent, had earned less than $850. Men engaged in occupations other than those connected with mining had received somewhat larger annual earnings than those employed in mining; thus, only 25 per cent of the former as compared with 45 per cent of the latter had earned less than $1,250, and only 69 per cent as compared with 85 per cent had earnings totaling less than $1,850. The same proportion, however, 13 per cent, of the breadwinners who were employed in mining and in other industries had received less than $850 for the year's work, the nonmining group being considerably influenced by the inclusion of 10 mothers who during the year had taken lodgers or done laundry or other domestic work in order to support their families. When superintendents and other mine executives are excluded from the one group, and professional workers (that is, company physicians, ministers, electrical engineers, etc.) from the other, the earnings of men engaged in the mining operations are seen

TABLE XVII.—*Annual earnings of chief breadwinner, by occupation.*

Occupation.	Chief breadwinners, June 30, 1920.													
	Total.	During entire year preceding.												Not during entire year preceding.
		Total.	Reporting specified annual earnings.										Not reporting annual earnings.	
			Total.	Less than $850.	$850, less than $1,050.	$1,050, less than $1,250.	$1,250, less than $1,450.	$1,450, less than $1,850.	$1,850, less than $2,250.	$2,250, less than $2,850.	$2,850, less than $3,450.	$3,450 and over.		
Total	639	612	514	69	61	74	72	138	49	22	16	13	98	27
Mining occupations	470	449	373	50	55	64	57	91	26	16	10	4	76	21
Superintendent, assistant superintendent, manager	10	10	10					1	1	2	3	3		
Bosses and foremen:														
Driver boss	3	2	2					1	1					1
Fire boss	4	4	3						3				1	
Foreman, assistant foreman	26	25	24			2	3	6	4	8	1		1	1
Tipple boss	3	3	3					2	1					
Operatives:														
Brattice man	4	3	3		1			2						1
Laborer, surface	42	41	35	7	7	7	7	7					6	1
Laborer, underground	26	24	17	4	4	3	2	3	1				7	2
Machine man, runner, cutter	16	15	15	2	1	3	2	5			2			1
Miner	248	239	187	27	29	38	30	46	10	3	4		52	9
Motorman	32	30	30	2	8	3	7	7	1	1		1		2
Pumper, pipeman	11	11	8				2	3	2	1			3	
Rock man	3	2	2	1		1								1
Timberman, rodman	4	4	3			1		1		1			1	
Trackman	26	24	21	4	2	4	2	7	2				3	2
Trip rider	7	7	6	3	1	2							1	
All other	5	5	4		2		2						1	
Other occupations	169	163	141	19	6	10	15	47	23	6	6	9	22	6
Agriculture and forestry	10	10	7	1	1		3	2					3	
Clerical	8	8	8		1			3	2		1	1		
Domestic and personal service	27	24	13	11		1	1						11	3
Manufacturing and mechanical	72	69	65	4	1	4	7	32	14	2	1		4	3
Blacksmith	11	11	10	1				8	1				1	
Carpenter	16	15	13	1	1	1	2	5	3				2	1
Electrician	18	18	18				2	8	7	1				
Engineer	9	8	8				2	3	2		1			1
Machinist	5	5	5	1				3		1				
Other	13	12	11	1		3	1	5	1				1	1

Public service	7	7	7	.....	.....	1	.....	4	1	1	.....	.....	.....	.....
Professional	10	10	9	.....	1	1	.....	.....	2	.....	1	4	1	.....
Trade	10	10	9	.....	.....	1	1	2	1	.....	1	3	1	.....
Transportation	25	25	23	3	2	2	3	4	3	3	2	1	2	.....
	PER CENT.[1]													
Total	.....	.....	100.0	13.4	11.9	14.4	14.0	26.8	9.5	4.3	3.1	2.5	.....	.....
Mining occupations	.....	.....	100.0	13.4	14.2	17.2	15.3	24.4	7.0	4.3	2.7	1.1	.....	.....
Miner	.....	.....	100.0	14.4	15.5	20.3	16.0	24.6	5.3	1.6	2.1	.....	.....	.....
Other occupations	.....	.....	100.0	13.5	4.3	7.1	10.6	33.3	16.3	4.3	4.3	6.4	.....	.....
Manufacturing and mechanical	.....	.....	100.0	6.2	1.5	6.2	10.8	49.2	21.5	3.1	1.5	.....	.....	.....

[1] Not shown where base is less than 50.

TABLE XVIII.—*Maximum day's earnings of chief breadwinner, by occupation.*

Occupation.	Chief breadwinners, June 30, 1920.														
	Total.	Reporting specified maximum day's earnings.													Not reporting maximum day's earnings.
		Total.	Less than $5.	$5, less than $6.	$6, less than $7.	$7, less than $8.	$8, less than $9.	$9, less than $10.	$10, less than $11.	$11, less than $12.	$12, less than $13.	$13, less than $14.	$14, less than $15.	$15, and over.	
Total	639	512	52	160	77	27	33	20	38	18	20	8	6	53	127
Mining occupations	470	380	15	111	53	20	26	16	35	18	20	8	6	52	90
Superintendent, assistant superintendent, manager	10	7	.....	1	1	.....	3	.....	.....	1	.....	.....	.....	1	3
Bosses and foremen:															
Driver boss	3	3	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fire boss	4	4	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Foreman, assistant foreman	26	26	.....	8	10	6	2	.....	.....	.....	.....	.....	.....	.....	.....
Tipple boss	3	3	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Operatives:															
Brattice man	4	4	.....	3	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Laborer (surface)	42	42	13	22	4	1	.....	1	.....	.....	1	.....	.....	.....	.....
Laborer (underground)	26	24	2	11	4	1	2	1	1	.....	.....	.....	.....	2	2
Machine man, runner, cutter	16	12	.....	1	2	.....	.....	.....	1	.....	.....	.....	1	7	4
Miner	248	174	.....	2	8	10	17	14	33	17	19	8	5	41	74
Motorman	32	29	.....	20	8	1	.....	.....	.....	.....	.....	.....	.....	.....	3
Pumper, pipeman	11	11	.....	9	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rock man	3	3	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Timberman, rodman	4	4	.....	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trackman	26	24	.....	17	5	.....	1	.....	.....	.....	.....	.....	.....	1	2
Trip rider	7	7	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other	5	3	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Other occupations	169	132	37	49	24	7	7	4	3	.....	.....	.....	.....	1	37
Agriculture and forestry	10	6	1	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	4
Clerical	8	8	1	3	1	.....	1	.....	2	.....	.....	.....	.....	.....	.....
Domestic and personal service	27	11	10	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	16
Manufacturing and mechanical	72	67	8	34	19	4	1	1	.....	.....	.....	.....	.....	.....	5
Blacksmith	11	11	.....	4	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carpenter	16	15	3	9	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Electrician	18	17	1	10	5	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Engineer	9	9	2	5	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Machinist	5	5	1	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other	13	10	1	4	3	1	.....	1	.....	.....	.....	.....	.....	.....	3
Public service	7	7	2	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Professional	10	3	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	7
Trade	10	8	3	.....	.....	1	2	2	.....	.....	.....	.....	.....	.....	2
Transportation	25	22	11	5	1	1	3	1	.....	.....	.....	.....	.....	.....	3
	PER CENT.[1]														
Total	.....	100.0	10.2	31.2	15.0	5.3	6.4	3.9	7.4	3.5	3.9	1.6	1.2	10.4	.....
Mining occupations	.....	100.0	3.9	29.2	13.9	5.3	6.8	4.2	9.2	4.7	5.3	2.1	1.6	13.7	.....
Miner	.....	100.0	.....	1.1	4.6	5.7	9.8	8.0	19.0	9.8	10.9	4.6	2.9	23.6	.....
Other occupations	.....	100.0	28.0	37.1	18.2	5.3	5.3	3.0	2.3	.....	.....	.....	.....	0.8	.....
Manufacturing and mechanical	.....	100.0	11.9	50.7	28.4	6.0	1.5	1.5	.....	.....	.....	.....	.....	.....	.....

[1] Not shown where base is less than 50.

to compare even less favorably with the earnings of those in other occupations. Only 13 per cent of the actual workers in the mining industry—"pick and shovel" men, machine runners and cutters, motormen, laborers, fire bosses, mine foremen, etc.—reported that they had received as much as $1,850 for their year's work, whereas 28 per cent of the workers outside the industry,[1] such as carpenters, blacksmiths, engineers, electricians, machinists, domestic workers, railroad employees, etc., earned at least $1,850 during the year. The substantial accuracy of the estimates of income made by the families of the wage earners in the mining industry is indicated by the evidence of pay-roll figures secured from one of the larger coal-mining companies employing a number of the men included in the schedule study. Of 41 chief breadwinners in the families interviewed who appeared on this pay roll and who had reported their earnings, 26 had reported slightly larger and 15 somewhat smaller earnings than the pay roll showed. The average discrepancy where the breadwinner had reported his net earnings as larger than the amount indicated on the pay roll was $197; where he had reported his net annual earnings as smaller than the pay roll showed, the average difference was $98. Had the 41 been classified into wage groups according to pay-roll figures instead of according to the wage data supplied by the family, 24 would have fallen into the same income group, 12 into an income group lower, and only 5 into a group higher, than that in which they are classified in the present report. If the cases of these 41 workers, 8 per cent of those in the families interviewed reporting wages, are typical—and there is every reason to believe that they are—it seems likely that the annual earnings as reported are somewhat higher than the pay rolls, had they been available for all the workers, would have shown.

The reasons for the low annual earnings in the mining industry have become so well known to the public since the wage and hour disputes between miners and mine operators which have followed the armistice, that only a brief mention of them need be made.

The majority of the miners are paid on a tonnage basis, their earnings being limited by the number of tons of coal (in the union fields, carloads) which they can cut down and load. This depends not only upon the miner's skill, but also upon mine conditions and equipment, the number of cars placed at his disposal, and also, if he himself does not cut down the coal, but only loads that brought down by machine cutters, upon the amount of coal that has been cut down the day before. A man may have to spend half a day laying tracks or putting up timbers in order to make his working place safe, work for which he is paid, if at all, at a lower rate than for actual mining;

[1] It will be remembered that many of these workers were employed by the mining companies, though engaged in other than strictly mining operations.

he may have to wait around several hours for cars to load, earning nothing at all; or, owing to some condition over which he has no control, he may be able to remain in the mine only a few hours—practically three-fifths of the mine employees in the present study reported short time. Thus, although his maximum daily wage may be high—almost one-sixth of the heads of households in the present study who were engaged in mining reported $15 or more as their maximum day's pay—it is not a fair indication of the mine worker's average daily wage. Still less is it an indication of his annual income; for, due chiefly to overdevelopment of the industry and, in a somewhat lesser degree, to car shortage and labor disputes, the mines operate very irregularly. "The potential working year in the American bituminous industry," states F. G. Tryon, of the U. S. Geological Survey,[2] "is 308 days. In the last 30 years the mines have actually worked on the average 215 days, and have lost 93 days, or 30 per cent of the potential time, in enforced idleness due to one cause or another." Moreover, the number of days during which any mine is reported as being in operation is likely to be larger than the number of days' employment actually available for all the workers; a fall of roof, a car wreck, flooding, or a gaseous condition, for example, may cause a shutdown of the part of the mine affected, with consequent loss of time for a larger or smaller proportion of the workers. It is not surprising, therefore, that a large amount of unemployment was reported by the chief breadwinners in the families interviewed, that unemployment was more serious for men engaged in mining than for those in other occupations, and that the greater part of the mine workers' unemployment was due to industrial causes. Industrial unemployment, reported by less than one-fifth of the breadwinners in industries other than mining, even when working for mining companies, had affected 76 per cent of the men in the mining industry. Of 126 of these men who were able to give the duration of their unemployment, more than one-third had been out of work as a result of industrial conditions at least three months (78 shifts) during the year. The average number of days (shifts) lost per man was 64.[3]

[2] Tryon, F. G., and McKenney, W. F.: "The broken year of the bituminous miner," in the Survey, Vol. XLVII (Mar. 25, 1922), p. 1009.

[3] During the period covered by the present study (the year ending June 30, 1920) the mines of Raleigh County were reported as in operation an average of 190 days, a loss of 118 of the possible working days. (Annual Report, West Virginia Bureau of Mines, 1920, p. 242.) The situation as regards the number of days of operation was thus somewhat worse than the average, but better than that during the calendar year 1921 or the calendar year 1922. The fact that the loss of time reported by the men included in the present study is less than that reported for all the mines of the county as a whole may indicate that the men went from mine to mine, wherever work was available; it may possibly indicate, also, a comparatively larger proportion of nonunion men among those included in the study, who would not have been affected by the nation-wide strike in the bituminous mining industry in 1919.

TABLE XIX.—*Duration of total unemployment of chief breadwinner during selected year, by occupation.*

Duration of total unemployment.	Chief breadwinners in industrial employments, June 30, 1920.[1]				
	Total.	In mining occupations.		In other occupations.	
		Number.	Per cent distribution.	Number.	Per cent distribution.
Total	594	449	100.0	145	100.0
Having no unemployment	128	51	11.4	77	53.1
Having unemployment	460	393	87.5	67	46.2
Under 13 shifts[2]	29	13	.....	16	.....
13 shifts, under 26	29	16	.....	13	.....
26 shifts, under 52	34	28	.....	6	.....
52 shifts, under 78	34	24	.....	10	.....
78 shifts, under 104	26	23	.....	3	.....
104 shifts, under 130	29	27	.....	2	.....
130 shifts, under 156	17	16	.....	1	.....
156 shifts and over	38	36	.....	2	.....
Duration not reported	224	210	.....	14	.....
Not reported as to unemployment	6	5	.....	1	.....

[1] Excluding 18 in domestic service and professional occupations, and 27 who were chief breadwinners for part of the year only.
[2] A shift is equivalent to an 8-hour day.

TABLE XX.—*Duration of industrial unemployment of chief breadwinner during selected year, by occupation.*

Duration of industrial unemployment.	Chief breadwinners in industrial employments, June 30, 1920.[1]				
	Total.	In mining occupations.		In other occupations.	
		Number.	Per cent distribution.	Number.	Per cent distribution.
Total	594	449	100.0	145	100.0
Having no industrial unemployment	219	107	23.8	112	77.2
Having industrial unemployment	369	342	76.2	27	18.6
Under 13 shifts[2]	19	14	.....	5	.....
13 shifts, under 26	14	7	.....	7	.....
26 shifts, under 52	33	30	.....	3	.....
52 shifts, under 78	32	31	.....	1	.....
78 shifts, under 104	25	23	.....	2	.....
104 shifts, under 130	13	13	.....	.....	.....
130 shifts, under 156	5	5	.....	.....	.....
156 and over	3	3	.....	.....	.....
Duration not reported	225	216	.....	9	.....
Not reported as to unemployment	6	.....	.....	6	.....

[1] Excluding 18 in domestic service and professional occupations, and 27 who were chief breadwinners for part of the year only.
[2] A shift is equivalent to an 8-hour day.

In addition to the time lost because of the intermittent operation of the mines, the working time of mine employees frequently is further reduced by accidents, which are of common occurrence in the mines. Among the families interviewed more than 1 chief breadwinner in every 10 in the mining industry reported an accident during

the year which had incapacitated him for work. Of the 52 fathers reporting loss of time due to accident, 48 were engaged in mining, relatively four times as many as in other industries. About one-third of those incapacitated by accident were unable to work for at least one month. The amounts of compensation fixed by the workmen's compensation law were very low; at the time this study was made the compensation for temporary total disability resulting from an industrial accident was 50 per cent of the workman's average weekly wage, not to exceed $12 nor be less than $5 a week, to be received for a fixed period.[4] Under this schedule of payment one man who had been unable to work for 6 weeks, having had his back and hips crushed by a fall of slate, reported that he had received a little over $30. No payment was made for accidents incapacitating the worker for a period of less than eight days. It is probable that a large proportion of the nonfatal accidents occurring to mine workers result in disability of brief duration, so that many men lose time on account of accidents connected with their work during which they receive neither wages nor compensation. On the other hand, many nonfatal accidents are sufficiently serious to render the worker incapable of earning wages for a long period of time, while the amount of compensation allowed is too small to replace the lost wages. Thus, one man doing carpenter's work on a tipple had fallen and struck his forehead, injuring his sight and impairing his memory; his compensation for "partial disability" amounted to $35 a month. This man was exceptionally fortunate in that although unfit to do steady work he had been able to work at odd jobs, thus supplementing the family income by approximately $200 a year. Earnings which would permit of generous savings and insurance would seem to be essential in an industry the hazardous nature of which makes adequate provision for emergencies imperative if children are not to suffer hardships.

The charge has frequently been made that mine workers do not make full use of the opportunities for labor afforded them, and the operators have stated that if the worker averaged only 75 per cent of the available time he could make a good living.[5] In the words of the majority report of the U. S. Bituminous Coal Commission,[6] "——— an irregular industry breeds irregular habits among the workers. When the men are not accustomed to going to work regularly every morning the incentive for regularity becomes less potent and a certain amount of absenteeism inevitably results. This is the psychological factor of irregularity, and it may be expected that it will disappear in large measure as the industry becomes more stable."

[4] West Virginia Acts of 1913, ch. 10 (as amended by acts of 1915, ch. 9, and acts of 1915, first extra session ch. 1), secs. 30, 31 (as amended by acts of 1919, ch. 131).

[5] Award and Recommendations of the U. S. Bituminous Coal Commission, 1920, p. 44.

[6] Ibid, p. 45.

Nevertheless, so far as the data obtained in the present survey indicate, the proportion of mine workers reporting voluntary unemployment was practically no greater than that of workers in other industries, the percentages being 26 and 24, respectively. The average number of days of voluntary unemployment reported by the two groups was for mine workers 20 and for others 16. Possibly the men included in the present study, having in all cases the responsibility of supporting a family, were on the whole more industrious and stable than the average worker. It does not appear, however, that mine workers reporting no voluntary unemployment had been able to earn substantially larger incomes than those who had taken time off of their own accord: 68 per cent of the former as compared with 80 per cent of the latter had earned less than $1,850 for the year; the proportions of those earning less than $1,250 were 35 per cent and 44 per cent, respectively.

FAMILY EARNINGS.

The income of a man employed in a mining camp is perhaps less likely to be supplemented to any considerable extent by the earnings of women and children in the family than that of other industrial workers, inasmuch as in the one-industry mining town opportunities for employment open to women and to girls and boys under 16 are very limited. In about two-fifths of the families interviewed, there was at least one wage earner in addition to the head of the household. Most of these wage earners were adult sons. The few working children under the age of 18 usually made no appreciable difference in the family income except in cases of boys 16 or over who worked in the mines. Few mothers worked outside the home, but 194, or almost one-third of the total, contributed to some extent to the family income by taking boarders or lodgers, doing laundry work, or cleaning by the day. Some of these mothers were widows who thus supplemented the earnings of a grown son who had assumed the chief responsibility for the support of the family. However, even in those families in which the income was contributed to by one or more wage earners in addition to the head of the household, 65 per cent of the families who reported earnings were in receipt of less than $1,850 a year and 30 per cent had incomes totaling less than $1,250.

TABLE XXI.—*Annual earnings of family, by number of breadwinners.*

Annual earnings of family.	Families.										
	Total.[1]	With one breadwinner only.		With more than one breadwinner.							
				Total		2		3		4 and over.	
		Number.	Per cent.[2]	Number.	Per cent.[2]	Number.	Per cent.[2]	Number.	Per cent.[2]	Number.	Per cent.[2]
Total	[3] 639	358	56.0	280	43.8	199	31.1	55	8.6	26	4.1
Under $850	56	37	66.1	19	33.9	18	32.1	1	1.8	.....	.....
$850, less than $1,050	56	30	53.6	26	46.4	24	42.9	1	1.8	1	1.8
$1,050, less than $1,250	68	47	69.1	21	30.9	19	27.9	2	2.9	.....	.....
$1,250, less than $1,450	67	45	67.2	22	32.8	18	26.9	4	6.0	.....	.....
$1,450, less than $1,850	132	76	57.6	56	42.4	45	34.1	5	3.8	6	4.5
$1,850, less than $2,250	55	31	56.4	24	43.6	16	29.1	5	9.1	3	5.5
$2,250, less than $2,850	35	14	.....	21	.....	15	.....	4	.....	2	.....
$2,850, less than $3,450	30	11	.....	19	.....	4	.....	9	.....	6	.....
$3,450 and over	21	7	.....	14	.....	4	.....	6	.....	4	.....
Not reported	[3] 119	60	50.4	58	48.7	36	30.3	18	15.1	4	3.4

[1] Excluding 6 families in which there were no chief breadwinners.
[2] Not shown where base is less than 50.
[3] Including 1 family for which the number of breadwinners was not reported.

COST OF LIVING.

In 1919, Prof. Wm. F. Ogburn, of Columbia University, made a special study of the cost of living as related to bituminous mine workers' families, and prepared a budget adapted to the particular needs of mine workers and to the special conditions in mining towns. This budget, believed to represent a minimum of health and reasonable comfort for a mine worker's family of parents and three children, called for an annual income of $2,143.94 at the prices prevailing at the time. It provided for no savings.[7]

Of the men in the present study employed in the mining industry and reporting the year's earnings [8] only 6 per cent had received so much as $2,250, approximately the amount required for Prof. Ogburn's budget; of the workers in industries other than mining,[9] only 12 per cent—though relatively twice as many as in the mining industry—had enjoyed an income of at least $2,250. More than one-third of the families in which the main breadwinner had earned less than $2,250 had more than three children.

Irregularity of work and the impossibility of forecasting what earnings will be, make a wise expenditure of income, whatever its size, very difficult for the mine worker's family. The necessity of moving frequently from field to field and mine to mine "following" work also creates a special expense which eats into savings

[7] Ogburn, Wm. F.: "Budget for bituminous coal mine workers," in Studies of the Cost of Maintaining a Family at a Level of Health and Reasonable Comfort, p. 34. Presented before the U. S. Railway Labor Board by W. Jett Lauck, 1920.
[8] Exclusive of a general manager and nine superintendents and assistant superintendents.
[9] Exclusive of "professional workers."

or plunges a family into debt. It is not surprising, under these circumstances, that most of the mine workers' families rely on credit. The coal companies' practice of issuing "scrip," a book of coupons which passes at the company provision store for money, no doubt encourages the habit of purchasing on credit and even beyond the means of the purchaser. Approximately four-fifths of the families interviewed were accustomed to using scrip. The amount which the employee owes the company store is deducted from the semi-monthly pay before it is handed over to the worker. Some families were constantly "scrip bound," that is, deductions for purchases at the store equaled or exceeded their earnings, so that on pay days they never saw cash. Such an arrangement is bound to cause dissatisfaction, whether well-grounded or not. The following were typical comments regarding it made by parents in the families interviewed:

You no sooner get your money than they take it right back from you. A 24-pound sack of flour which costs $2.50 at the company store costs only $1.90 at B———.

We use very little scrip, as prices are so high at the company store.

We have to deal where we can get the most for our money, so we only trade at the company store when we're in a big hurry.

Company store is too expensive. We'd rather pay 25 cents railroad fare and shop in S———.

As soon as the company gives a raise prices at the store go up.

It is inconvenient to get to the other stores, or I wouldn't deal there. The company store charges high prices, so farmers who bring in their produce also ask a good price.

When a mule dies on the company, prices at the store go up.

The company store is too high, but it is so far away to the others that we have to use it sometimes.

The prices are high. The nearest other store is 2 miles away, but we prefer to walk the distance and trade there.

We wouldn't trade at the company store at all, prices are so high there, if the other stores weren't so far away.

We'd rather go a couple of miles where things are cheaper.

It was impossible within the scope of the present study to determine with any accuracy whether or not prices charged at the company stores were higher than those at private stores in the neighborhood. Undoubtedly the isolation of many of the settlements tends to increase the cost of many necessities. Miners' cooperative stores, of which there were several in the territory included in the survey, may possibly help to reduce somewhat the cost of living.

FAMILY SAVINGS.

Of the 540 families reporting on savings, 29 per cent reported that they had saved something during the year—approximately the same proportion, 33 per cent, of native whites as of those of foreign birth, but only 19 per cent of the colored. The ability to save shown by families in the present study was closely related to the amount of the

income and the size of the family. Thus of all the families with incomes of less than $1,850 only 22 per cent had been able to save, a proportion which dropped to 14 per cent among families in this group which had more than five members; of the families with incomes under $1,250 a year, even among those of small or "average" size only 16 per cent had saved, and among those of more than five members only 3 per cent reported having saved; but almost three-fifths of the families with incomes of at least $1,850 had been able to save during the year.

No attempt was made to ascertain the amount of the savings, nor was any attempt made to discover the number of families having deficits. In a recent study of cost of living among bituminous mine workers made by the United States Bureau of Labor Statistics,[10] the same proportion, i. e., 30 per cent, of families were found to have saved on an average of $228 during the year covered by the inquiry; but 60 per cent of the families interviewed reported a deficit averaging $313 per family.

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MINERS' FAMILIES LIVING OUTSIDE COMPANY TOWNS.

It appeared to be possible, so far as some of the mining companies were concerned, for mine employees to live outside company towns. Several miners stated that some years ago the policy of most companies had been to make employment conditional upon living in "camp" but agreed that probably during recent years no attempt had been made to prevent employees from living where they pleased, and that men who chose to live outside were not discriminated against by their employers. One old miner expressed the consensus of opinion when he said: "There used to be right smart prejudice about it, but there is more unity in this generation and the men are more independent." The opportunities, however, of securing a house that is not company owned and at the same time is conveniently near the mines are limited. A few families leased land from coal companies and erected their own houses; they secured the land rent free for a short term of years and upon their leaving the houses became the property of the company. According to the terms of the lease any trouble with the coal company was considered a cause for eviction. There were also several small settlements adjacent to the mines in which property could be rented or bought. The largest of these, consisting of 50 or 60 families, was within a mile or so of half a dozen mines; the land, it was said, had been bought from the original owners by miners in the early days of coal mining in the county, and attempts of the coal companies to get possession of it had met with no success. Another settlement made up of several dozen miners was located on top of a mountain and was practically inaccessible except on foot or horseback. One or two other independent communities contained only 10 or 12 families each. Probably somewhat less than one-tenth of the men employed by companies whose towns were included in the present survey lived either on farms in the open country or in one of these small independent settlements. As there were comparatively few houses to rent, the possibility of living outside camp was conditioned to a great extent upon the ability to save enough to buy property.

In order to ascertain what were the advantages, if any, in living outside company-owned towns, agents of the Children's Bureau interviewed 72 of these families in which the chief breadwinner was at the time an employee of a mining company and in which there was at least one child under the age of 18 years. Owing to the time at which the study was made—during the summer months—no families were in-

[10] Investigation of Wages and Working Conditions in the Coal-Mining Industry: Hearings before the Committee on Labor, House of Representatives. H. R. 11022, p. 49. Washington, 1922.

cluded in which the father regularly farmed in the summer and worked in the mines during the winter, a practice said to be common in the neighborhood.

Families living outside company-owned towns enjoyed no greater household conveniences than those living "in camp." In fact, in some respects, especially as regards the more remote and isolated of the independent settlements, living arrangements were probably even more primitive than in most of the company mining towns. For example, kerosene lamps were in general use rather than the electric lights with which the majority of the company houses were provided. Also, water was invariably obtained from wells and springs, whereas in most of the camps families had the advantage of a central water supply piped to hydrants, even though the hydrants were outside the dwellings. Sanitary arrangements were about on a par with those prevailing in most of the camps; most families had privies of an insanitary type, and a few, as in the camps, had no toilet facilities. It should be noted, however, that the fact that there was less crowding together of families outside than in the camps rendered the dangers of insanitary living conditions relatively less.

Probably the most serious drawback to living outside the company town was the problem of securing a physician in case of illness. The independent settlement referred to as being located on top of a mountain was 15 miles from the nearest private physician, and without a telephone. The company doctor at the nearest mining camp was available on the payment of an extra fee, but had to be met with a horse at the foot of the mountain three and one-half miles from the settlement. A considerable number of the families interviewed in this as in the other independent settlements reported that they paid the customary deduction for the services of the company doctor; in some cases, however, especially where the family was relatively inaccessible, only the fee charged for a single man was deducted from the pay and the miner only, and not the entire family, was entitled to the doctor's services. A few families reported that they permitted the deduction but did not call the doctor on account of the distance; a few others stated that the company doctor seldom came when sent for, one father remarking that the family "didn't bother with him." Despite the fact, however, that in many cases physicians were not easily available, 28 of the 32 births reported in these families as having occurred in the community in which the families were living at the time of the interview had been attended by a physician.

Opportunities for schooling seemed to be identical for children living outside and for those within company towns. Some attended district schools located within the camps. Those living in inde-

pendent settlements had schools in no case more than a mile from their homes; children in families living in the open country, like many rural children, were somewhat less fortunate.

Opportunities for church attendance were somewhat better, if anything, outside than within the mining towns. Unlike most of the camps, every independent community had weekly church and Sunday-school services, and one had a weekly evening "song service."

Living in independent communities, in fact, appeared to have several distinct advantages. The greatest of these undoubtedly was the opportunity to own a home, and this was the reason usually given for living outside the company town. Over two-thirds of the families interviewed—50 families—owned their houses, and with the opportunity for individual expression which the ownership of property gives, the houses varied more widely in size as well as style, comfort, and general up-keep than did those in the camps. Some were much better than those to be found in the company towns, others were not so good, according to the prosperity and thrift of the tenants. The "box" house, roughly built of upright boards and papered with newspapers to keep out the cold, and, occasionally, even the rough log cabin, were found, as well as the good-sized, comfortable-looking dwelling surrounded by fruit trees and well-kept gardens. It is worthy of note in view of the dirty gray or drab maroon of many company-owned houses that a majority of the cottages owned by the miners living outside were painted light colors—yellow, and even pink and blue—and trimmed with white, and many were decidedly picturesque. Practically all the families interviewed had gardens larger than were possible for families living in camp, the amount of land varying from 2 or 3 to 100 acres. Many of the families had sufficient vegetables for winter use. Some commented on the difference the produce made in their standard of living and in their ability to save money; others spoke of the enjoyment which they derived from working in their gardens, especially as a change from work inside the mines. In fact, the possibility of having more land to cultivate was frequently given as one of the great advantages of living outside the mining towns.

Pride in the communities and a spirit of neighborliness were marked in some of the settlements, as might be expected from a group most of whom owned property and many of whom had been living in the same place for 10, 15, and even 20 years. As might be expected, also, of families living outside mining camps from choice, they were almost unanimous in their preference for life in the independent settlement. Many emphasized the feeling of security that owning their own homes gave them, especially in times of illness or slack work. "You don't have to move every time your man quits his job," said several of the women. Others commented on the

unhealthful conditions in the camps. "You can't never get a good breath down there, you're so close to somebody's privy," remarked one woman, adding, "There's lots of sickness there, too." "Last summer," testified another, "nearly every family in the camp had a case of typhoid. We had two cases. We decided it was too unhealthy a place to live and moved out, but this spring our boy died of typhoid and the doctor said we had probably brought the germs from camp." A father preferred living outside because there was "too much sickness in camp—never heard of anyone catching typhoid here." "We moved here," stated one of the mothers, "because it was a healthy place, had no saloons, but had a school and church." One mother who preferred the sociability of the camp commented on its "bad water." The crowding of camp life, with its mixture of nationalities, and parents' inability to choose the children's associates, were general complaints. "I like living where you aren't messed up with other people all the time, and where you can have a real garden, a cow or two, and chickens," said one woman. Another remarked in disgust that it was "so crowded in camp you can hardly get out of the scent of another's dirt." Another thought that it was "easier to bring up your children where you're by yourself." One mother objected to the gruesomeness of camp life, saying that they had lived within sight of the mine and as she sat at her sewing she could "always see them carrying out someone dead or crippled." Some of the women mentioned the conveniences of life in camp, such as a near-by water supply, and electric lights, but the majority, even the most isolated, said that they would not on any account return to the mining camps to live.